CITY OF EUREKA 2040 GENERAL PLAN UPDATE

Draft Environmental Impact Report
SCH # 2016102025

Prepared for
City of Eureka

May 2018

ESA

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Prepared for
City of Eureka
Planning and Zoning Division
531 K Street
Eureka, CA 95501

May 2018

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SUMMARY

City of Eureka General Plan Update Environmental Impact Report

S.1 Introduction

As provided by Section 15123 of the California Environmental Quality Act (CEQA) Guidelines (CEQA *Guidelines*), this chapter provides a brief summary of the proposed City of Eureka 2040 General Plan Update and its consequences. This chapter is intended to summarize in a stand-alone section the proposed project described in Chapter 2 (Project Description), the impacts and mitigation measures discussed in Chapter 3 (Environmental Analysis), and the alternatives analysis presented in Chapter 4 (Alternatives).

This Environmental Impact Report (EIR) has been prepared to evaluate the anticipated environmental effects of the project in conformance with the provisions of CEQA and the CEQA *Guidelines*. The lead agency, the City of Eureka (City), is the public agency that has the principal responsibility for adopting and implementing the proposed General Plan Update

S.2 Location

The City of Eureka is located along the northern coast of California in Humboldt County approximately 300 miles north of San Francisco and 100 miles south of the Oregon border. The City is the county seat and the center of government and commerce for Humboldt County. Eureka's City limits extend into Humboldt Bay to the north and west, and include Woodley Island, Indian Island, and Daby Island. Northern and western portions of the City are within the California Coastal Zone under the regulation of the California Coastal Act. On the east, the City limits extend to Indianola and then move westerly through the diked former tidelands between Highway 101 and Old Arcata Road and generally parallel with Humboldt Bay south of Murray Field to Harrison Avenue. On the south, the City limits extend to the Eureka Municipal Golf Course, excluding Pine Hill and Cutten. The incorporated City includes 16.4 square miles of land and water. Other smaller incorporated cities near Eureka include Arcata (6 miles), Blue Lake (11 miles), Fortuna (14 miles), Ferndale (16 miles), and Trinidad (18 miles).

Planning Boundaries

For purposes of this EIR, the terms below are used to describe the geographic areas that are discussed and analyzed in this document.

- The **Plan Area** for the Eureka 2040 General Plan consists of the area lying within the corporate boundaries of the City of Eureka. This is the area that would be subject to the proposed goals and policies of the updated General Plan. The Plan Area also includes the Brainard Industrial Area in the northeastern portion of the City, which at the time of preparation of this EIR was undergoing annexation into the City of Eureka.

- The City's **Sphere of Influence** (SOI) contains areas lying within the City's existing SOI, as well as a small 46.7-acre proposed SOI expansion area south of Myrtletown. The existing and proposed expanded SOI reflects the potential future physical boundaries of the City.

- The **Study Area** includes both of the above areas, as well as additional areas that could be influenced by the City's planning activities. The Community Background Report (CBR) for the proposed Eureka 2040 General Plan Update gathered information for this larger Study Area, with the intent of considering the possible effects of City planning activities on peripheral areas lying outside of the City's corporate limits and SOI. The CBR is included as Appendix B of this EIR, and describes the physical, social, and economic conditions for Eureka and the surrounding area at the time of the proposed General Plan's preparation.

The Plan Area encompasses approximately 10,358 acres (16.4 square miles) within the City's boundary, and the existing SOI and proposed SOI expansion area add an additional 8,133 acres (12.7 square miles) in the areas south and east of the City limits, for a total of approximately 18,491 acres, or about 29 square miles. The entire Study Area (the City of Eureka, its SOI, and peripheral areas) covers approximately 27,735 acres, or about 43.3 square miles.

Portions of the City's SOI lie within or adjacent to the Humboldt Community Services District (HCSD). The County lands surrounding the City are planned as low-density residential, agricultural, and timber under the County's General Plan.

Portions of the Plan Area and the larger Study Area lie within the California Coastal Zone, and fall under the added regulations of the California Coastal Act. The Coastal Zone boundary is also shown in Figure 2-2. The California Coastal Commission (CCC) was established by voter initiative in 1972 and made permanent by the Legislature through adoption of the California Coastal Act in 1976. The Act set forth guiding policies for the CCC and its local government partners to follow when establishing land use and development regulations for the coast.

The Coastal Zone comprises approximately 57 percent of the land within the larger Study Area, or about 16,051 acres with approximately 6,662 acres within the City limit. Of the area within the City limits, approximately 4,435 acres are submerged lands and approximately 2,227 acres are either filled or naturally occurring land. The Coastal Zone includes all of the City's agricultural lands, the vast majority of the City's industrial lands, approximately half of the City's commercially-zoned lands, all of Old Town, the entire commercial waterfront, all the lands east of Myrtle Avenue including the Bridge District, all the land along Highway 101 east of the Eureka Slough, Jacobs Avenue, and the Indianola area. The Coastal Zone boundary largely follows the easterly edge of the right-of-way boundary of Broadway (US-101) north to 3rd Street, then turns east along the southern edge of the right-of-way of 3rd Street, and then extends south

along the westerly edge of the right-of-way of Myrtle Avenue. Consequently, all property west of Broadway, north of 3rd Street and east of Myrtle Avenue is located in the Coastal Zone.

Since areas within the Eureka City limits are the focus of the proposed 2040 General Plan, the discussion and analysis contained within this EIR focus primarily on the Plan Area. The larger Study Area is discussed within the context of how the General Plan could affect areas adjoining the City, particularly those areas within the existing SOI and the proposed SOI expansion area south of Myrtletown. The Study Area is also useful in the discussion of potential cumulative impacts associated with the proposed General Plan, and is used for that purpose in a number of the cumulative impact analysis discussions that appear later in this document.

S.3 Project Description

California Government Code Section 65300 et seq. directs that all cities and counties in the state adopt a comprehensive planning document, called the general plan. The general plan provides guidance to local government decision-makers regarding the conservation of resources and the future physical form and character of development for the jurisdiction. It is the official local government statement regarding the extent and types of development of land and infrastructure that will achieve the community's physical, economic, social, and environmental goals. A general plan expresses a city's or county's goals and articulates its intentions with respect to the rights and expectations of the general public, property owners, community interest groups, prospective investors, and business interests. Although the general plan consists of individual sections, or "elements," that address specific areas of concern, it also embodies a comprehensive and integrated planning approach for the jurisdiction.

The current General Plan for the City of Eureka was adopted in February 1997 and has not been comprehensively updated since its adoption. Some of the data, analyses, and policies in the 1997 plan do not fully reflect the current conditions or objectives of the City. As a result, in addition to being required by state law, an update of the General Plan is necessary to reflect the community's current vision for accommodating future growth and providing services within Eureka through 2040.

Proposed City of Eureka 2040 General Plan Update

The proposed City of Eureka 2040 General Plan creates a framework to plan for and guide residential and non-residential growth and conservation in Eureka from now until 2040. This framework is based on a set of comprehensive goals and policies that expand the existing land use patterns, encouraging new growth in undeveloped and underutilized areas of the City and its SOI.

Over the course of implementation of the General Plan toward its horizon year of 2040, it is envisioned that the City will focus development around the underutilized areas outlined below, which would result in concentrated densification that would be largely driven by an increase in residential, office, retail, entertainment, and cultural uses.

General Plan Objectives

The following objectives have been established for the proposed project and will aid decision makers in their review of the project and associated environmental impacts.

- Provide a comprehensive update to the City's General Plan to more effectively address the issues facing Eureka and to reflect the current values and vision of the community (see the Preface of the General Plan for the General Plan Vision);
- Enhance Eureka's quality of life and enrich its sense of community;
- Support well planned infill projects that build upon Eureka's historic development patterns and that utilize development intensities and building heights that are in closer alignment with the City's pre-1950s history;
- Meet the housing needs of existing and future residents through a variety of housing types and designs including infill development, higher density products, and mixed use;
- Preserve and enhance existing neighborhoods;
- Promote a vital Core Area with a mix of uses that include retail, office, residential, entertainment, and cultural uses that attract local residents, regional visitors, and tourists;
- Provide additional opportunities for industry and employment to strengthen and diversify the economic base of the City;
- Foster a diverse and resilient local economy friendly to new business investment and the creation and retention of quality jobs;
- Minimize development regulations, such as parking requirements and other development standards, that unnecessarily complicate development processes.
- Improve mobility and safety for pedestrians, bicyclists, and vehicles; and
- Accommodate growth that protects important environmental resources, as well as ensures long term economic sustainability, and equity and social well-being for the entire community.

General Plan Elements

The proposed General Plan contains the elements listed below. Those elements marked with an asterisk (*) are those required by State law. Those not marked with an asterisk are optional elements that the City has included in the General Plan.

- Land Use*
- Circulation (or Mobility)*
- Housing*
- Conservation*
- Historic and Cultural Preservation
- Agriculture and Timberlands
- Air Quality and Climate Change
- Health and Safety
- Open Space*
- Noise*
- Safety*
- Economy
- Arts and Culture
- Parks and Recreation
- Utilities

Proposed General Plan Land Use Designations

Proposed land use designations in the Land Use Element of the General Plan are broadly structured to allow for flexibility in defined land use types, densities, and intensities to account for change over time. Each land use designation is described in **Table S-1** below, and standards for building intensities are also provided as an allowable range of residential densities and nonresidential floor area ratios (FARs) per net acre. These proposed land use designations are included for the City Limits only.

TABLE S-1
PROPOSED 2040 GENERAL PLAN LAND USE DESIGNATIONS

Residential Neighborhoods		
Estate Residential (ER)	Single-family detached homes, accessory dwelling units and limited agricultural uses on larger lots. Intended to retain a lower density, rural character compatible with adjacent agriculture, timberland and open space uses. The City may approve the clustering of ER units to preserve significant open space resources.	Density: Up to 4.0 dwelling units per gross acre
Low Density Residential (LDR)	Single-family detached and attached homes, accessory dwelling units and compatible public/quasi-public uses. Intended to be suburban in character and located in proximity to parks, schools, and public services. Limited neighborhood serving market-commercial uses may be allowed where they enhance the quality of life of the neighborhood and as provided by the applied zoning district.	Density: Up to one primary unit and one accessory dwelling unit per lot.
Medium Density Residential (MDR)	Single-family detached and attached homes, multi-family housing, accessory dwelling units and compatible public/quasi-public uses. Intended to compliment the character of adjacent lower density residential and neighborhood commercial development, and be located in proximity to parks, schools, public services, and employment centers. Limited neighborhood serving market-commercial uses may be allowed where they enhance the quality of life of the neighborhood and as provided by the applied zoning district.	Density: Up to 22 dwelling units per gross acre (equivalent to maximum of three units on an average 6,000 square foot City lot).
High Density Residential (HDR)	Higher density multi-family housing, accessory dwelling units, and compatible public/quasi-public and related uses. Intended to be urban in character and located in proximity to commercial and employment uses, parks, schools, and public services. Limited neighborhood serving market-commercial uses and limited mixed use development may be allowed as provided by the applied zoning district.	Density: Up to 44 dwelling units per gross acre (equivalent to maximum of six units on an average 6,000 square foot City lot); greater density may be allowed through a special permit as provided by the applied zoning district.
Commercial, Office, and Mixed Uses		
Downtown Commercial (DC)	Mix of ground floor retail, restaurants, lodging, entertainment, cultural, visitor services, offices, and upper floor residential uses. Applied to the bulk of the Core Area, which serves as the traditional business and cultural center for the City. Intended to have a high intensity urban form, retain and enhance Eureka's identity and historic character, and promote a vibrant pedestrian environment. Residential and office uses are primarily allowed only on upper floors and only as provided by the applied zoning district.	Intensity: Maximum 6.0 FAR
Neighborhood Commercial (NC)	Limited-scale convenience retail, restaurants, offices, residential, and personal services, including pedestrian-oriented neighborhood retail. Intended to primarily serve nearby neighborhoods, be compatible with the character and form of adjacent residential uses, support a vibrant pedestrian environment, and promote short neighborhood-based trips. Residential and office uses are primarily allowed only on upper floors of multi-story commercial buildings and only as provided by the applied zoning district.	Intensity: Maximum 2.5 FAR

TABLE S-1 (CONTINUED)
PROPOSED 2040 GENERAL PLAN LAND USE DESIGNATIONS

Commercial, Office, and Mixed Uses (cont.)		
General Commercial (GC)	Broad variety and scale of retail, office, restaurants, lodging, entertainment, outdoor sales, large product retail sales, storage, warehousing, wholesale, and residential uses. Intended to be an intensive auto- and pedestrian-oriented commercial district primarily located in or adjacent to highly visible areas, and provide for local, regional and visitor needs. Residential and office uses are primarily allowed only on upper floors of multi-story commercial buildings, and only as provided by the applied zoning district.	Intensity: Maximum 2.5 FAR
Old Town Commercial (OC)	Visitor-related retail, restaurants, lodging, entertainment, recreation, and tourist services, as well as residential and office uses. Intended to emphasize commercial retail and tourism-related uses, recreation, leisure activities, hotels, and upper floor office/residential uses. Primarily caters to local and non-local visitors in historic and multi-story buildings with pedestrian-scaled storefronts lining the sidewalks. Residential and office uses are primarily allowed only on upper floors and only as provided by the applied zoning district.	Intensity: Maximum 5.0 FAR
Bayfront Commercial (BC)	Visitor-related retail, restaurants, multi-story lodging, entertainment, recreation, boating, and tourist services, as well as residential, office, and a mix of coastal and non-coastal dependent uses. Intended to emphasize commercial retail and tourism-related uses, leisure activities, hotels, and upper floor office/residential uses along the bayfront. Primarily caters to local and non-local visitors in multi-story buildings with pedestrian-scaled storefronts lining the sidewalks, boardwalk, and waterfront trails. Residential and office uses are primarily allowed only on upper floors and only as provided by the applied zoning district.	Intensity: Maximum 4.0 FAR
Professional Office (PO)	Customer-serving and non-customer-serving professional offices, clinics, hospitals, and related retail and services, as well as residential uses. Also applied to areas with a mix of single-family and multi-family housing, small scale offices, some converted residential buildings, and lodging where the intent is to generally retain the character, scale and form of the residential neighborhood. Intended to provide a mix of office and residential uses in an environment with a different character and lower intensity than the mixed-use commercial districts of the City. Limited commercial uses may be allowed as provided for by the applied zoning district.	Intensity: Maximum 2.5 FAR
Industrial Uses		
Light Industrial (LI)	Lower-intensity manufacturing, assembly, packaging, processing, wholesaling, warehousing, distribution, research and development and other employment-generating uses. Intended to be able to operate in close proximity to commercial and residential uses with minimum mutual adverse impacts. Small scale retail service uses that support employees and are incidental to the primary use may be allowed as provided by the applied zoning district. Upper floor residential uses may be conditionally allowed as provided by the applied zoning district.	Intensity: Maximum 2.0 FAR
General Industrial (GI)	Intensive manufacturing, assembly, packaging, processing, wholesaling, warehousing, distribution, research and development and other employment generating uses. Generally intended to be located away from residential, commercial and visitor serving uses due to the potential to produce loud noise, noxious odors and emissions, vibrations and high volumes of truck traffic. Retail and service uses that support employees and are incidental to the primary use may be allowed as provided by the applied zoning district.	Intensity: Maximum 2.0 FAR

TABLE S-1 (CONTINUED)
PROPOSED 2040 GENERAL PLAN LAND USE DESIGNATIONS

Industrial Uses (cont.)		
Coastal Dependent Industrial (CDI)	Coastal-dependent and coastal-related manufacturing and processing, fishing, shipping, marine services, aquaculture, oil and gas facilities and other uses that must be located on or adjacent to Humboldt Bay in order to function. Intended to encourage activities related to the shipping and fishing industries and support those uses given priority by the California Coastal Act of 1976. Retail and service uses that are incidental to the primary use, interim non-coastal uses, non-coastal-dependent uses, and non-coastal-related uses may be allowed as provided by the applied zoning district. Office spaces may be allowed on upper floors as provided by the applied zoning district.	Intensity: Maximum 2.0 FAR
Public/Quasi-Public Uses		
Public/Quasi-Public (PQP)	Public and private institutional uses, government facilities and services, schools, courts, cemeteries, fairgrounds, airports, marinas and wharves, and major utility facilities, as well as parks, golf courses and other public recreational facilities. Intended to be applied to uses and facilities that are of a size and intensity that warrant an individual land use designation and/or to accommodate both active/ programmable and passive/self-directed recreational facilities. Retail and service uses that are incidental to the primary use may be allowed as provided by the applied zoning district.	Intensity: Maximum 4.0 FAR
Open Space and Resource Related Uses		
Agriculture (A)	Production of crops, livestock grazing, animal and poultry raising, apiaries, dairies, stables and associated residences and farmworker housing. Intended to protect land, including farmed or grazed wetlands, that is primarily suitable for long-term agricultural and wildlife habitat uses and to ensure adequate separation from adjacent development. Compatible commercial and public/quasi-public uses may be conditionally allowed as provided by the applied zoning district.	Density: Maximum 2 dwelling units per lot.
Timberland (T)	Growing, harvesting, and processing of timber and other forest products, resource management activities, and associated support uses and residences. Intended to protect land that is primarily suitable for long-term timber production and compatible resource related uses. Limited public recreation and agricultural uses may be allowed as provided by the applied zoning district.	Density: Maximum 2 dwelling units per lot.
Natural Resource (NR)	Protection, enhancement, restoration, management, study, and passive recreational use of land-based habitats and natural areas. Intended to protect land that is primarily suitable for permanent habitat preservation, compatible resource related uses, nature study, and natural-resource-related recreation. Public access, passive recreation, and active recreation may be allowed as provided by the applied zoning district.	Intensity: Nature-study-related buildings/structures may be constructed at an intensity determined by the applied zoning district.
Water Conservation (WC)	Protection, enhancement, restoration, management, and study of environmentally sensitive habitat within the estuarine waters of Humboldt Bay. Intended to protect waters that are primarily suitable for permanent habitat preservation, compatible resource related uses, nature study, and natural-resource-related recreation. Public access, passive recreation, active recreation, commercial fishing, aquaculture, and other compatible uses may be allowed as provided by the applied zoning district.	Intensity: NA
Water Development (WD)	Port, harbor, commercial fishing, recreation and aquaculture related uses of the estuarine waters of Humboldt Bay. Intended to be carried out consistent with the City's resource protection policies. Coastal dependent industrial, incidental public services, recreational use, nature study, and other compatible uses may be allowed as provided by the applied zoning district.	Intensity: NA

Proposed General Plan Land Use Acreages

The acreage of each proposed land use designation within the City limits is shown below in **Table S-2**.

TABLE S-2
2040 GENERAL PLAN LAND USE ACREAGES

Land Use Designation	Acreage*
Estate Residential (ER)	46
Low Density Residential (LDR)	2,005
Medium Density Residential (MDR)	340
High Density Residential (HDR)	359
Agricultural (A)	450
Downtown Commercial (DC)	151
Neighborhood Commercial (NC)	62
General Commercial (GC)	539
Old Town Commercial (OC)	34
Bayfront Commercial (BC)	69
Professional Office (PO)	143
Light Industrial (LI)	50
General Industrial (GI)	257
Coastal Dependent Industrial (CDI)	72
Public/Quasi-Public (PQP)	846
Natural Resource (NR)	776
Water Development (WD)	959
Water Conservation (WC)	3,201

General Plan Buildout

Proposed 2040 General Plan land uses have been allocated considering projected future housing and employment demands. The General Plan provides capacity beyond projected needs in order to maximize opportunities for new job- and revenue-generating uses, and in recognition that not all lands will be available for development at a given time.

To estimate the amount of new growth that is anticipated to occur within the City over the next two decades, City staff considered a range of factors, including community desires, physical or environmental limitations, existing infrastructure constraints, and socioeconomic trends. Based on this analysis, the City developed the proposed 2040 General Plan Land Use Diagram. The Land Use Diagram represents the desired type, amount, and arrangement of future land uses within the City. The land use plan forms the basis for the General Plan policies and the environmental documentation in the EIR.

Based on current market conditions and growth projections for the region, the City used density/ intensity assumptions and persons per household estimates for new growth that are expected to occur within the timeframe of the General Plan, consistent with historic growth patterns and reflecting a foreseeable buildout scenario. **Table S-3** shows how much additional development could be built under the proposed 2040 General Plan, and corresponding population growth and employees generated, are also shown in the table.

TABLE S-3
PROPOSED 2040 GENERAL PLAN DEVELOPMENT POTENTIAL

Land Use Designation	Gross Acres[1]	Gross Developable Acres[2]	Maximum Allowed Density/Intensity	Anticipated Incremental Growth (Dwelling Units)[3,4]	Anticipated Incremental Growth (Square Feet)[3]	Population growth[5]	Employees[6]
Residential							
Estate Residential (ER)	46	41	4.0 or less du/ac	9	NA	21	NA
Low Density Residential (LDR)	2,005	1,436	1 primary unit and 1 accessory dwelling unit per lot	314	NA	722	NA
Medium Density Residential (MDR)	340	222	22.0 or less du/ac	119	NA	224	NA
High Density Residential (HDR)	359	219	44.0 or less du/ac	130	NA	244	NA
Agricultural (A)	450	71	2 or less dwelling units per lot	2	NA	5	NA
Commercial, Office, and Mixed Use Units *7*	NA	NA	Intensity Based on Zoning District	1,290	NA	2,425	NA
Industrial Use Units *8*	NA	NA	Intensity Based on Zoning District	20	NA	37	NA
Public/Quasi-Public (PQP) Units	NA	NA	Intensity Based on Zoning District	2	NA	5	NA
Total Residential	**3,200**	**1,989**	**NA**	**1,886**	**NA**	**3,683**	**NA**
Non-Residential							
Downtown Commercial (DC)	151	77	6.0 FAR	NA	283,894	See "Commercial Units" above	1,136
Neighborhood Commercial (NC)	62	36	2.5 FAR	NA	83,111	See "Commercial Units" above	166
General Commercial (GC)	539	447	2.5 FAR	NA	406,400	See "Commercial Units" above	813
Old Town Commercial (OC)	34	16	5.0 FAR	NA	88,665	See "Commercial Units" above	355
Bayfront Commercial (BC)	69	47	4.0 FAR	NA	260,373	See "Commercial Units" above	521
Professional Office (PO)	143	99	2.5 FAR	NA	122,499	See "Commercial Units" above	245
Light Industrial (LI)	50	39	2.0 FAR	NA	89,385	NA	89

TABLE S-3 (CONTINUED)
PROPOSED 2040 GENERAL PLAN DEVELOPMENT POTENTIAL

Land Use Designation	Gross Acres[1]	Gross Developable Acres[2]	Maximum Allowed Density/Intensity	Anticipated Incremental Growth (Dwelling Units)[3,4]	Anticipated Incremental Growth (Square Feet)[3]	Population growth[5]	Employees[6]
Non-Residential (cont.)							
General Industrial (GI)	257	215	2.0 FAR	NA	230,679	NA	231
Coastal Dependent Industrial (CDI)	72	33	2.0 FAR	NA	22,627	NA	23
Public and Quasi-Public (PQP)	846	470	4.0 FAR	NA	16,261	NA	16
Natural Resource (NR)	776	317	Intensity Based on Zoning District	NA	NA	NA	NA
Water-Development (WD)	959	NA	NA	NA	NA	NA	NA
Water-Conservation (WC)	3,201	NA	NA	NA	NA	NA	NA
Total Non-Residential	**7,160**	**1,796**	**NA**	**NA**	**1,603,894**	**NA**	**3,595**
Eureka Total	**10,360**	**3,785**	**NA**	**1,886**	**1,603,894**	**3,683**	**3,595**

NOTES:
1. The gross acres for each land use designation include all land, both developable and non-developable, that exists within the Eureka city boundary.
2. The gross developable acres for each land use designation include all developable land that has been calculated for either new development or redevelopment.
3. The anticipated incremental growth (in terms of dwelling units and non-residential square feet), assumes the new development of vacant parcels and redevelopment of a select set of already developed parcels that have been identified as suitable for redevelopment. As the City is largely developed, the amount of undeveloped land is significantly lower than the gross acreage of land designated for urban uses under the General Plan.
4. The anticipated incremental growth in dwelling units, 1,886 total dwelling units, is consistent with the growth projections identified in the City of Eureka Community Background Report, which is benchmarked to the 2010 Census total and using the annual average growth rates projected by the California Department of Finance and California Department of Transportation (Caltrans) between 2010 and 2040, in five-year increments.
5. Population growth is calculated based on two factors: 2.3 people per household for single family housing (for Estate Residential, Low Density Residential, Agricultural, and Public/Quasi-Public); and 1.88 people per household for multifamily housing (for Medium Density Residential; High Density Residential; Commercial, Office, and Mixed Use Units; and Industrial Use Units).
6. Employee calculations were determined using the following assumptions:
   1. 1 employee per 250 square feet for Downtown Commercial and Old Town Commercial.
   2. 1 employee per 500 square feet for Neighborhood Commercial, General Commercial, Bayfront Commercial, and Professional Office.
   3. 1 employee per 1,000 square feet for Light Industrial, General Industrial, Coastal Dependent Industrial, and Public/Quasi-Public.
7. "Commercial, Office, and Mixed Use Units" includes mixed use housing occurring within the Bayfront Commercial, Downtown Commercial, General Commercial, Neighborhood Commercial, Old Town Commercial, and Professional Office designations.
8. "Industrial Use Units" includes mixed use housing occurring within the General Industrial and Light Industrial designations.
9. Where applicable, acreages include the Brainard Industrial Area, which is currently undergoing annexation to the City.

SOURCES: ESA, 2018; City of Eureka, 2018.

Buildout of the 2040 General Plan provides for a total increase of up to 1,886 dwelling units resulting in a population of approximately 3,683 residents. The 2040 General Plan also provides for a total of up to 1.6 million square feet of nonresidential uses.

S.4 Identified Project Impacts

As provided by the CEQA *Guidelines* Section 15123(b)(1), an EIR must provide a summary of the impacts, mitigation measures and significant impacts after mitigation for a proposed project. This information is presented in Chapter 3, Environmental Analysis, of this EIR, and summarized in **Table S-5** at the end of this chapter. Based on the analysis contained in the EIR, implementation of the proposed General Plan Update would result in the following significant and unavoidable impacts:

Impact 3.3-2: Implementation of the Eureka 2040 General Plan would contribute to an existing or projected air quality violation during operations for PM10 emissions.

Impact 3.3-3: Implementation of the Eureka 2040 General Plan would result in a cumulatively considerable net increase of PM10 emissions for which the project region is in non-attainment.

Impact 3.5-1: Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

Impact 3.5-2: Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.

Impact 3.5-3: Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

Impact 3.5-4: Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.

Impact 3.12-1: Implementation of the Eureka 2040 General Plan Update would create an adverse effect with respect to vehicle miles traveled (VMT).

S.5 Alternatives

Chapter 4, Alternatives, analyzes a range of reasonable alternatives to the proposed project, including the No Project Alternative (Alternative 1) and the Historic Growth Rate Alternative (Alternative 2).

The analysis of the alternatives is summarized and compared in **Chapter 4**, which provides a summary of impact levels within all environmental topic areas. Overall, the analysis shows that the impacts associated with the Historic Growth Rate Alternative Preservation Alternative would be marginally less severe that those associated with the proposed General Plan Update, though

some potentially more severe impacts could be realized under the Historic Growth Rate Alternative. Accordingly, the Historic Growth Rate Alternative would be the most environmentally superior alternative. The marginal reductions in impacts from the Historic Growth Rate Alternative would largely be a function of a lower population and less overall development within the City. However, these reductions in impacts could be offset in some instances by a reduction in the level of benefits that would occur if implementation and buildout of the proposed 2040 General Plan Update were fully realized. Additionally, the following significant and unavoidable impacts would still occur under the Historic Growth Rate Alternative, though the level of impacts could be less severe, depending on the level of growth that would actually occur in the City.

Table S-4, below, summarizes the relative impacts of each alternative.

TABLE S-4
ALTERNATIVES IMPACT SUMMARY AND COMPARISON

Impact	Alternative 1: No Project	Alternative 2: Historic Growth Rate Alternative	Proposed 2040 General Plan Update
Aesthetics	Significant and Unavoidable ⇧	Less than Significant ⇧	Less than Significant
Agricultural and Timber Resources	Less than Significant	Less than Significant	Less than Significant
Air Quality and Greenhouse Gas Emissions	Significant and Unavoidable ⇧	Significant and Unavoidable ⇧	Significant and Unavoidable
Biological Resources	Less than Significant	Less than Significant	Less than Significant
Cultural Resources	Significant and Unavoidable ⇩	Significant and Unavoidable ⇩	Significant and Unavoidable
Geology, Soils, Minerals, and Paleontological Resources	Less than Significant	Less than Significant	Less than Significant
Hazards and Hazardous Materials	Less than Significant ⇩	Less than Significant ⇩	Less than Significant
Hydrology and Water Quality	Less than Significant	Less than Significant	Less than Significant
Land Use, Population, and Housing	Less than Significant	Less than Significant	Less than Significant
Noise and Vibration	Less than Significant ⇩	Less than Significant ⇩	Less than Significant
Public Services and Recreation	Less than Significant ⇩	Less than Significant ⇩	Less than Significant
Transportation and Traffic	Significant and Unavoidable ⇧	Significant and Unavoidable ⇧	Significant and Unavoidable
Utilities and Service Systems	Less than Significant ⇩	Less than Significant ⇩	Less than Significant

NOTES: ⇧/⇩ - The impact is more/less severe than compared to the proposed project.

S.6 Comments on Notice of Preparation

In accordance with Section 15082(a) of the CEQA Guidelines, the City prepared and circulated a Notice of Preparation (NOP) of a Draft EIR for the General Plan. The NOP was circulated for a 30-day comment period, which began on October 12, 2016, and ended on November 14, 2016.

The City received one letter during the 30-day NOP comment period. In a letter dated November 10, 2016, the California Department of Transportation (Caltrans) encouraged the City to plan for transportation in developing the General Plan Update and to promote land uses with development patterns that reduce Vehicle Miles Traveled (VMT) and Greenhouse Gas (GHG) emissions, consistent with legislation such as Assembly Bill (AB) 32 (2006), Senate Bill (SB) 375 (2008), SB 226 (2011), and SB 743 (2013). Caltrans also encouraged the City to evaluate the potential for incorporating Transportation Demand Management (TDM) strategies and Intelligent Transportation System (ITS) applications to make more efficient use of the existing transportation network. **Appendix A** of this EIR contains a copy of the NOP comment letter submitted by Caltrans, which was considered in the preparation of this EIR.

S.7 Areas of Controversy

Section 15123(b)(2) of the CEQA *Guidelines* requires that an EIR summary identify areas of controversy known to the lead agency, including those issues raised by other agencies and the public. No particular issues of controversy were identified during the NOP comment period.

S.8 Issues to be Resolved

Section 15123(b)(3) of the CEQA *Guidelines* requires that an EIR present the issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects. The major issues to be resolved for the proposed project include decisions by the City of Eureka, as the Lead Agency, as to whether:

- This EIR adequately describes the environmental impacts of the proposed project;
- Additional mitigation measures need to be applied to the proposed project;
- Feasible alternatives exist that would achieve the objectives of the project and reduce significant environmental impacts;
- Significant and unavoidable impacts would occur if the project is implemented; and
- The proposed project should or should not be approved.

TABLE S-5
SUMMARY OF IMPACTS FOR THE EUREKA 2040 GENERAL PLAN UPDATE

Impact	Proposed General Plan Policies	Significance After General Plan Policy Implementation or Compliance with Standard Regulations[1]	Mitigation Measure	Significance After Mitigation[1]
3.1. Aesthetics				
Impact 3.1-1: Implementation of the proposed Eureka 2040 General Plan would not have a substantial adverse effect on a scenic resource or scenic vista.	Policies LU-1.12, LU-1.16	LTS	None required	LTS
Impact 3.1-2: Implementation of the proposed Eureka 2040 General Plan would not substantially degrade the existing visual character or quality of the Plan Area or its surroundings.	Policies LU-1.12, LU-1.14, LU-1.16, LU-1.19	LTS	None required	LTS
Impact 3.1-3: Implementation of the proposed Eureka 2040 General Plan would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Policy LU-1.13	LTS	None required	LTS
Impact 3.1-4: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not have a substantial adverse effect on a scenic resource or scenic vista.	Policies LU-1.12, LU-1.16	LTS	None required	LTS
Impact 3.1-5: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not substantially degrade the existing visual character or quality of the Plan Area or its surroundings.	Policies LU-1.12, LU-1.14, LU-1.16, LU-1.19	LTS	None required	LTS
Impact 3.1-6: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	Policy LU-1.13	LTS	None required	LTS
3.2. Agricultural and Timber Resources				
Impact 3.2-1: The proposed Eureka 2040 General Plan would not result in conversion of Important Farmland to non-agricultural use.	Policies AG-1.1, NR-3.1	LTS	None required	LTS
Impact 3.2-2: The proposed Eureka 2040 General Plan would not conflict with existing zoning for agriculture, aquaculture-supporting, or timber uses.	Policies AG-1.1, NR-3.1	LTS	None required	LTS
Impact 3.2-3: The proposed Eureka 2040 General Plan would not conflict with existing zoning for aquaculture-supporting uses.	Policies AG-1.4, E-3.9, E-4.3, E-5.5, LU-5.8, M-8.1	LTS	None required	LTS
Impact 3.2-4: The proposed Eureka 2040 General Plan would not conflict with existing zoning for timber uses.	Policies AG-1.7, AG-1.9	LTS	None required	LTS

TABLE S-5
SUMMARY OF IMPACTS FOR THE EUREKA 2040 GENERAL PLAN UPDATE

Impact	Proposed General Plan Policies	Significance After General Plan Policy Implementation or Compliance with Standard Regulations[1]	Mitigation Measure	Significance After Mitigation[1]
3.2. Agricultural and Timber Resources (cont.)				
Impact 3.2-5: Implementation of the proposed Eureka 2040 General Plan would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use, aquaculture-supporting uses to non-aquaculture-supporting uses, or conversion of forest land to non-forest use.	Policies AG-1.1, AG-1.4, E-3.9, E-4.3, E-5.5, LU-5.8, M-8.1, NR-3.1	LTS	None required	LTS
Impact 3.2-6: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not result in conversion of Important Farmland to non-agricultural use.	Policies AG-1.1, NR-3.1	LTS	None required	LTS
Impact 3.2-7: Implementation of the proposed Eureka 2040 General Plan would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of aquaculture-supporting uses to non-aquaculture-supporting uses.	Policies AG-1.4, E-3.9, E-4.3, E-5.5, LU-5.8, M-8.1	LTS	None required	LTS
3.3. Air Quality and Greenhouse Gas Emissions				
Impact 3.3-1: Implementation of the Eureka 2040 General Plan would not conflict with or obstruct implementation of the applicable air quality plan.	Policies LU-1.2, LU-1.3, LU-1.19, LU-2.11, LU-3.4, LU-5.4, LU-5.6, LU-5.7, LU-6.2, LU-6.8, E-5.2, AQ-1.1, AQ-1.3, AQ-1.4, AQ-1.7, AQ-1.8, AQ-1.9, AQ-1.10, AQ-1.11, AQ-1.12, AQ-1.13, AQ-1.14, M-1.1, M-1.2, M-1.3, M-1.4, M-1.6, M-1.7, M-2.2, M-2.3, M-2.4, M-2.7, M-3.1, M-3.2, M-3.3, M-3.4, M-3.5, M-3.6, M-3.7, M-3.8, M-3.9, M-3.10, M-3.11, M-4.1, M-4.2, M-4.3, M-4.4, M-4.5, M-4.6, M-4.8, M-5.5	LTS	None required	LTS
Impact 3.3-2: Implementation of the Eureka 2040 General Plan would violate an air quality standard and would contribute to an existing or projected air quality violation.	Policies LU-1.2, LU-1.3, LU-1.19, LU-2.11, LU-3.4, LU-5.4, LU-5.6, LU-5.7, LU-6.2, LU-6.8, E-5.2, AQ-1.1, AQ-1.3, AQ-1.4, AQ-1.7, AQ-1.8, AQ-1.9, AQ-1.10, AQ-1.11, AQ-1.12, AQ-1.13, AQ-1.14, M-1.1, M-1.2, M-1.3, M-1.4, M-1.6, M-1.7, M-2.2, M-2.3, M-2.4, M-2.7, M-3.1, M-3.2, M-3.3, M-3.4, M-3.5, M-3.6, M-3.7, M-3.8, M-3.9, M-3.10, M-3.11, M-4.1, M-4.2, M-4.3, M-4.4, M-4.5, M-4.6, M-4.8, M-5.5	SU	None available	SU

TABLE S-5
SUMMARY OF IMPACTS FOR THE EUREKA 2040 GENERAL PLAN UPDATE

Impact	Proposed General Plan Policies	Significance After General Plan Policy Implementation or Compliance with Standard Regulations[1]	Mitigation Measure	Significance After Mitigation[1]
3.3. Air Quality and Greenhouse Gas Emissions (cont.)				
Impact 3.3-3: The Eureka 2040 General Plan would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.	Policies LU-1.2, LU-1.3, LU-1.19, LU-2.11, LU-3.4, LU-5.4, LU-5.6, LU-5.7, LU-6.2, LU-6.8, E-5.2, AQ-1.1, AQ-1.3, AQ-1.4, AQ-1.7, AQ-1.8, AQ-1.9, AQ-1.10, AQ-1.11, AQ-1.12, AQ-1.13, AQ-1.14, M-1.1, M-1.2, M-1.3, M-1.4, M-1.6, M-1.7, M-2.2, M-2.3, M-2.4, M-2.7, M-3.1, M-3.2, M-3.3, M-3.4, M-3.5, M-3.6, M-3.7, M-3.8, M-3.9, M-3.10, M-3.11, M-4.1, M-4.2, M-4.3, M-4.4, M-4.5, M-4.6, M-4.8, M-5.5	SU	None available	SU
Impact 3.3-4: Implementation of the Eureka 2040 General Plan would not expose sensitive receptors to substantial pollutant concentrations.	Policies AQ-1.3, AQ-1.5, AQ-1.6, AQ-1.8, HS-4.5, HS-4.6, HS-4.7, HS-4.9	LTS	None required	LTS
Impact 3.3-5: The Eureka 2040 General Plan would not create objectionable odors affecting a substantial number of people.	Policy AQ-1.6	LTS	None required	LTS
Impact 3.3-6: The Eureka 2040 General Plan would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Policies LU-1.2, LU-1.3, LU-1.19, LU-2.11, LU-3.4, LU-5.4, LU-5.6, LU-5.7, LU-6.2, LU-6.8, E-5.2, AQ-1.1, AQ-1.2, AQ-1.3, AQ-1.4, AQ-1.7, AQ-1.9, AQ-1.10, AQ-1.11, AQ-1.12, AQ-1.13, AQ-1.14, M-1.1, M-1.2, M-1.3, M-1.4, M-1.6, M-1.7, M-2.2, M-2.3, M-2.4, M-2.7, M-2.9, M-3.1, M-3.2, M-3.3, M-3.4, M-3.5, M-3.6, M-3.7, M-3.8, M-3.9, M-3.10, M-3.11, M-4.1, M-4.2, M-4.3, M-4.4, M-4.5, M-4.6, M-4.8, M-5.5, U-1.6, U-1.7, U-2.7, U-3.12, U-4.3, U-4.4, U-4.5, U-4.6, U-4.7, U-4.8, U-4.9, U-5.1, U-5.2, U-5.3, U-5.4, U-5.5, U-5.6, U-5.8, U-5.9, U-5.11	LTS	None required	LTS
Impact 3.3-7: The Eureka 2040 General Plan would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Policies LU-1.2, LU-1.3, LU-1.19, LU-2.11, LU-3.4, LU-5.4, LU-5.6, LU-5.7, LU-6.2, LU-6.8, E-5.2, AQ-1.1, AQ-1.2, AQ-1.3, AQ-1.4, AQ-1.7, AQ-1.9, AQ-1.10, AQ-1.11, AQ-1.12, AQ-1.13, AQ-1.14, M-1.1, M-1.2, M-1.3, M-1.4, M-1.6, M-1.7, M-2.2, M-2.3, M-2.4, M-2.7, M-2.9, M-3.1, M-3.2, M-3.3, M-3.4, M-3.5, M-3.6, M-3.7, M-3.8, M-3.9, M-3.10, M-3.11, M-4.1, M-4.2, M-4.3, M-4.4, M-4.5, M-4.6, M-4.8, M-5.5, U-1.6, U-1.7, U-2.7, U-3.12, U-4.3, U-4.4, U-4.5, U-4.6, U-4.7, U-4.8, U-4.9, U-5.1, U-5.2, U-5.3, U-5.4, U-5.5, U-5.6, U-5.8, U-5.9, U-5.11	LTS	None required	LTS

TABLE S-5
SUMMARY OF IMPACTS FOR THE EUREKA 2040 GENERAL PLAN UPDATE

Impact	Proposed General Plan Policies	Significance After General Plan Policy Implementation or Compliance with Standard Regulations[1]	Mitigation Measure	Significance After Mitigation[1]
3.4 Biological Resources				
Impact 3.4-1: The Eureka 2040 General Plan would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	Policies NR-1.3, NR-2.1, NR-2.2, NR-2.4, NR-2.5, NR-2.6, NR-3.2	LTS	None required	LTS
Impact 3.4-2: The Eureka 2040 General Plan would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.	Policies NR-1.3, NR-2.1, NR-2.2, NR-2.4, NR-3.2	LTS	None required	LTS
Impact 3.4-3: The Eureka 2040 General Plan would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	Policy NR-2.4	LTS	None required	LTS
Impact 3.4-4: The Eureka 2040 General Plan would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Policies NR-1.3, NR-2.1, NR-2.2, NR-2.4, NR-3.2	LTS	None required	LTS
Impact 3.4-5: The Eureka 2040 General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Policy NR-2.7	LTS	None required	LTS
Impact 3.4-6: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not have a substantial adverse effect on biological resources.	Policies NR-1.3, NR-2.1, NR-2.2, NR-2.4, NR-2.5, NR-2.6, NR-2.7, NR-3.2	LTS	None required	LTS
3.5 Cultural and Historic Resources				
Impact 3.5-1: Implementation of the proposed Eureka 2040 General Plan could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.	Polices HCP-1.1, HCP-1.2, HCP-1.3; HCP-1.4, HCP-1.5, HCP-1.6	SU	None available	SU

TABLE S-5
SUMMARY OF IMPACTS FOR THE EUREKA 2040 GENERAL PLAN UPDATE

Impact	Proposed General Plan Policies	Significance After General Plan Policy Implementation or Compliance with Standard Regulations[1]	Mitigation Measure	Significance After Mitigation[1]
3.5 Cultural and Historic Resources (cont.)				
Impact 3.5-2: Implementation of the proposed Eureka 2040 General Plan could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5 or a tribal cultural resource as defined in Public Resources Code Section 21074 or could disturb human remains, including those interred outside of formal cemeteries.	Policies HCP-2.1, HCP-2.2, HCP-2.3; HCP-2.4, HCP-2.5, HCP-2.6, HCP-2.7, HCP-2.8, HCP-2.9	SU	None available	SU
Impact 3.5-3: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.	Polices HCP-1.1, HCP-1.2, HCP-1.3; HCP-1.4, HCP-1.5, HCP-1.6	SU	None available	SU
Impact 3.5-4: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5 or a tribal cultural resource as defined in Public Resources Code Section 21074 or could disturb human remains, including those interred outside of formal cemeteries.	Policies HCP-2.1, HCP-2.2, HCP-2.3; HCP-2.4, HCP-2.5, HCP-2.6, HCP-2.7, HCP-2.8, HCP-2.9	SU	None available	SU
3.6 Geology, Soils, Mineral Resources, and Paleontological Resources				
Impact 3.6-1: New development under the Eureka 2040 General Plan Update would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides.	Policies HS-1.1, HS-1.2, HS-1.3, HS-1.4, HS-1.5, HS-1.6	LTS	None required	LTS
Impact 3.6-2: New developments under the Eureka 2040 General Plan would not result in substantial soil erosion or the loss of topsoil.	None	LTS	None required	LTS
Impact 3.6-3: New developments under the Eureka 2040 General Plan could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Policies HS-1.1, HS-1.2, HS-1.3, HS-1.4, HS-1.5, HS-1.6	LTS	None required	LTS
Impact 3.6-4: New developments under the Eureka 2040 General Plan Update could be located on expansive soil, as defined in Section 1803.5.3 of the 2016 California Building Code, creating substantial risks to life or property.	Policies HS-1.1, HS-1.2, HS-1.3, HS-1.4, HS-1.5, HS-1.6	LTS	None required	LTS

TABLE S-5
SUMMARY OF IMPACTS FOR THE EUREKA 2040 GENERAL PLAN UPDATE

Impact	Proposed General Plan Policies	Significance After General Plan Policy Implementation or Compliance with Standard Regulations[1]	Mitigation Measure	Significance After Mitigation[1]
3.6 Geology, Soils, Mineral Resources, and Paleontological Resources (cont.)				
Impact 3.6-5: New development under the Eureka 2040 General Plan could directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature.	HS-1.7	LTS	None required	LTS
3.7 Hazards and Hazardous Materials				
Impact 3.7-1: The Eureka 2040 General Plan would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Policies HS-4.1, HS-4.2, HS-4.3, HS-4.4, HS-4.5, HS-4.6, HS-4.7, HS-4.8, HS-4.9, HS-4.10, HS-4.11	LTS	None required	LTS
Impact 3.7-2: Implementation of the proposed Eureka 2040 General Plan would not create hazardous emissions or hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	None	LTS	None required	LTS
Impact 3.7-3: Implementation of the proposed Eureka 2040 General Plan could include a project located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.	Policy HS-4.4	LTS	None required	LTS
Impact 3.7-4: Implementation of the proposed Eureka 2040 General Plan would not result in a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport that would result in a safety hazard for people residing or working in the Plan Area.	None	LTS	None required	LTS
Impact 3.7-5: Implementation of the proposed Eureka 2040 General Plan would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Policies HS-5.1, HS-5.5, HS-5.7	LTS	None required	LTS
Impact 3.7-6: Implementation of the proposed Eureka 2040 General Plan would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	Policies HS-5.7, HS-5.10	LTS	None required	LTS
3.8 Hydrology and Water Quality				
Impact 3.8-1: Buildout of the Eureka General Plan Update would not include development that could result in a violation of water quality standards or waste discharge requirements.	Policies NR-1.1, NR-1.4, NR-1.6	LTS	None required	LTS

TABLE S-5
SUMMARY OF IMPACTS FOR THE EUREKA 2040 GENERAL PLAN UPDATE

Impact	Proposed General Plan Policies	Significance After General Plan Policy Implementation or Compliance with Standard Regulations[1]	Mitigation Measure	Significance After Mitigation[1]
3.8 Hydrology and Water Quality (cont.)				
Impact 3.8-2: Buildout of the Eureka 2040 General Plan would not include development that would substantially interfere with groundwater recharge or result in a lowering of the local groundwater table level.	Policies NR-1.2, NR-1.4, NR-1.7, NR-1.11, U-1.4	LTS	None required	LTS
Impact 3.8-3: Buildout of the Eureka 2040 General Plan would not include development that would substantially alter existing drainage patterns or result in an increase in the rate and amount of localized flooding.	Policies NR-1.3, NR-1.5, NR-1.9, U-3.4, U-3.13	LTS	None required	LTS
Impact 3.8-4: Buildout of the Eureka 2040 General Plan would not include development that could increase the rate and amount of runoff water which could exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Policies U-3.1, U-3.2, U.3.3 U-3.4, U-3.8, U-3.11, U-3.12	LTS	None required	LTS
Impact 3.8-5: Buildout of the Eureka 2040 General Plan would not place housing within a designated 100-year flood hazard area in a manner that would impede or redirect flood flows.	Policies HS-2.1, HS-2.4, HS-2.7	LTS	None required	LTS
Impact 3.8-6: Buildout of the Eureka General Plan Update would not expose people or structures to a significant risk of loss, injury or death from flooding due to levee failure, sea level rise, or inundation by seiche or tsunami.	Policies HS-1.2, HS-2.2, HS-3.1, HS-3.2, HS-3.4, HS-3.10, HS-3.11, HS-5.4	LTS	None required	LTS
3.9 Land Use, Population, and Housing				
Impact 3.9-1: Implementation of the proposed Eureka 2040 General Plan would not physically divide an established community.	Policies LU-1.2, LU-5.3, LU-5.4, LU-6.2	LTS	None required	LTS
Impact 3.9-2: Implementation of the proposed Eureka 2040 General Plan would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	Policies LU-6.7, LU-6.8	LTS	None required	LTS
Impact 3.9-3: Implementation of the proposed Eureka 2040 General Plan would not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	None	LTS	None required	LTS

TABLE S-5
SUMMARY OF IMPACTS FOR THE EUREKA 2040 GENERAL PLAN UPDATE

Impact	Proposed General Plan Policies	Significance After General Plan Policy Implementation or Compliance with Standard Regulations[1]	Mitigation Measure	Significance After Mitigation[1]
3.9 Land Use, Population, and Housing (cont.)				
Impact 3.9-4: Implementation of the proposed Eureka 2040 General Plan would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	Policies LU-1.2, LU-5.3, LU-5.4, LU-6.2	LTS	None required	LTS
Impact 3.9-5: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development in Humboldt County, would not result in significant impacts related to land use, population, or housing	Policies LU-1.2, LU-5.3, LU-5.4, LU-6.2, LU-6.7, LU-6.8	LTS	None required	LTS
3.10 Noise and Vibration				
Impact 3.10-1: Construction activities associated with implementation of the Eureka 2040 General Plan Update would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies or result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	Policy N-1.13	LTS	None required	LTS
Impact 3.10-2: Stationary noise sources from development within the proposed 2040 General Plan Update area would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies or result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	Policies N-1.5, N-1.8	LTS	None required	LTS
Impact 3.10-3: Implementation of the 2040 General Plan Update would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	Policy N-1.14	LTS	None required	LTS
Impact 3.10-4: Transportation activities under the Eureka General Plan Update would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	None	LTS	None required	LTS
Impact 3.10-5: Implementation of the Eureka General Plan Update would not expose people residing or working within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, in the project area to excessive noise levels.	None	LTS	None required	LTS

TABLE S-5
SUMMARY OF IMPACTS FOR THE EUREKA 2040 GENERAL PLAN UPDATE

Impact	Proposed General Plan Policies	Significance After General Plan Policy Implementation or Compliance with Standard Regulations[1]	Mitigation Measure	Significance After Mitigation[1]
3.10 Noise and Vibration (cont.)				
Impact 3.10-6: Implementation of the Eureka General Plan Update in combination with regional growth and traffic conditions would not result in increased traffic noise exposure at existing and proposed noise-sensitive uses within the City.	None	LTS	None required	LTS
3.11 Public Services and Recreation				
Impact 3.11-1: The Eureka 2040 General Plan would not result in substantial adverse physical impacts associated with the provision of new or physically altered facilities, or create a need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.	Policies AC-2.9, CS-1.1, CS-1.2, CS-1.5, CS-1.6, CS-2.1, CS-2.2, CS-2.3, CS-2.4, CS-3.1, CS-3.2, CS-3.3, CS-3.4, CS-3.5, CS-4.1, CS-4.3, PR-1.1, PR-1.2, PR-1.3, PR-1.4, PR-1.5, PR-1.6, PR-1.11, PR-1.12	LTS	None required	LTS
Impact 3.11-2: The Eureka 2040 General Plan would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	PR-1.1, PR-1.2, PR-1.3, PR-1.4, PR-1.5, PR-1.6, PR-1.11, PR-1.12	LTS	None required	LTS
Impact 3.11-3: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not result in a cumulative impact on public services and recreation systems.	Policies AC-2.9, CS-1.1, CS-1.2, CS-1.5, CS-1.6, CS-2.1, CS-2.2, CS-2.3, CS-2.4, CS-3.1, CS-3.2, CS-3.3, CS-3.4, CS-3.5, CS-4.1, CS-4.3, PR-1.1, PR-1.2, PR-1.3, PR-1.4, PR-1.5, PR-1.6, PR-1.11, PR-1.12	LTS	None required	LTS
3.12 Transportation				
Impact 3.12-1: Implementation of the Eureka 2040 General Plan Update would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. Implementation of the General Plan Update would create an adverse effect with respect to vehicle miles traveled.	Policies M-1.1, M-1.2, M-1.3, M-1.4, M-1.5, M-1.6, M.1.7, M-1.8, M-1.9, M-3.1, M-3.2, M-3.3, M-3.4, M-3.5, M-3.6, M-3.7, M-3.8, M-3.9, M-3.10, M-3.11, M-3.12, M-4.1, M-4.2, M-4.3, M-4.4	SU for Vehicle Miles Traveled	None available	SU for VMT
Impact 3.12-2: The Eureka General Plan Update would not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.	Policies M-1.1, M-1.2, M-1.3, M-1.4, M-1.5, M-1.6, M-1.7, M-1.8, M-1.9, M-3.1, M-3.2, M-3.3, M-3.4, M-3.5, M-3.6, M-3.7, M-3.8, M-3.9, M-3.10, M-3.11, M-3.12, M-4.1, M-4.2, M-4.3, M-4.4	LTS	None required	LTS

TABLE S-5
SUMMARY OF IMPACTS FOR THE EUREKA 2040 GENERAL PLAN UPDATE

Impact	Proposed General Plan Policies	Significance After General Plan Policy Implementation or Compliance with Standard Regulations[1]	Mitigation Measure	Significance After Mitigation[1]
3.12 Transportation (cont.)				
Impact 3.12-3: Implementation of the 2040 Eureka General Plan Update would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that would result in substantial safety risks.	None	LTS	None required	
Impact 3.12-4: The Eureka General Plan Update would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Policies M-1.1, M-1.2, M-1.3, M-1.4, M-1.5, M-1.6, M.1.7, M-1.8, M-1.9, M-2.5, M-3.1, M-3.2, M-3.3, M-3.4, M-3.5, M-3.6, M-3.7, M-3.8, M-3.9, M-3.10, M-3.11, M-3.12, M-7.1, M-7.2, M-7.3	LTS	None required	LTS
Impact 3.12-5: The Eureka General Plan Update would not result in inadequate emergency access.	Policy HS-5.7	LTS	None required	LTS
Impact 3.12-6: The Eureka General Plan Update would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	Policies M-1.1, M-1.2, M-1.3, M-1.4, M-1.5, M-1.6, M.1.7, M-1.8, M-1.9, M-2.5, M-3.1, M-3.2, M-3.3, M-3.4, M-3.5, M-3.6, M-3.7, M-3.8, M-3.9, M-3.10, M-3.11, M-3.12, M-7.1, M-7.2, M-7.3	LTS	None required	LTS
3.13 Utilities and Service Systems				
Impact 3.13-1: Sufficient water supplies from existing entitlements and resources would be available to serve the Eureka 2040 General Plan, and new or expanded entitlements would not be needed.	Policies U-1.1, U-1.2	LTS	None required	LTS
Impact 3.13-2: The Eureka 2040 General Plan would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Policies E-5.7, U-2.1, U-2.2	LTS	None required	LTS
Impact 3.13-3: The Eureka 2040 General Plan would not exceed wastewater treatment requirements of the Department of Water Resources or the North Coast Regional Water Quality Control Board.	Policies E-5.7, U-2.1, U-2.2	LTS	None required	LTS
Impact 3.13-4: The Eureka 2040 General Plan would not result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Policies E-5.7, U-2.1, U-2.2			

TABLE S-5
SUMMARY OF IMPACTS FOR THE EUREKA 2040 GENERAL PLAN UPDATE

Impact	Proposed General Plan Policies	Significance After General Plan Policy Implementation or Compliance with Standard Regulations[1]	Mitigation Measure	Significance After Mitigation[1]
3.13 Utilities and Service Systems (cont.)				
Impact 3.13-5: The Eureka 2040 General Plan would not result in the construction of new stormwater drainage facilities or expansion of existing facilities that could exceed the capacity of existing or planned stormwater drainage systems.	Policies U-3.1, U-3.2	LTS	None required	LTS
Impact 3.13-6: The Eureka 2040 General Plan would be served by a landfill with sufficient permitted capacity to accommodate solid waste disposal needs.	Policies U-4.3, U-4.5	LTS	None required	LTS
Impact 3.13-7: The Eureka 2040 General Plan would comply with federal, state, and local statutes and regulations related to solid waste.	None	LTS	None required	LTS
Impact 3.13-8: The Eureka 2040 General Plan would not result in the wasteful, inefficient, or unnecessary consumption of energy by residential, commercial, industrial, or public uses associated with increased demand due to anticipated development in the City.	Policies AQ-1.2, AQ-1.3, U-5.1, U-5.2, U-5.3, U-5.4, U-5.5, U-5.6, U-5.7, U-5.8, U-5.9, U-5.10	LTS	None required	LTS
Impact 3.13-9: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not result in a cumulative impact on utilities and service system.	None	LTS	None required	LTS

NOTE:
1 NI = No Impact; LTS = Less than Significant; SU = Significant and Unavoidable

CHAPTER 1
Introduction

1.1 Purpose and Use of the Draft EIR

The California Environmental Quality Act (CEQA) requires that all state and local government agencies consider the environmental consequences of programs and projects over which they have discretionary authority before taking action on them.

This Draft EIR assesses the environmental impacts that could result from implementation of the proposed update to the City of Eureka General Plan, called the Eureka 2040 General Plan, and described in Chapter 2, *Project Description*. The City is the CEQA lead agency for all components of the proposed General Plan and the Eureka City Council, as the lead agency's decision-making body, will consider the information presented in this Draft EIR before taking discretionary action on the General Plan.

This Draft EIR has two primary purposes:

- The Draft EIR will assist the City in complying with CEQA requirements for the analysis of environmental impacts by including a complete and comprehensive evaluation of the physical impacts of the General Plan and its alternatives.
- The Draft EIR will inform interested stakeholders (including local residents) and members of the City Council and Planning Commission of the environmental impacts prior to the City Planning Commission making its recommendations and the City Council taking action on the General Plan.

Additionally, the Draft EIR is intended to identify ways to minimize significant effects of the proposed General Plan and describe reasonable alternatives to the General Plan that would avoid or reduce the General Plan's significant effects (State CEQA Guidelines Section 15121(a)).

As readers will see in reviewing this document, various chapters refer readers to documents that are incorporated by reference, including the proposed 2040 General Plan and the Community Background Report (CBR). The proposed 2040 General Plan includes goals, policies, and implementation programs that guide future development and help to minimize many of the impacts described in this document. The CBR is included with this Draft EIR as Appendix B and includes information compiled at the beginning of the General Plan Update process relevant to the environmental settings for various impact topics, in addition to providing relevant information to the Draft EIR impact discussions. Where any discrepancies exist between the referenced material and the material presented in the Draft EIR, the material presented in the Draft EIR should be considered as the most up to date and is to be relied upon for the environmental setting and analyses.

1.2 Type of EIR

The CEQA Guidelines identify several types of EIRs, each applicable to different types of circumstances. This EIR will function as a program EIR for the 2040 General Plan. According to CEQA Guidelines Section 15168(a), a local agency may prepare a program EIR that can be characterized as one large project or series of actions that are linked geographically; logical parts of a chain of contemplated events; rules, regulations, or plans that govern the conduct of a continuing program; or individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways.

Under CEQA, a program EIR can function as a first-tier environmental document that assesses and documents the broad environmental impacts of a program with the understanding that a more detailed site-specific review may be required to assess future projects implemented under the program. As described above, the analysis contained in this EIR may also be used as a reference for subsequent environmental review of infrastructure improvements, zoning amendments, impact fees, and other development plans and proposals within the City of Eureka.

With respect to the processing of subsequent, more site-specific projects, the City, in making optimal use of this EIR once it is certified, intends to avail itself of two separate, but complementary processes authorized by CEQA that are intended to streamline the review of projects consistent with approved general plans. First, as noted above, this program EIR also functions as a first-tier EIR. Thus, the scope of future site-specific approvals may be narrowed, pursuant to the rules for tiering set forth in CEQA Guidelines Section 15152. That section provides, for example, that where a first-tier EIR has “adequately addressed” the subject of cumulative impacts, such impacts need not be revisited in second- and/or third-tier documents. According to subdivision (f)(3) of Section 15152, significant effects identified in a first-tier EIR are adequately addressed, for purposes of later approvals, if the lead agency determines that such effects either (a) “have been mitigated or avoided as a result of the prior [EIR] and findings adopted in connection with that prior [EIR]” or (b) “have been examined at a sufficient level of detail in the prior [EIR] to enable those effects to be mitigated or avoided by site-specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project.”

Second, future environmental review can also be streamlined pursuant to Public Resources Code Section 21083.3 and CEQA Guidelines Section 15183. These provisions generally limit the scope of necessary environmental review for site-specific approvals following the preparation of an EIR for a general plan. For such site-specific approvals, CEQA generally applies only to impacts that are “peculiar to the parcel or to the project” and that have not been disclosed in the general plan EIR, except where “substantial new information” shows that previously identified impacts will be more significant than previously assumed. Notably, impacts are considered not to be “peculiar to the parcel or to the project” if they can be substantially mitigated pursuant to previously adopted “uniformly applied development policies or standards.”

1.3 EIR Process

In preparing this Draft EIR and considering approval of the General Plan, the City has completed, or will complete, the activities identified in **Table 1-1**. Each of these activities is further described below.

TABLE 1-1
STATUS OF EUREKA 2040 GENERAL PLAN EIR

Activity		Status
Notice of Preparation - Preparation and Circulation	✓	Completed
Public Scoping Meeting	✓	Completed
Draft EIR – Preparation	✓	Completed
Draft EIR – Circulation - 45 Day Public Review and Comment		May 29, 2018 through July 13, 2018
Final EIR – Preparation		To be completed
Final EIR – Circulation		To be completed

1.3.1 Notice of Preparation

In accordance with Section 15082(a) of the CEQA Guidelines, the City prepared and circulated a Notice of Preparation (NOP) of a Draft EIR for the General Plan. The NOP was circulated for a 30-day comment period, which began on October 12, 2016, and ended on November 14, 2016.

The City received one letter during the 30-day NOP comment period. In a letter dated November 10, 2016, the California Department of Transportation (Caltrans) encouraged the City to plan for transportation in developing the General Plan Update and to promote land uses with development patterns that reduce Vehicle Miles Traveled (VMT) and Greenhouse Gas (GHG) emissions, consistent with legislation such as Assembly Bill (AB) 32 (2006), Senate Bill (SB) 375 (2008), SB 226 (2011), and SB 743 (2013). Caltrans also encouraged the City to evaluate the potential for incorporating Transportation Demand Management (TDM) strategies and Intelligent Transportation System (ITS) applications to make more efficient use of the existing transportation network. Appendix A contains a copy of the NOP comment letter submitted by Caltrans, which was considered in the preparation of this Draft EIR.

1.3.2 Draft EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the General Plan; discusses potential General Plan impacts; discusses measures or 2040 General Plan goals, policies and/or implementation programs to be implemented to mitigate impacts found to be significant; and analyzes General Plan alternatives. The technical topics that are analyzed in the Draft EIR include aesthetics; agriculture and timber resources; air quality and greenhouse gas emissions; biological resources; cultural and historic resources; geology, soils, mineral resources, and paleontological resources; hazards and hazardous materials, hydrology and water quality, land use, population, and housing; noise; public services and recreation; transportation; and

utilities and service systems. As required by CEQA, this Draft EIR focuses on significant or potentially significant environmental effects (CEQA Guidelines Section 15143).

1.3.3 Public Review of the Draft EIR

This document will be circulated to numerous agencies, organizations, and interested groups and persons for comment during the 45-day public review period for the Draft EIR. **The comment period will begin on May 29, 2018 and conclude on July 13, 2018.** Public comments are encouraged during the public review period and can be sent to:

Rob Holmlund, Director
Development Services, City of Eureka
531 K Street
Eureka, CA 95501

Public comments can also be emailed to: generalplanupdate@ci.eureka.ca.gov.

A public notice will be posted at the Eureka City Hall and on the 2040 General Plan website at www.eureka2040gpu.com. The Draft EIR, along with copies of documents referenced herein, is also available for public review at the City Eureka Development Services office, address shown above, during the review period.

The City will receive public input on the Draft EIR at one or more public hearing(s) by the Planning Commission and City Council before the City Council makes a final decision on the proposed General Plan. The public hearing(s) will be held on various dates to be separately noticed. Public comment is encouraged at all public hearings before the Planning Commission and City Council.

1.3.4 Final EIR, EIR Certification, and Project Approval

Written and oral comments received during the statutory public comment period in response to the Draft EIR will be addressed in a response to comments document, which, together with the Draft EIR, will constitute the Final EIR. City of Eureka staff will make recommendations to the Planning Commission and to the City Council. The City Council will review the Final EIR for adequacy and consider it for certification, pursuant to the requirements of Section 15090 of the CEQA Guidelines. Certification consists of three separate but related findings:

- The Final EIR has been completed in compliance with CEQA.
- The Final EIR was presented to the decision-making body of the lead agency, and the decision-making body reviewed and considered the information contained in the Final EIR prior to approving the General Plan.
- The Final EIR reflects the lead agency’s independent judgment and analysis.

If the City Council certifies the Final EIR and chooses to approve the General Plan, the Council will then be required to adopt findings on the feasibility of reducing or avoiding significant environmental effects (CEQA Guidelines, Section 15091 (a)) and to adopt a statement of

overriding considerations that identifies the General Plan benefits that outweigh any identified significant and unavoidable effects (CEQA Guidelines, Section 15093).

The findings required by Section 15091, subdivision (a), will require the City Council to make one or more of the following three findings with respect to each significant effect identified in this EIR:

- Changes or alterations have been required in, or incorporated into, the General Plan that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
- Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or General Plan alternatives identified in the Final EIR.

According to CEQA Guidelines Section 15093, which sets forth the requirements for statements of overriding considerations:

- CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a General Plan Update against its unavoidable environmental risks when determining whether to approve the General Plan. If the specific economic, legal, social, technological, or other benefits of a General Plan Update outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."
- When the lead agency approves a project that will result in significant effects identified in the Final EIR that are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action, based on the Final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record.

If and when, the City Council certifies the adequacy of the Final EIR and approves the General Plan (with the accompanying findings and statement of overriding considerations), the City will file a Notice of Determination with both the County Clerk and the State Clearinghouse. The posting of the Notice of Determination will initiate a 30-day statute of limitations during which any affected party can initiate litigation challenging the General Plan on CEQA grounds.

1.3.5 Mitigation Monitoring and Reporting

Public Resources Code Section 21081.6(a)(1), requires lead agencies to "adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment." This mitigation monitoring and reporting program (MMRP) will be adopted when the City Council adopts the findings described above. Monitoring Reports regarding the MMRP will be consolidated with the annual report required in state law. Throughout this Draft EIR, mitigation measures have been

clearly identified and presented in language that will facilitate the establishment of an MMRP. Any mitigation measures adopted by the City may take the form of policies and implementation programs integrated into the 2040 General Plan itself. This approach is encouraged by the same statute, which, in subdivision (b), states that "conditions of project approval may be set forth in referenced documents which address required mitigation measures or, in the case of the adoption of a plan, policy, regulation, or other public project, by incorporating the mitigation measures into the plan, policy, regulation, or project design."

1.4 EIR Organization

The Draft EIR is organized into the following chapters so that the reader can easily obtain information about the General Plan and its specific issues:

- **Summary** provides a summary of the Draft EIR and the proposed General Plan Update and a summary of the impacts and mitigation measures presented in the Draft EIR.
- **Chapter 1, Introduction,** provides an overview of the purpose and use of a Draft EIR and the EIR process.
- **Chapter 2, Project Description,** provides a detailed description of the General Plan objectives and the components of the General Plan.
- **Chapter 3, Environmental Analysis,** provides an analysis and discussion of the General Plan's impacts on each of the following resource topics: aesthetics; agriculture and timber resources; air quality and greenhouse gas emissions; biological resources; cultural and historic resources; geology, soils, mineral resources, and paleontological resources; hazards and hazardous materials, hydrology and water quality, land use, population, and housing; noise; public services and recreation; transportation; and utilities and service systems. Mitigation measures that would eliminate or reduce significant impacts are also included.
- **Chapter 4, Alternatives**, evaluates the environmental effects of the alternatives to the General Plan, including the No Project Alternative and the environmentally superior alternative.
- **Chapter 5, Other Statutory Considerations,** provides a discussion of issues required by CEQA that are not covered in other chapters. This includes unavoidable adverse impacts, irreversible environmental changes, growth inducement, and cumulative impacts.
- **Chapter 6, Report Preparation**, lists the individuals involved in preparing this EIR.

1.5 Terminology Used in the EIR

For each impact identified in this Draft EIR, a statement of the level of significance of the impact is provided. Impacts are categorized in one of the following categories:

- **No impact** denotes that there would be no impact on the environment. No mitigation measure is required.

- A project impact is considered **less than significant** when it does not reach the standard of significance and, therefore, would cause no substantial change in the environment. No mitigation is required for less-than-significant impacts.

- A **significant impact** is a substantial, or potentially substantial, adverse change in the environment. Physical conditions in the area will be directly or indirectly affected by the 2040 General Plan. Impacts may be direct or indirect and short-term or long-term. A project impact is considered significant if it reaches or exceeds the threshold of significance identified in the Draft EIR. Mitigation measures may reduce a potentially significant impact to a less-than-significant impact.

- A **significant unavoidable impact** occurs when even with the adoption of all feasible mitigation measures a significant impact cannot be avoided or mitigated to a less-than-significant level should the project be implemented.

The impact assessment provided in this Draft EIR is divided into a number of individual impact statements that deal with specific topics. Following each impact statement is a discussion of the potential impact and any applicable General Plan policies and implementation programs that would help to mitigate this impact.

The Draft EIR also identifies mitigation measures. CEQA Guidelines Section 15370 defines mitigation as:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

1.6 EIR Preparation

This EIR has been prepared by a consulting team led by staff from Environmental Science Associates, under contract to the City of Eureka. The Draft EIR has been prepared for the City of Eureka in accordance with CEQA (Public Resources Code Section 21000 *et seq.*) and the State CEQA Guidelines (14 CCR 15000 *et. seq.*). Staff members from the City of Eureka and the consulting team who helped prepare this EIR, including ESA, are identified in Chapter 7.0, “Report Preparation”.

Unless otherwise noted, the information and analysis included in each section was developed based on the *Eureka General Plan Community Background Report*[1] and the *Draft Eureka 2040 General Plan*.[2] The Community Background Report (CBR) is included with this Draft EIR as Appendix B. Where any discrepancies may exist between the referenced material and the material

[1] City of Eureka. 2015. *Eureka General Plan Community Background Report.*
[2] City of Eureka. 2017. *Draft Eureka 2040 General Plan*.

presented here, the material presented here should be considered as the most up to date and is to be relied on for the environmental setting and analyses.

CHAPTER 2
Project Description

2.1 Introduction

The City of Eureka (City) is considering a proposed update to its general plan, called the Eureka 2040 General Plan, which is the subject of this Draft Environmental Impact Report (Draft EIR). A general plan is a state-required legal document prepared in accordance with California Government Code Section 65300 et seq. The proposed Eureka 2040 General Plan is a comprehensive long-range planning document that will guide the City's physical growth. The City adopted its first General Plan in 1965, with major updates in 1977 and 1997. The proposed 2040 General Plan (also referred to in this Draft EIR as the proposed project) represents the first comprehensive update since 1997.

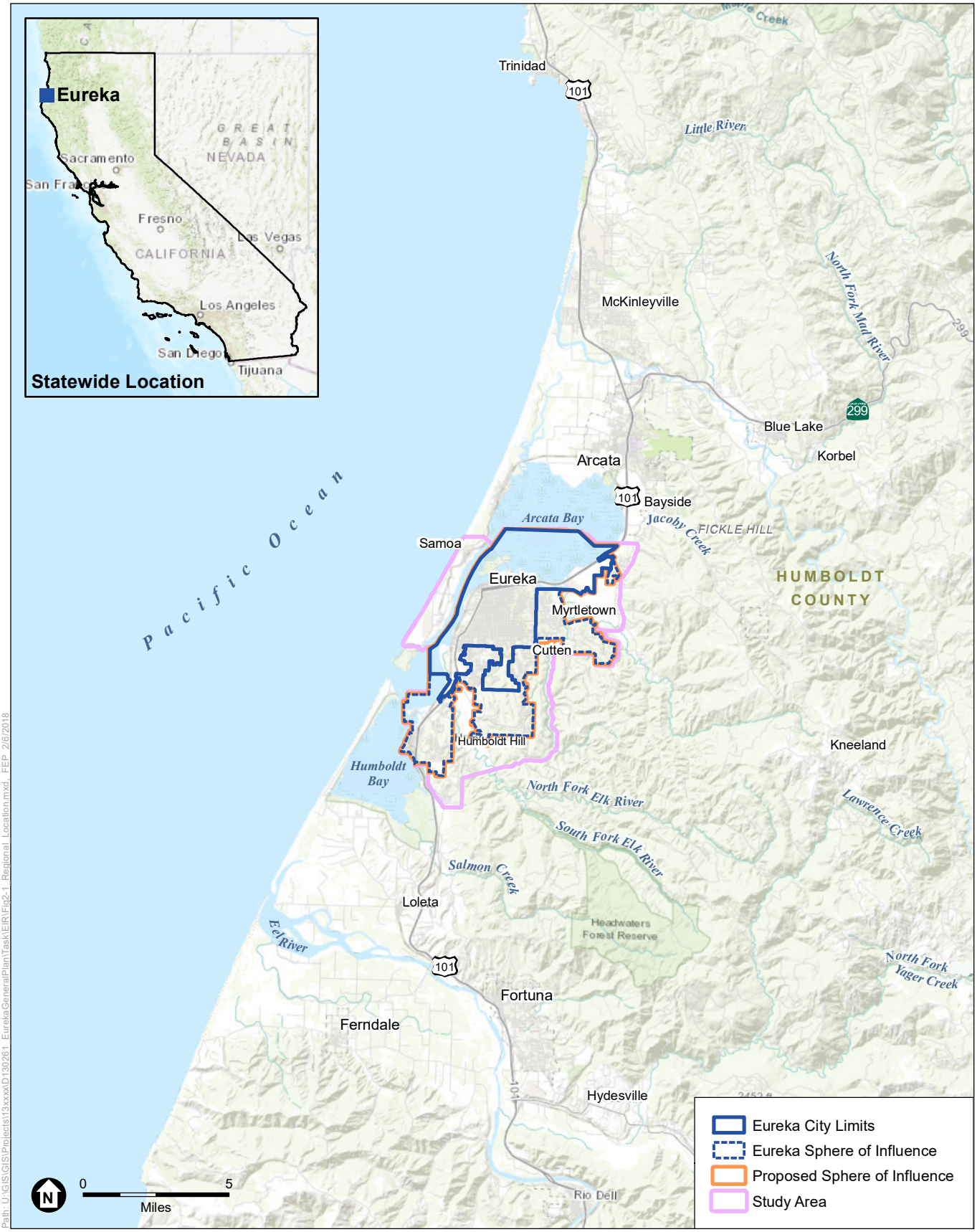
2.2 Project Location

The City of Eureka is located along the northern coast of California in Humboldt County approximately 300 miles north of San Francisco and 100 miles south of the Oregon border (**Figure 2-1**). The City is the county seat and the center of government and commerce for Humboldt County. Eureka's City limits extend into Humboldt Bay to the north and west, and include Woodley Island, Indian Island, and Daby Island. Northern and western portions of the City are within the California Coastal Zone under the regulation of the California Coastal Act. On the east, the City limits extend to Indianola and then move westerly through the diked former tidelands between Highway 101 and Old Arcata Road and generally parallel with Humboldt Bay south of Murray Field to Harrison Avenue. On the south, the City limits extend to the Eureka Municipal Golf Course, excluding Pine Hill and Cutten. The incorporated City includes 16.4 square miles of land and water. Other smaller incorporated cities near Eureka include Arcata (6 miles), Blue Lake (11 miles), Fortuna (14 miles), Ferndale (16 miles), and Trinidad (18 miles).

2.2.1 Planning Boundaries

For purposes of this Draft EIR, the terms below are used to describe the geographic areas that are discussed and analyzed in this document. The boundaries of these areas are shown in **Figure 2-2**:

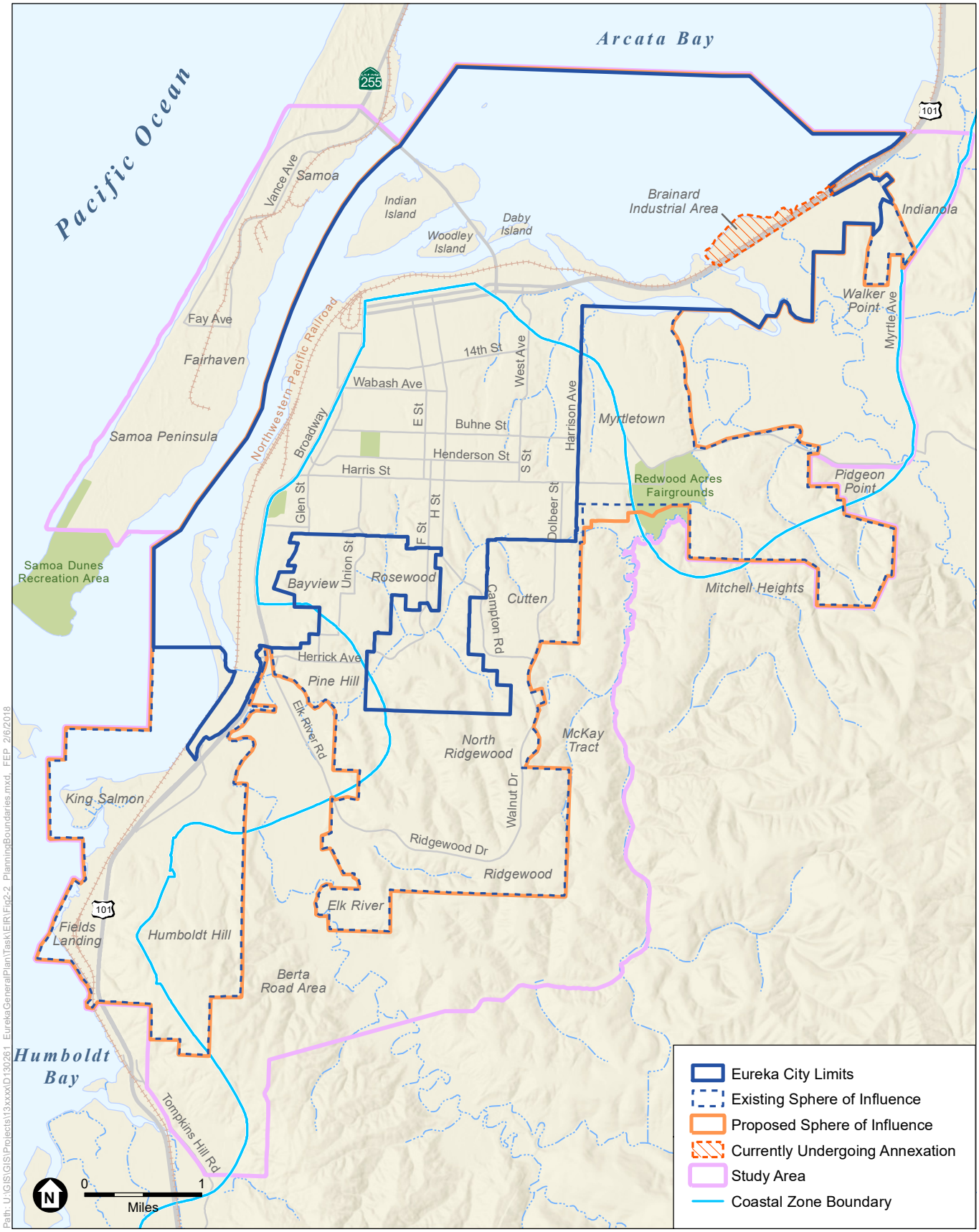
- The **Plan Area** for the Eureka 2040 General Plan consists of the area lying within the corporate boundaries of the City of Eureka. This is the area that would be subject to the proposed goals and policies of the updated General Plan. The Plan Area also includes the Brainard Industrial Area in the northeastern portion of the City, which at the time of preparation of this Draft EIR was undergoing annexation into the City of Eureka.



SOURCE: City of Eureka, 2018; ESA, 2018

Eureka General Plan Update and EIR

Figure 2-1
Regional Location



SOURCE: City of Eureka, 2018; ESA, 2018

Eureka General Plan Update and EIR

Figure 2-2
Planning Boundaries

- The City's **Sphere of Influence** (SOI) contains areas lying within the City's existing SOI, as well as a small 46.7-acre proposed SOI expansion area south of Myrtletown. The existing and proposed expanded SOI reflects the potential future physical boundaries of the City.

- The **Study Area** includes both of the above areas, as well as additional areas that could be influenced by the City's planning activities. The Community Background Report (CBR) for the proposed Eureka 2040 General Plan Update gathered information for this larger Study Area, with the intent of considering the possible effects of City planning activities on peripheral areas lying outside of the City's corporate limits and SOI. The CBR is included as Appendix B of this Draft EIR, and describes the physical, social, and economic conditions for Eureka and the surrounding area at the time of the proposed General Plan's preparation.

The Plan Area encompasses approximately 10,360 acres (16.4 square miles) within the City's boundary, and the existing SOI and proposed SOI expansion area add an additional 8,133 acres (12.7 square miles) in the areas south and east of the City limits, for a total of approximately 18,491 acres, or about 29 square miles. The entire Study Area (the City of Eureka, its SOI, and peripheral areas) covers approximately 27,735 acres, or about 43.3 square miles.

Portions of the City's SOI lie within or adjacent to the Humboldt Community Services District (HCSD). The County lands surrounding the City are planned as low-density residential, agricultural, and timber under the County's General Plan.

With a current population of around 27,000, Eureka is not a "big city." However, Eureka is the largest incorporated city in the local five-county region (Del Norte, Trinity, Humboldt, Mendocino, and Lake), which includes substantially more land area than the states of Connecticut, Massachusetts, and Rhode Island combined. Yet, Eureka is the only city in the five-county region with buildings over three stories, which is likely the reason that Eureka's Downtown has the highest "job density" in the region according to the US Census Bureau. Eureka is also home to the largest hospital in the region, the only commercial waterfront, the largest industrial waterfront, the largest concentration of lodging, and by far the largest continuous urban grid. In addition, while Eureka contains only 20 percent of Humboldt County's overall population, the City generates around 50 percent of the County's overall sales tax and is home to the largest concentration of jobs in the County. So, while Eureka is not a "big city," it plays the role of "the big city" in the North Coast region of California.

The historic development pattern of Eureka is based on the early establishment of an uninterrupted urban grid with largely 240-foot blocks with alleys that pass through the center of nearly every block. From the 1860s through the 1950s, when the first zoning codes were adopted in the City, the commercial downtown was densely developed with three to five-story buildings, and the residential areas were developed with a diversity of construction types, sizes, setbacks, and heights. The City was forward thinking in the establishment of wide sidewalks that accompany nearly every street in the grid, creating a city that is very walkable relative to many other similarly-size cities. While the conversion of 4th and 5th Streets into US-101 severely diminished pedestrian connectivity between Downtown/Old Town and the residential portion of the City, and while the industrial waterfront has experienced dramatic changes since its earliest days, the City's core grid and historic development patterns primarily remain intact.

The City of Eureka is largely "built out," with much of its remaining undeveloped area primarily designated as agricultural or natural resources, most of which is considered unsuitable for development, or is water. There are, however, remaining vacant or underutilized lands within the City that are suitable for various types of development and/or redevelopment. These undeveloped and underutilized lands are dispersed throughout the City and surrounded by existing development. There is also potential for additional development within the unincorporated County, just east and south of the City limits. Several other jurisdictions and organizations, including the United States Government, State of California, County of Humboldt, Humboldt County Association of Governments, the California Coastal Commission, the California Coastal Conservancy, the Humboldt Local Agency Formation Commission, and the California State Lands Commission have land use authority over portions of the larger Study Area that surrounds the City.

Portions of the Plan Area and the larger Study Area lie within the California Coastal Zone, and fall under the added regulations of the California Coastal Act. The Coastal Zone boundary is also shown in Figure 2-2. The California Coastal Commission (CCC) was established by voter initiative in 1972 and made permanent by the Legislature through adoption of the California Coastal Act in 1976. The Act set forth guiding policies for the CCC and its local government partners to follow when establishing land use and development regulations for the coast.

The Coastal Zone comprises approximately 57 percent of the land within the larger Study Area, or about 16,051 acres with approximately 6,662 acres within the City limit. Of the area within the City limits, approximately 4,435 acres are submerged lands and approximately 2,227 acres are either filled or naturally occurring land. The Coastal Zone includes all of the City's agricultural lands, the vast majority of the City's industrial lands, approximately half of the City's commercially-zoned lands, all of Old Town, the entire commercial waterfront, all the lands east of Myrtle Avenue including the Bridge District, all the land along Highway 101 east of the Eureka Slough, Jacobs Avenue, and the Indianola area. The Coastal Zone boundary largely follows the easterly edge of the right-of-way boundary of Broadway (US-101) north to 3rd Street, then turns east along the southern edge of the right-of-way of 3rd Street, and then extends south along the westerly edge of the right-of-way of Myrtle Avenue. Consequently, all property west of Broadway, north of 3rd Street and east of Myrtle Avenue is located in the Coastal Zone.

Since areas within the Eureka City limits are the focus of the proposed 2040 General Plan, the discussion and analysis contained within this EIR focus primarily on the Plan Area. The larger Study Area is discussed within the context of how the General Plan could affect areas adjoining the City, particularly those areas within the existing SOI and the proposed SOI expansion area south of Myrtletown. The Study Area is also useful in the discussion of potential cumulative impacts associated with the proposed General Plan, and is used for that purpose in a number of the cumulative impact analysis discussions that appear later in this document.

2.3 Project Description

2.3.1 Project Background

California Government Code Section 65300 et seq. directs that all cities and counties in the state adopt a comprehensive planning document, called the general plan. The general plan provides

guidance to local government decision-makers regarding the conservation of resources and the future physical form and character of development for the jurisdiction. It is the official local government statement regarding the extent and types of development of land and infrastructure that will achieve the community's physical, economic, social, and environmental goals. A general plan expresses a city's or county's goals and articulates its intentions with respect to the rights and expectations of the general public, property owners, community interest groups, prospective investors, and business interests. Although the general plan consists of individual sections, or "elements," that address specific areas of concern, it also embodies a comprehensive and integrated planning approach for the jurisdiction.

2.3.2 Existing General Plan

The current General Plan for the City of Eureka was adopted in February 1997 and has not been comprehensively updated since its adoption. Some of the data, analyses, and policies in the 1997 plan do not fully reflect the current conditions or objectives of the City. As a result, in addition to being required by state law, an update of the General Plan is necessary to reflect the community's current vision for accommodating future growth and providing services within Eureka through 2040.

Existing Land Uses

Existing Plan Area land uses as designated in the City's current General Plan are presented below in **Table 2-1**. The City's existing General Plan Land Use Diagram is provided in **Figure 2-3**, which also shows existing Humboldt County land use designations in the larger General Plan Study Area for unincorporated areas outside of the City limits. These uses are described in greater detail in the CBR, which is included as Appendix B of this Draft EIR (see Chapter 2, *Land Use and Community Character*).

Table 2-2, below, provides descriptions for each of the current land use designations within the City of Eureka.

2.3.3 Proposed City of Eureka 2040 General Plan

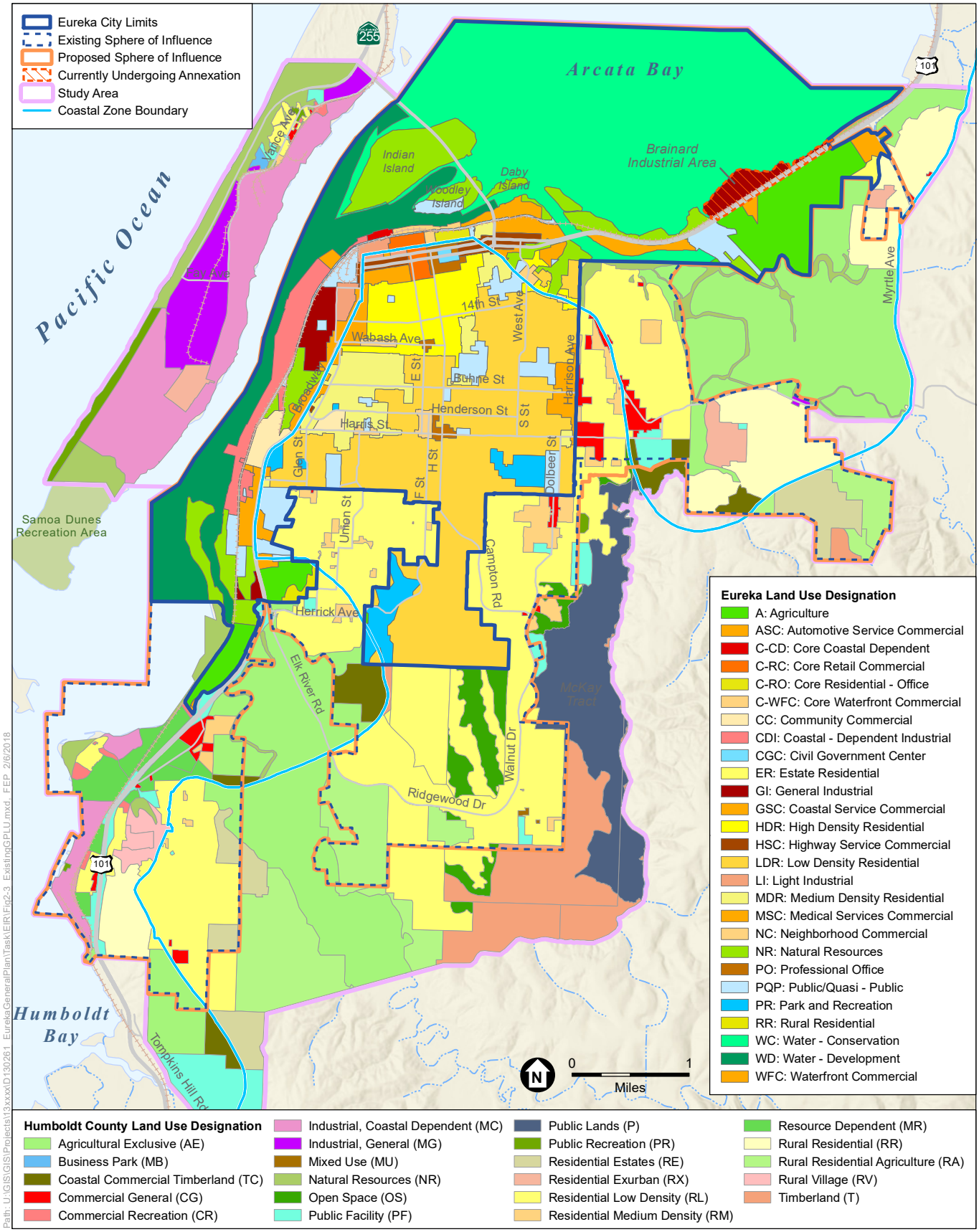
The proposed City of Eureka 2040 General Plan creates a framework to plan for and guide residential and non-residential growth and conservation in Eureka from now until 2040. This framework is based on a set of comprehensive goals and policies that expand the existing land use patterns, encouraging new growth in undeveloped and underutilized areas of the City and its SOI.

Over the course of implementation of the General Plan toward its horizon year of 2040, it is envisioned that the City will focus development around the underutilized areas outlined below, which would result in concentrated densification that would be largely driven by an increase in residential, office, retail, entertainment, and cultural uses.

TABLE 2-1
CURRENTLY ADOPTED LAND USE IN THE PLAN AREA

Category	Designation		Plan Area	
			ac	%
Core	Core Retail Commercial	C-RC	53.6	0.52%
	Core Waterfront Commercial	C-WFC	23.1	0.22%
	Core Coastal Dependent Industrial	C-CDI	8.4	0.08%
	Core Residential Office	C-RO	24.0	0.23%
Residential	Rural Residential	RR	23.7	0.23%
	Estate Residential	ER	18.4	0.18%
	Low Density Residential	LDR	2,026.5	19.56%
	Medium Density Residential	MDR	356.0	3.44%
	High Density Residential	HDR	406.8	3.93%
Commercial	Neighborhood Commercial	NC	53.1	0.51%
	Community Commercial	CC	81.4	0.79%
	Highway Service Commercial	HSC	85.9	0.83%
	Automotive Service Commercial	ASC	33.5	0.32%
	General Service Commercial	GSC	364.1	3.51%
	Professional Office	PO	52.4	0.51%
	Waterfront Commercial	WFC	54.2	0.52%
	Medical Services Commercial	MSC	69.3	0.67%
Industrial	Light Industrial	LI	59.3	0.57%
	General Industrial	GI	214.0	2.07%
	Coastal - Dependent Industrial	CDI	219.4	2.12%
Public/Quasi-Public	Public/Quasi - Public	PQP	488.4	4.72%
	Civil Government Center	CGC	11.0	0.11%
	Park and Recreation	PR	203.7	1.97%
Open Space	Agriculture	A	563.2	4.44%
	Natural Resources	NR	779.9	7.53%
	Timberland	T	0.0	0.00%
	Water - Development	WD	880.2	8.50%
	Water - Conservation	WC	3,205.3	30.94
TOTAL			**10,358.8**	**100.0%**

NOTES:
1 Adopted Land Use does not include all of the rights of way (ROW) in the City, but does include separate water land uses.
2 Acreage numbers include the Brainard Industrial Area in the northeastern portion of the City, which at the time of preparation of this Draft EIR was undergoing annexation into the City of Eureka.



SOURCE: City of Eureka, 2018; ESA, 2018

Eureka General Plan Update and EIR

Figure 2-3
Existing Land Use Designations

TABLE 2-2
CURRENT CITY OF EUREKA GENERAL PLAN LAND USE DEFINITIONS

Land Use	Definition
Core	
Core Retail Commercial (C-RC)	Promote intensive retail commercial uses and to maintain the compactness of the retail area in the Core Area. The designation emphasizes visitor-serving retail uses near the waterfront, and local-serving retail uses in the rest of the area (i.e., south of Third Street). The maximum FAR for buildings located in the C-RC designation is 3.0 and the assumed number of persons per dwelling unit is 1.5.
Core Waterfront Commercial (C-WFC)	Provides for coastal-related businesses catering to visitors, including retail stores, boat landings, fishing-related activities, restaurants, and visitor accommodations. The maximum FAR for buildings in the C-WFC designation is 1.0 and the assumed number of persons per dwelling unit is 1.5.
Core Coastal-Dependent Industrial (C-CDI)	Intended to reserve and protect land adjacent to Humboldt Bay for coastal-dependent and coastal-related industrial uses. The primary intent of this designation is to encourage fisheries-related industrial uses west of C Street. The maximum FAR for buildings in the C-CDI designation is 0.5
Core Residential-Office (C-RO).	This designation provides residential uses (including hotels and bed and breakfast inns) and low-intensity professional office uses, principally in converted residential buildings. The maximum FAR for buildings in the C-RO designation is 1.5 and the assumed number of persons per dwelling unit is 1.5.
Residential	
Rural Residential (RR)	This designation provides for rural density residential development consisting primarily of single-family detached homes and limited agricultural uses. The RR designation permits a maximum residential density of 1.0 dwelling unit per net acre and the assumed number of persons per dwelling unit is 2.7.
Estate Residential (ER)	This designation provides for very-low density residential development consisting primarily of single family detached homes. The ER designation permits a residential density of between 1.1 and 4.0 dwelling units per net acre and the assumed number of persons per dwelling unit is 2.7.
Low Density Residential (LDR)	This designation provides for suburban density single-family, detached homes. The permitted residential density is between 4.1 and 8.0 dwelling units per net acre and the assumed number of persons per dwelling unit is 2.7.
Medium Density Residential (MDR)	This designation provides for lower-intensity multi-family residential uses that will not significantly change the predominantly low-density residential character of their surroundings. The permitted residential density is between 8.1 and 18.0 dwelling units per net acre and the assumed number of persons per dwelling unit is 2.5.
High Density Residential (HDR)	This designation provides for higher-density multi-family residential uses in areas close to employment areas. The permitted residential density is between 18.1 and 30.0 dwelling units per net acre and the assumed number of persons per dwelling unit is 1.5.
Commercial	
Neighborhood Commercial (NC)	The NC designation provides for retail stores, offices, and personal service businesses that are intended primarily for residents of the immediate area, including neighborhood shopping centers of limited size and in locations that minimize adverse impacts on adjoining residential uses. The maximum FAR for buildings in areas designated NC is 0.50, with upper floor residential units permitted in multi-story buildings. The assumed number of persons per dwelling unit is 1.5.
Community Commercial (CC)	The CC designation provides for shopping areas offering a wide variety of goods and services drawing trade from the entire Humboldt Bay area. The maximum FAR for buildings in areas designated CC is 0.35, with upper floor residential units permitted in multi-story buildings. The assumed number of persons per dwelling unit is 1.5.
Highway Service Commercial (HSC)	The HSC designation provides for retail uses that are oriented primarily to traffic on Highway 101, such as hotels, motels, service stations, and restaurants. The maximum FAR for buildings in areas designated HSC is 0.5.
Automotive Service Commercial (ASC)	This designation provides for retail, wholesale, and service uses involving automobiles, appliances, and other large consumer goods. The maximum FAR for buildings area designated ASC is 0.35.

TABLE 2-2 (CONTINUED)
CURRENT CITY OF EUREKA GENERAL PLAN LAND USE DEFINITIONS

Land Use	Definition
Commercial (cont.)	
General Service Commercial (GSC)	This designation provides for land-extensive retail uses, warehouses, and wholesale commercial uses. The maximum FAR for buildings in areas designated GSC is 0.5.
Professional Office (PO)	This designation provides for professional and administrative offices and medical offices and clinics. Multiple-unit residential uses are permitted as secondary uses on upper floors of multi-story buildings. The maximum FAR for buildings in areas designated PO is 1.0 and the assumed number of persons per dwelling unit is 2.0.
Waterfront Commercial (WFC)	This designation provides for a variety of primary commercial uses to promote coastal-related establishments catering to visitors, including markets, boat landings, fishing-related activities, restaurants, and tourist accommodations. Multiple-unit residential uses and ancillary offices are permitted on the upper floors or multi-story buildings. The maximum FAR for buildings in areas designated WFC is 1.0 and the assumed number of persons per dwelling unit is 1.5.
Medical Services Commercial (MSC)	This designation provides for hospitals, medical offices, clinics, and medically-related commercial uses. Commercial uses in the MSC designation must be clearly dependent on or oriented to patrons and staff of nearby hospitals and medical offices (e.g., pharmacies, cafeterias). The maximum FAR for buildings in areas designated MSC is 1.0.
Industrial	
Light Industrial (LI)	This designation provides for lower-intensity industrial development that has minimal effects on nearby commercial and residential uses. These uses include light manufacturing, warehouses, industrial parks, existing offices, and research and development operations. The maximum FAR for buildings in areas designated LI is 0.5.
General Industrial (GI)	This designation provides for intensive industrial development, including manufacturing, processing, and assembly uses. The maximum FAR for buildings in areas designated GI is 0.5.
Coastal Dependent Industrial (CDI)	This designation is intended to reserve and protect land adjacent to Humboldt Bay for coastal-dependent and coastal-related industrial uses. The primary intent of this designation is to encourage industrial uses related to shipping or the fishing industry. The maximum FAR for buildings in areas designated CDI is 0.5.
Public/Quasi Public	
Public/Quasi-Public (PQP)	This designation provides for institutional uses such as schools, hospitals, libraries, government offices and courts, churches, meeting halls, cemeteries and mausoleums, and public or institutional laboratories. The maximum FAR for buildings in areas designated PQP is 0.5.
Civic Government Center (CGC)	This designation provides for high-intensity public and private institutional uses related to downtown Eureka's role as the regional center for government facilities and services. The maximum FAR for buildings in areas designated CGC is 3.0.
Park and Recreation (PR)	The PR designation provides for public parks and recreational facilities. The maximum FAR for buildings in areas designated PR is 0.1.
Open Space	
Agricultural (A)	This designation provides for protection of agricultural lands, including farmed or grazed wetlands, for long-term productive agricultural and wildlife habitat uses. The designation also ensures adequate separation between agricultural operations and adjacent development. Residential uses related to agricultural operations are also permitted. The maximum FAR for buildings in areas designated A is 0.1 and the assumed number of persons per dwelling unit is 2.7.
Natural Resources (NR)	This designation provides for the protection, enhancement, and restoration of environmentally-sensitive habitat areas and for resource dependent uses consistent with the continuance of such habitat areas.
Timberland (T)	This designation provides for the growing, harvesting, and production of timber. Residential uses related to timber production operations are also permitted. The assumed number of persons per dwelling unit is 2.7.
Water –Development (WD)	This designation provides for port- and harbor-related uses of the estuarine waters of Humboldt Bay consistent with the City's resource protection policies.
Water—Conservation (WC)	This designation provides for the protection, enhancement, and restoration of valuable fish, wildlife, and sensitive habitat areas and for limited resource-dependent uses and public recreation in estuarine waters.

Project Objectives

The following objectives have been established for the proposed project and will aid decision makers in their review of the project and associated environmental impacts.

- Provide a comprehensive update to the City's General Plan to more effectively address the issues facing Eureka and to reflect the current values and vision of the community (see the Preface of the General Plan for the General Plan Vision);
- Enhance Eureka's quality of life and enrich its sense of community;
- Support well planned infill projects that build upon Eureka's historic development patterns and that utilize development intensities and building heights that are in closer alignment with the City's pre-1950s history;
- Meet the housing needs of existing and future residents through a variety of housing types and designs including infill development, higher density products, and mixed use;
- Preserve and enhance existing neighborhoods;
- Promote a vital Core Area with a mix of uses that include retail, office, residential, entertainment, and cultural uses that attract local residents, regional visitors, and tourists;
- Provide additional opportunities for industry and employment to strengthen and diversify the economic base of the City;
- Foster a diverse and resilient local economy friendly to new business investment and the creation and retention of quality jobs;
- Minimize development regulations, such as parking requirements and other development standards, that unnecessarily complicate development processes.
- Improve mobility and safety for pedestrians, bicyclists, and vehicles; and
- Accommodate growth that protects important environmental resources, as well as ensures long term economic sustainability, and equity and social well-being for the entire community.

General Plan Organization

The General Plan is divided into four functional parts:

Part 1: Introduction

The Introduction describes the purpose and uses for the General Plan, and provides guidance on the organization of the information provided in the document. It describes related documents as they inform or augment the information and guidance provided in the General Plan. In addition, the Introduction provides instructions on how to navigate and use the General Plan.

Part 2: Land Use Plan

Part 2 of the General Plan provides a description of the Plan Area covered by the policies provided in the General Plan. The Land Use Plan provides the land use designations for all of the

areas within the City Limits and identifies undeveloped and underutilized areas that are anticipated for future development. The Land Use Element establishes the desired pattern of growth, redevelopment, and conservation in the City of Eureka and its SOI. It provides guidance for future land uses, directs the intensity and trajectory of growth, and overall design expectations for future development.

Part 3: Goals and Policies

Part 3 includes the General Plan's policy elements, each of which provide goals and applicable policies for achieving each goal. Most of the goals and policies are directed towards planning and development activities within the Eureka City limits, but may also include goals and policies that would direct City response to development proposals within the City's SOI and the larger Study Area. Each element of the General Plan is briefly described below.

Land Use

The Land Use element includes goals and policies that direct the organization of land uses within the City. The City uses this element to describe the desired patterns of development, including City character, allowed densities, preferred ranges of uses, and the vision for new residential growth. Goals and policies are included to guide development of new and existing residential, commercial, and mixed use developments, as well as industrial and manufacturing uses and preservation of community facilities, parks, and open space. The Land Use element provides a framework to encourage infill, in addition to design expectations and community form policies. Overall, the policies provided in the Land Use element are for the purpose of maintaining the City's desired trajectory of future changes through the planning horizon for the General Plan.

Housing

The Housing element establishes new policies and programs that address the housing needs of all existing and future households within the City. The Housing element provides demographic and housing supply and demand information for Eureka. Existing and potential constraints to development of housing are identified in this element along with policies to address these constraints. This element provides goals and policies for the provision of financial and other resources to support housing development, including specific policies for the establishment and maintenance of affordable housing.

Economy

The Economy element provides goals and policies to support the City's desired economic outcomes. Policies included in this element are intended to sustain desired economic activity and provide opportunities for desired economic growth. The policies provide for a range of economic drivers including the business environment, business development, infrastructure, and fiscal resilience and efficiency.

Historic and Cultural Preservation

The Historic and Cultural Preservation element provides goals and policies for the protection and conservation of historic, archaeological, and cultural resources. Policies provided in this element guide the treatment of existing historic architecture, implement measures to minimize disturbance

to previously undiscovered archaeological and cultural resources, and set standards for ground disturbing activities associated with construction.

Natural Resources

The Natural Resources element provides goals and policies to support the protection of natural resources, which include water resources, water quality, biological resources, open space, and visual resources. This element provides policies that direct the protection of surface and groundwater, and the regulation of stormwater runoff.

Agriculture and Timberlands

The Agriculture and Timberlands element provides goals and policies that support continued agricultural and timber harvest activities. Policies provided in this element are intended to preserve lands used for those activities and to maintain an urban/edge boundary with minimal conflicting uses. This element identifies areas where agricultural uses or timberlands are to be maintained and supported through City policy.

Air Quality and Climate Change

The Air Quality and Climate Change element establishes direction for the City to take actions aimed at reducing greenhouse gas (GHG) emissions, both for larger-scale commercial and industrial use and also residential uses and City equipment and facilities.

Arts and Culture

The Arts and Culture element provides policies that support the provision of diverse programs that meet the artistic and cultural needs of the City. Policies provided in this element sustain the City's Strategic Arts Plan, support a number of art education programs, and call for funding mechanisms to support the ongoing vitality of the City's artistic community.

Parks and Recreation

The Parks and Recreation element provides for the maintenance of existing facilities and for the development of new parkland, facilities, and programs to enable access from neighborhoods. Policies provided in this section are intended to extend and enhance recreational opportunities for City of Eureka residents, those employed within the City, and visitors.

Community Services

The Community Services element provides goals and policies for the maintenance and provision of law enforcement, fire protection, schools, and libraries to existing and future residents, businesses, and visitors. Goals and policies provided in this element include service goals as well as requirements for the adequate staffing and equipping of service employees and maintenance of service facilities. Parkland standards and park types are defined in this element, and policies require new development to dedicate land and provide adequate funding for facilities. The City itself does not provide educational, library, or health care facilities, but this element supports the provision of high quality and adequate services.

Mobility

The Mobility element provides goals and policies for the maintenance and utilization of existing and future transportation facilities. Policies established in this element set requirements for the performance of transportation facilities, and guide the updating of transportation facilities based on community growth patterns. The Mobility element provides the planned transportation system and provides policies for the integration of multimodal transportation into existing transportation facilities. This element provides policies for the design of interconnected roadways, transitions to county and state transportation facilities, roadway improvements, and the provision of bicycle, pedestrian, and public transit facilities.

Utilities

The Utilities element guides the maintenance of existing and development of new water, wastewater, storm drainage, solid waste, energy, and telecommunications facilities to meet existing and future needs of the community. Goals and policies support the continued provision of reliable and adequate water service, while maintaining a high level of water quality and conserving water for future use. This element requires maintenance of an adequate and sustainable water system and treatment plant, and a comprehensive storm drainage system be provided to protect public safety and water quality. A reduction in solid waste generation, increased residential recycling and addition of new commercial, industrial, and construction recycling programs are supported. Goals and policies require the increased use of renewable energy sources and improved energy conservation through land use practices, building orientations, landscape design, use of solar panels, and use of energy efficient lighting and appliances. Access to telecommunications service for all and businesses is also encouraged in this element.

Health and Safety

The purpose of the Health and Safety element is to identify and address public safety issues affecting the area. Goals and policies are designed to protect the community and minimize potential adverse effects related to seismic and geologic hazards, flooding, hazardous materials and toxic contamination, and provide for emergency response, health care, and homelessness.

Noise

The Noise element provides goals and policies for the management of noise. This element sets standards for allowable noise, management and placement of mobile and stationary noise sources, and seeks to establish a balance between noise generated from economic production and the needs of those sensitive to increased area noise. The Noise element also addresses noise generated from construction, providing policies for the management of such impacts.

Part 4: Implementing Strategy

Part 4 provides a range of strategies for the accomplishment of the goals and policies set forth in Part 3. These strategies would implement the General Plan by establishing programs, such as development fees and approval processes that implement General Plan policies.

Community Places

The City of Eureka is made up of various "community places" recognized by their common function, identity, and/or character. The location of these areas are shown in **Figure 2-4**. Most of the potential development areas within the City are concentrated in the Core Area, along key corridors, and also within employment areas.

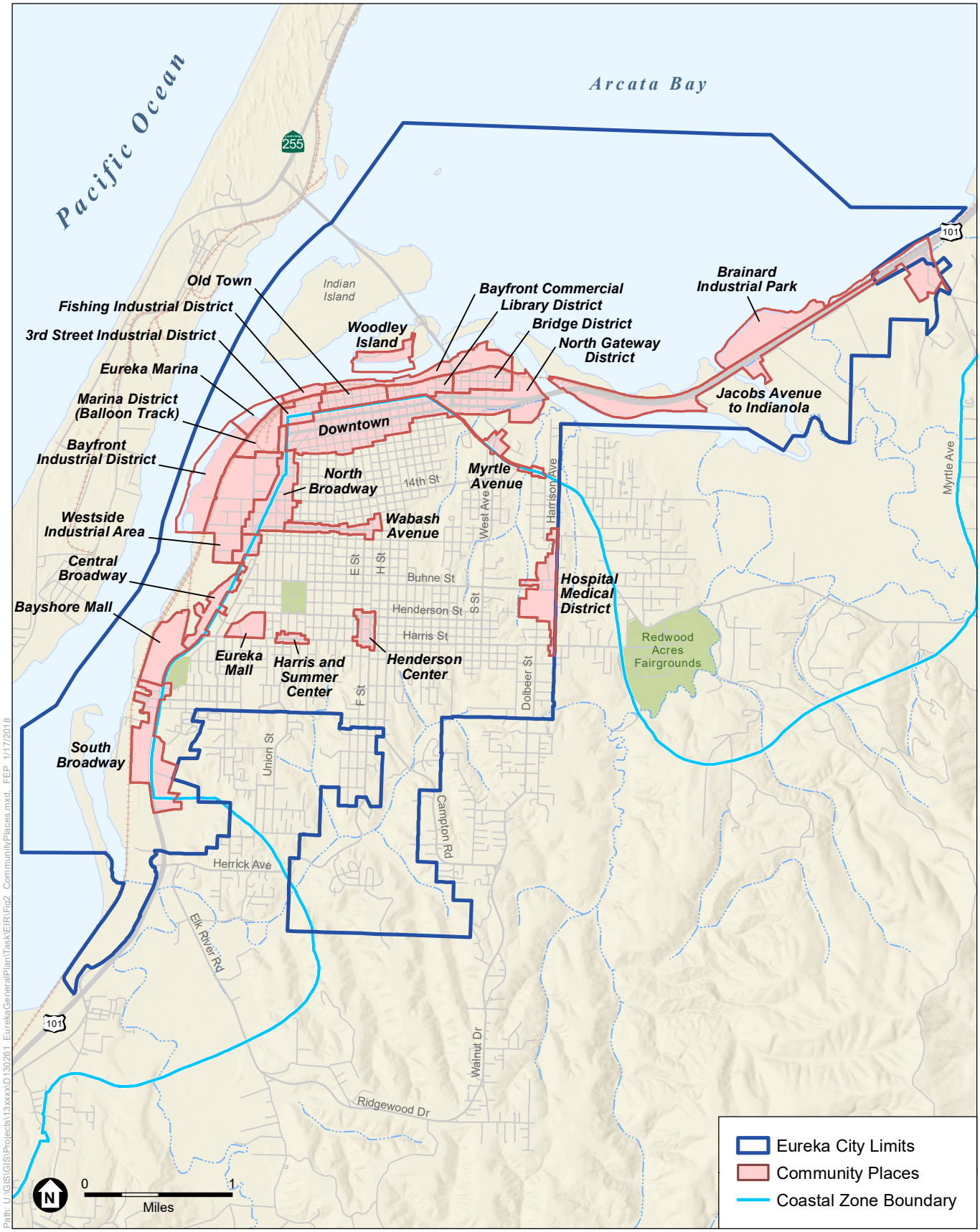
Core Area

The Core Area is the traditional business center and cultural hub of the City and includes the following Community Places: Old Town, Downtown, Bayfront Commercial, and the Library District. Built upon a grid pattern of streets that extend from the waterfront with an extensive inventory of historic structures, the Core Area currently includes the largest concentration of multi-story buildings, cultural facilities (such as museums and theaters), restaurants, and professional offices in the surrounding five-county region (Humboldt, Mendocino, Del Norte, Lake, and Trinity counties). Key community places within the Core Area are:

- **Old Town.** Includes historic multi-story buildings from the 1850s and beyond that are located directly at the back of the sidewalk with pedestrian-scaled shops, storefronts, restaurants, museums and cultural facilities, art galleries, theaters, lodging facilities, other related uses lining the sidewalks, and a range of office and residential uses above the first floor. The original heart of the City, Old Town has been declared a Historic District and is on the National Register of Historic Places. Old Town is envisioned to continue its legacy as a premiere historic district with a dense development pattern, multi-story buildings, and upper floor office and residential uses, and to become a primary regional center for tourism, recreation, leisure activities, and shopping.

- **Downtown.** Incorporates buildings from numerous eras, many multi-story, extending inland from Old Town and spanning from Broadway on the west to Myrtle Avenue on the east. Downtown includes professional offices, government offices, a range of retail storefronts, restaurants, museums and cultural facilities, art galleries, theaters, lodging facilities, the Humboldt County courthouse, City Hall, the only five-story buildings in the County, and residential uses above the first floor. Downtown is envisioned to become an even stronger regional center of retail, cultural facilities, and office-based professional and business services with a dense development pattern, multi-story buildings, and upper floor office and residential uses.

- **Library District.** East of Old Town, north of Downtown, and one of the earliest residential neighborhoods in Eureka, the Library District includes multiple historic single-family homes, and multi-family residential structures as well as residential structures that have been converted into professional offices, office buildings, vacation rentals, restaurants, and entertainment and cultural uses, with the Carson Mansion (Ingomar Club) and the Humboldt County Library in the heart of the district. The Library District is envisioned to continue as a "quiet" district of low impact uses (such as offices, residences, vacation rentals, and high-end restaurants) and well-preserved historic structures.



SOURCE: City of Eureka, 2017; ESA, 2018

Eureka General Plan Update and EIR

Figure 2-4

Community Places

- **Bayfront Commercial.** Consists of the Eureka waterfront north of 1st Street spanning from C Street on the west to Y Street on the east. This district includes C Street Plaza, F Street Plaza, the Eureka Boardwalk, the Adorni Center, Halverson Park, and the Eureka Waterfront Trail. The district primarily consists of vacant land that was once home to buildings and facilities that supported Eureka's bustling maritime-industrial activities. The majority of buildings that once stood in this area have been demolished. All but one of the legacy maritime buildings that remain standing have been converted to commercial uses, residential, office uses, and other non-coastal-dependent uses. The area has significant potential for development and is envisioned to become a centerpiece for bayfront commercial development, tourism, recreation, leisure activities, retail uses, hotels, and upper floor residential uses. The entire area is envisioned to include substantial future development that will be compatible with and similar to the historic development pattern of Old Town. Future development is expected to include dense multi-story buildings at the back of the sidewalk that include pedestrian-scaled shops, storefronts, restaurants, museums and cultural facilities, art galleries, theaters, lodging facilities, other related uses lining the sidewalks, and a range of office and residential uses above the first floor.

Commercial Corridors

Eureka includes a number of commercial corridors outlying the Core Area that provide a variety of commercial uses and services along primary arterial roadways. Key commercial corridors include:

- **Broadway Corridor.** Consists of those properties adjacent to Broadway (US 101) from 5th Street to Herrick Avenue. The Broadway Corridor is broken into four sub-corridors: North Broadway, Central Broadway, Bayshore Mall, and South Broadway. The primary entry to the City from the south, the Broadway Corridor includes a mix of strip and larger-scale retail, lodging and other services. This area is envisioned to increase in density with taller buildings, and to become a beautiful and well-coordinated entry-way into the City and a key retail and service-commercial corridor.

- **The North Gateway District.** Located south of the Bridge District (see “Employment Areas” below) and east of Downtown, consisting of those properties adjacent to 4th and 5th Streets between Myrtle Avenue and the Eureka Slough. Includes a diverse mix of service commercial, hotel uses, offices, drive-through fast food, and big box retail. This area is envisioned to continue to grow as an area of diversely intermixed service-commercial uses.

- **Wabash Avenue**. Encompasses all of the properties along Wabash Avenue from Union Street to F Street and serves as a central neighborhood commercial corridor near the geographic center of residential zones on the western half of the City. This area is envisioned to mature into a more robust neighborhood-oriented and pedestrian-friendly shopping and professional service-related corridor.

- **Myrtle Avenue**. Extends along the east side of the City from 5th Street to the City limits at Harrison Avenue and includes two clusters of neighborhood commercial areas, including Burre Center. This area is envisioned to continue to serve the commercial needs of surrounding neighborhoods.

Other Commercial Centers

In addition to the Core Area and Commercial Corridors, Eureka includes a few pocket commercial centers that provide a range of retail and service uses. Key centers include:

- **Henderson Center.** Encompasses a pedestrian-oriented neighborhood shopping district centrally located within the residential portion of the City. The central part of this area includes traditional storefronts oriented towards the street with limited to no setbacks. The outer edges of Henderson Center consist of single-family residential homes, some of which have been converted to retail and office uses. This area is envisioned to intensify as a pedestrian-oriented, limited scale neighborhood shopping district.

- **The Marina District.** Commonly referred to as the Balloon Track, the Marina District represents the largest undeveloped property within the City. Previously occupied by the Union Pacific Railroad, the site has been unused for over 30 years. This area is envisioned to become a substantial high-quality mixed use commercial district, emphasizing retail shopping and service commercial uses supplemented by upper floor office and residential uses. Development will be driven by the goal of expanding the look and feel of Old Town to the west, instead of expanding the look and feel of Broadway to the north.

- **Harris and Summer Center.** A small neighborhood commercial center that encompasses most of the properties along Harris Street from Albee Street to California Street and serves residential areas to the north and south of Harris. This area is envisioned to mature into a more robust neighborhood-oriented and pedestrian-friendly shopping and professional service-related center.

- **Eureka Mall.** A small shopping complex that has transitioned over time from a mall with both interior and exterior access to retail stores to a mall with only exterior access. Current setbacks prescribe building construction toward the center of parcels, with parking lots between street frontages and buildings. Envisioned to continue transitioning to a more neighborhood-oriented and pedestrian-friendly complex.

Other Employment Areas

Eureka includes a range of employment types spread throughout the City. The vast majority of employment in the City is located within the Core Area, with the Broadway Corridor serving as the second largest employment center. Other major employment areas include:

- **Hospital Medical District.** Centered around St. Joseph Hospital on Harrison Avenue (the largest private employer in the County), the Hospital Medical District is home to the majority of Eureka's medical service businesses. This area is envisioned to densify and expand as the regional hub for medical services and to provide space for the continued need for additional medical services in the future.

- **Brainard Industrial Park.** Annexed into the City in early 2018, the Brainard Industrial Park is located between Humboldt Bay and US 101. This area has traditionally accommodated industrial uses and is envisioned to become a major center of employment within the City following the construction of a variety of new buildings.

- **Westside Industrial Area.** Located entirely within the Coastal Zone, the Westside Industrial area is strategically positioned between Broadway and the City's western waterfront in an

area historically consisting of port- and railroad-dependent uses. The Westside Industrial Area has become the center of manufacturing in Eureka and is envisioned to expand as a center of non-coastal dependent manufacturing.

- **3rd Street Industrial District.** A center of light manufacturing west of Old Town and north of Downtown, located mostly within the Coastal Zone, the 3rd Street Industrial District is a busy and dense district with a historic development pattern similar to Old Town and includes a range of light manufacturing uses. The 3rd Street Industrial District is envisioned to continue a pattern of dense development for light industrial uses, with the potential for limited upper floor residential uses.

- **Fishing Industrial District.** Entirely in the Coastal Zone, west of the Bayfront Commercial District and north of the 3rd Street Industrial District. entirely north of 1st Street/Waterfront Drive, spanning from C Street to just west of Commercial Street, this string of industrial properties along the City's bayfront is currently entirely related to the fishing industry. The Fishing Industrial District includes several City-owned fishing-related facilities, including the Fisherman's Terminal, the F Street dock, the Coast Guard building, the Commercial Street Dock, and the EDA fish plant. The district is the largest employment center for the fishing industry in Eureka. The Fishing Industrial District is envisioned to intensify as the center of the fishing industry.

- **Eureka Marina.** Entirely in the Coastal Zone, northwest of Marina Way between Commercial Street and Marina Way, west of the Marina District, and south of the Fishing Industrial District, the Eureka Marina consists of entirely City-owned property, including a boat launch, parking lot, public marina, boat slips, and the Wharfinger building. The Eureka Marina is envisioned to remain as a high-functioning public marina.

- **Bayfront Industrial District.** Entirely in the Coastal Zone, located west of Waterfront Drive, north of Del Norte Street, south of Marina Way, south of the Eureka Marina, and west of the Westside Industrial District, the Bayfront Industrial District is home to the largest industrial docks and the largest industrially-zoned parcels in the City. The district includes some of the last coastal-dependent industrial uses remaining on Humboldt Bay, and also includes a significant amount of vacant industrial lands. The Bayfront Industrial District is envisioned to become a thriving industrial district that meets ever-changing industrial market demands by providing a mix of heavy industrial, light industrial, and coastal-dependent industrial uses.

- **The Bridge District.** Entirely in the Coastal Zone, located to the east of the Library District, south of the Bayfront Commercial district, north of 4th Street, and west of the Eureka Slough, the Bridge District is home to medium-density residential uses as well as a diverse mix of business-serving commercial uses, offices, and light manufacturing. The Bridge District is envisioned to continue to grow as an area of diversely intermixed uses.

- **Jacobs Avenue.** Entirely in the Coastal Zone, between Eureka Slough (to the south and west), US 101 (to the north), and Murray Field Airport (to the east). Jacobs Avenue is a unique combination of service commercial, light industrial, warehousing, and mobile home park uses. The Jacobs Avenue area is envisioned to continue providing a diverse mix of service commercial uses.

- **Woodley Island.** Entirely in the Coastal Zone, Woodley Island includes a marina on Humboldt Bay with full services for commercial and recreational vessels, as well as docking facilities, a restaurant, and offices, including the operations center of the Humboldt Bay

Harbor, Recreation, and Conservation District. The remainder of Woodley Island serves as protected wildlife habitat. Woodley Island is envisioned to remain a center of the fishing industry, recreational boating, and natural resource protection.

Neighborhoods

Eureka contains numerous distinct residential neighborhoods offering a variety of living options. The majority of existing residences are within traditional and historic neighborhoods structured on a grid and block pattern with a variety of building types, architectural styles, and densities. The City also includes a few suburban neighborhoods with non-grid and block patterns with contemporary designs. Schools, parks, and neighborhood-market commercial uses are integrated into and dispersed throughout the residential neighborhoods. The City's residential neighborhoods are envisioned to continue historic development patterns, with a variety of sizes, architectural styles, and densities.

Green Spaces

Green spaces in Eureka include the City's parks and open spaces, natural areas, farmlands, forests, shorelines, islands (Indian, Woodley, and Daby), sloughs, gulches, and greenways. These areas encompass scenic, habitat, cultural, and recreational resources.

Proposed 2040 General Plan Land Use Designations

Proposed land use designations in the Land Use Element of the General Plan are broadly structured to allow for flexibility in defined land use types, densities, and intensities to account for change over time. Each land use designation is described in **Table 2-3** below, and standards for building intensities are also provided as an allowable range of residential densities and nonresidential floor area ratios (FARs) per net acre. These proposed land use designations are included for the City Limits only.

Proposed Land Use Plan

The acreage of each proposed land use designation within the City limits is shown below in **Table 2-4**. **Figure 2-5** shows the proposed 2040 General Plan Land Use Diagram.

General Plan Buildout

Proposed 2040 General Plan land uses have been allocated considering projected future housing and employment demands. The General Plan provides capacity beyond projected needs in order to maximize opportunities for new job- and revenue-generating uses, and in recognition that not all lands will be available for development at a given time.

To estimate the amount of new growth that is anticipated to occur within the City over the next two decades, City staff considered a range of factors, including community desires, physical or environmental limitations, existing infrastructure constraints, and socioeconomic trends. Based on this analysis, the City developed the proposed 2040 General Plan Land Use Diagram. The Land Use Diagram represents the desired type, amount, and arrangement of future land uses within the City. The land use plan forms the basis for the General Plan policies and the environmental documentation.

TABLE 2-3
PROPOSED 2040 GENERAL PLAN LAND USE DESIGNATIONS

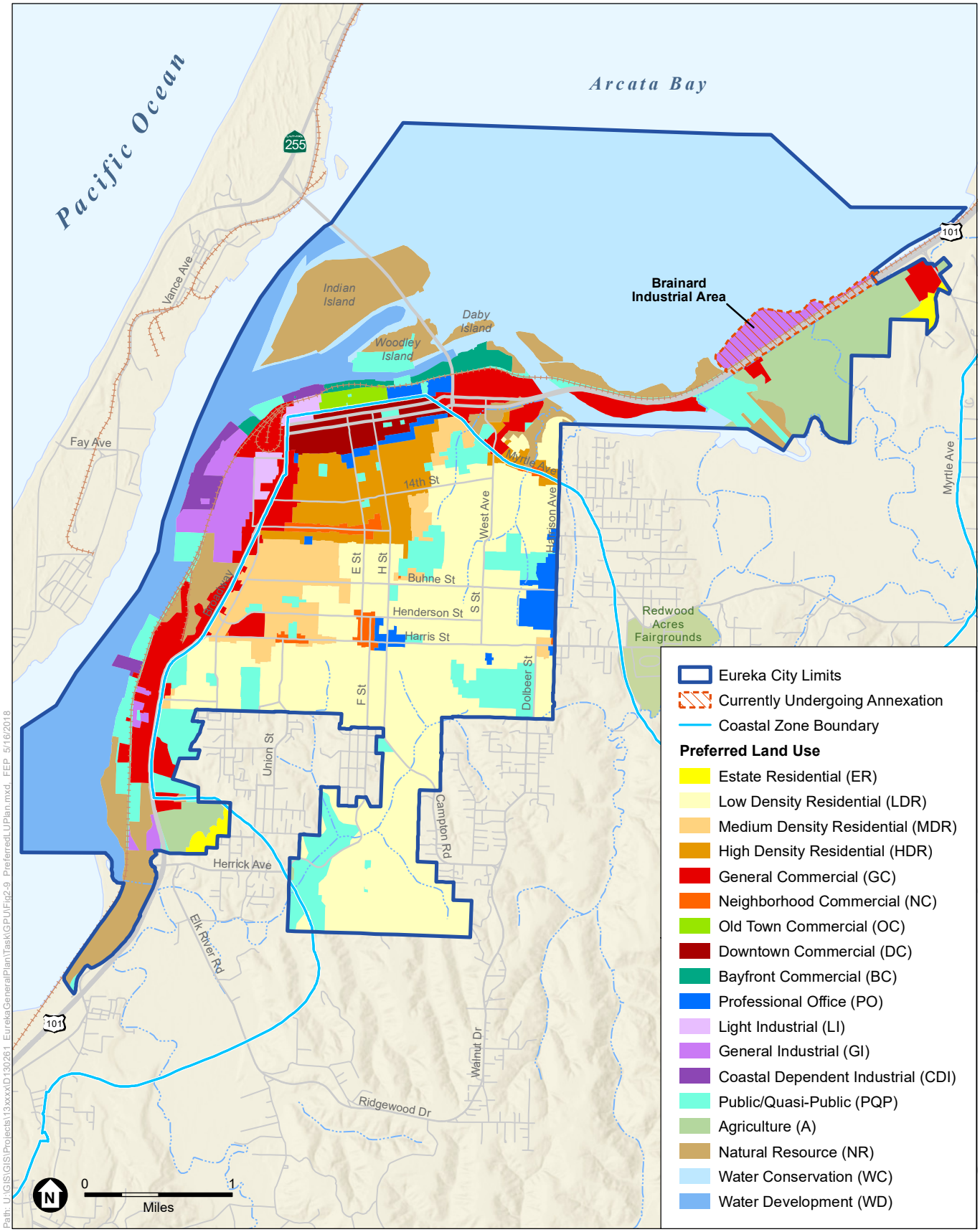
Residential Neighborhoods		
Estate Residential (ER)	Single-family detached homes, accessory dwelling units and limited agricultural uses on larger lots. Intended to retain a lower density, rural character compatible with adjacent agriculture, timberland and open space uses. The City may approve the clustering of ER units to preserve significant open space resources.	Density: Up to 4.0 dwelling units per gross acre
Low Density Residential (LDR)	Single-family detached and attached homes, accessory dwelling units and compatible public/quasi-public uses. Intended to be suburban in character and located in proximity to parks, schools, and public services. Limited neighborhood serving market-commercial uses may be allowed where they enhance the quality of life of the neighborhood and as provided by the applied zoning district.	Density: Up to one primary unit and one accessory dwelling unit per lot.
Medium Density Residential (MDR)	Single-family detached and attached homes, multi-family housing, accessory dwelling units and compatible public/quasi-public uses. Intended to compliment the character of adjacent lower density residential and neighborhood commercial development, and be located in proximity to parks, schools, public services, and employment centers. Limited neighborhood serving market-commercial uses may be allowed where they enhance the quality of life of the neighborhood and as provided by the applied zoning district.	Density: Up to 22 dwelling units per gross acre (equivalent to maximum of three units on an average 6,000 square foot City lot).
High Density Residential (HDR)	Higher density multi-family housing, accessory dwelling units, and compatible public/quasi-public and related uses. Intended to be urban in character and located in proximity to commercial and employment uses, parks, schools, and public services. Limited neighborhood serving market-commercial uses and limited mixed use development may be allowed as provided by the applied zoning district.	Density: Density: Up to 44 dwelling units per gross acre (equivalent to maximum of six units on an average 6,000 square foot City lot); greater density may be allowed through a special permit as provided by the applied zoning district.
Commercial, Office, and Mixed Uses		
Downtown Commercial (DC)	Mix of ground floor retail, restaurants, lodging, entertainment, cultural, visitor services, offices, and upper floor residential uses. Applied to the bulk of the Core Area, which serves as the traditional business and cultural center for the City. Intended to have a high intensity urban form, retain and enhance Eureka's identity and historic character, and promote a vibrant pedestrian environment. Residential and office uses are primarily allowed only on upper floors and only as provided by the applied zoning district.	Intensity: Maximum 6.0 FAR
Neighborhood Commercial (NC)	Limited-scale convenience retail, restaurants, offices, residential, and personal services, including pedestrian-oriented neighborhood retail. Intended to primarily serve nearby neighborhoods, be compatible with the character and form of adjacent residential uses, support a vibrant pedestrian environment, and promote short neighborhood-based trips. Residential and office uses are primarily allowed only on upper floors of multi-story commercial buildings and only as provided by the applied zoning district.	Intensity: Maximum 2.5 FAR
General Commercial (GC)	Broad variety and scale of retail, office, restaurants, lodging, entertainment, outdoor sales, large product retail sales, storage, warehousing, wholesale, and residential uses. Intended to be an intensive auto- and pedestrian-oriented commercial district primarily located in or adjacent to highly visible areas, and provide for local, regional and visitor needs. Residential and office uses are primarily allowed only on upper floors of multi-story commercial buildings, and only as provided by the applied zoning district.	Intensity: Maximum 2.5 FAR

TABLE 2-3 (CONTINUED)
PROPOSED 2040 GENERAL PLAN LAND USE DESIGNATIONS

Commercial, Office, and Mixed Uses (cont.)		
Old Town Commercial (OC)	Visitor-related retail, restaurants, lodging, entertainment, recreation, and tourist services, as well as residential and office uses. Intended to emphasize commercial retail and tourism-related uses, recreation, leisure activities, hotels, and upper floor office/residential uses. Primarily caters to local and non-local visitors in historic and multi-story buildings with pedestrian-scaled storefronts lining the sidewalks. Residential and office uses are primarily allowed only on upper floors and only as provided by the applied zoning district.	Intensity: Maximum 5.0 FAR
Bayfront Commercial (BC)	Visitor-related retail, restaurants, multi-story lodging, entertainment, recreation, boating, and tourist services, as well as residential, office, and a mix of coastal and non-coastal dependent uses. Intended to emphasize commercial retail and tourism-related uses, leisure activities, hotels, and upper floor office/residential uses along the bayfront. Primarily caters to local and non-local visitors in multi-story buildings with pedestrian-scaled storefronts lining the sidewalks, boardwalk, and waterfront trails. Residential and office uses are primarily allowed only on upper floors and only as provided by the applied zoning district.	Intensity: Maximum 4.0 FAR
Professional Office (PO)	Customer-serving and non-customer-serving professional offices, clinics, hospitals, and related retail and services, as well as residential uses. Also applied to areas with a mix of single-family and multi-family housing, small scale offices, some converted residential buildings, and lodging where the intent is to generally retain the character, scale and form of the residential neighborhood. Intended to provide a mix of office and residential uses in an environment with a different character and lower intensity than the mixed-use commercial districts of the City. Limited commercial uses may be allowed as provided for by the applied zoning district.	Intensity: Maximum 2.5 FAR
Industrial Uses		
Light Industrial (LI)	Lower-intensity manufacturing, assembly, packaging, processing, wholesaling, warehousing, distribution, research and development and other employment-generating uses. Intended to be able to operate in close proximity to commercial and residential uses with minimum mutual adverse impacts. Small scale retail service uses that support employees and are incidental to the primary use may be allowed as provided by the applied zoning district. Upper floor residential uses may be conditionally allowed as provided by the applied zoning district.	Intensity: Maximum 2.0 FAR
General Industrial (GI)	Intensive manufacturing, assembly, packaging, processing, wholesaling, warehousing, distribution, research and development and other employment generating uses. Generally intended to be located away from residential, commercial and visitor serving uses due to the potential to produce loud noise, noxious odors and emissions, vibrations and high volumes of truck traffic. Retail and service uses that support employees and are incidental to the primary use may be allowed as provided by the applied zoning district.	Intensity: Maximum 2.0 FAR
Coastal Dependent Industrial (CDI)	Coastal-dependent and coastal-related manufacturing and processing, fishing, shipping, marine services, aquaculture, oil and gas facilities and other uses that must be located on or adjacent to Humboldt Bay in order to function. Intended to encourage activities related to the shipping and fishing industries and support those uses given priority by the California Coastal Act of 1976. Retail and service uses that are incidental to the primary use, interim non-coastal uses, non-coastal-dependent uses, and non-coastal-related uses may be allowed as provided by the applied zoning district. Office spaces may be allowed on upper floors as provided by the applied zoning district.	Intensity: Maximum 2.0 FAR

TABLE 2-3 (CONTINUED)
PROPOSED 2040 GENERAL PLAN LAND USE DESIGNATIONS

Public/Quasi-Public Uses		
Public/Quasi-Public (PQP)	Public and private institutional uses, government facilities and services, schools, courts, cemeteries, fairgrounds, airports, marinas and wharves, and major utility facilities, as well as parks, golf courses and other public recreational facilities. Intended to be applied to uses and facilities that are of a size and intensity that warrant an individual land use designation and/or to accommodate both active/ programmable and passive/self-directed recreational facilities. Retail and service uses that are incidental to the primary use may be allowed as provided by the applied zoning district.	Intensity: Maximum 4.0 FAR
Open Space and Resource Related Uses		
Agriculture (A)	Production of crops, livestock grazing, animal and poultry raising, apiaries, dairies, stables and associated residences and farmworker housing. Intended to protect land, including farmed or grazed wetlands, that is primarily suitable for long-term agricultural and wildlife habitat uses and to ensure adequate separation from adjacent development. Compatible commercial and public/quasi-public uses may be conditionally allowed as provided by the applied zoning district.	Density: Maximum 2 dwelling units per lot.
Timberland (T)	Growing, harvesting, and processing of timber and other forest products, resource management activities, and associated support uses and residences. Intended to protect land that is primarily suitable for long-term timber production and compatible resource related uses. Limited public recreation and agricultural uses may be allowed as provided by the applied zoning district.	Density: Maximum 2 dwelling units per lot.
Natural Resource (NR)	Protection, enhancement, restoration, management, study, and passive recreational use of land-based habitats and natural areas. Intended to protect land that is primarily suitable for permanent habitat preservation, compatible resource related uses, nature study, and natural-resource-related recreation. Public access, passive recreation, and active recreation may be allowed as provided by the applied zoning district.	Intensity: Nature-study-related buildings/structures may be constructed at an intensity determined by the applied zoning district.
Water Conservation (WC)	Protection, enhancement, restoration, management, and study of environmentally sensitive habitat within the estuarine waters of Humboldt Bay. Intended to protect waters that are primarily suitable for permanent habitat preservation, compatible resource related uses, nature study, and natural-resource-related recreation. Public access, passive recreation, active recreation, commercial fishing, aquaculture, and other compatible uses may be allowed as provided by the applied zoning district.	Intensity: NA
Water Development (WD)	Port, harbor, commercial fishing, recreation and aquaculture related uses of the estuarine waters of Humboldt Bay. Intended to be carried out consistent with the City's resource protection policies. Coastal dependent industrial, incidental public services, recreational use, nature study, and other compatible uses may be allowed as provided by the applied zoning district.	Intensity: NA



SOURCE: City of Eureka, 2018; ESA, 2018

2040 Eureka General Plan and EIR

Figure 2-5
Proposed 2040 General Plan Land Use Diagram

TABLE 2-4
2040 GENERAL PLAN LAND USE ACREAGES

Land Use Designation	Acreage*
Estate Residential (ER)	46
Low Density Residential (LDR)	2,005
Medium Density Residential (MDR)	340
High Density Residential (HDR)	359
Agricultural (A)	450
Downtown Commercial (DC)	151
Neighborhood Commercial (NC)	62
General Commercial (GC)	539
Old Town Commercial (OC)	34
Bayfront Commercial (BC)	69
Professional Office (PO)	143
Light Industrial (LI)	50
General Industrial (GI)	257
Coastal Dependent Industrial (CDI)	72
Public/Quasi-Public (PQP)	846
Natural Resource (NR)	776
Water Development (WD)	959
Water Conservation (WC)	3,201

Based on current market conditions and growth projections for the region, the City used density/intensity assumptions and persons per household estimates for new growth that are expected to occur within the timeframe of the General Plan, consistent with historic growth patterns and reflecting a foreseeable buildout scenario. **Table 2-5** shows how much additional development could be built under the proposed 2040 General Plan, and corresponding population growth and employees generated, are also shown in the table.

Buildout of the 2040 General Plan provides for a total increase of up to 1,886 dwelling units resulting in a population of approximately 3,683 residents. The 2040 General Plan also provides for a total of up to 1.6 million square feet of nonresidential uses.

TABLE 2-5
PROPOSED 2040 GENERAL PLAN DEVELOPMENT POTENTIAL

Land Use Designation	Gross Acres[1]	Gross Developable Acres[2]	Maximum Allowed Density/Intensity	Anticipated Incremental Growth (Dwelling Units)[3,4]	Anticipated Incremental Growth (Square Feet)[3]	Population growth[5]	Employees[6]
Residential							
Estate Residential (ER)	46	41	4.0 or less du/ac	9	NA	21	NA
Low Density Residential (LDR)	2,005	1,436	1 primary unit and 1 accessory dwelling unit per lot	314	NA	722	NA
Medium Density Residential (MDR)	340	222	22.0 or less du/ac	119	NA	224	NA
High Density Residential (HDR)	359	219	44.0 or less du/ac	130	NA	244	NA
Agricultural (A)	450	71	2 or less dwelling units per lot	2	NA	5	NA
Commercial, Office, and Mixed Use Units *7*	NA	NA	Intensity Based on Zoning District	1,290	NA	2,425	NA
Industrial Use Units *8*	NA	NA	Intensity Based on Zoning District	20	NA	37	NA
Public/Quasi-Public (PQP) Units	NA	NA	Intensity Based on Zoning District	2	NA	5	NA
Total Residential	**3,200**	**1,989**	**NA**	**1,886**	**NA**	**3,683**	**NA**
Non-Residential							
Downtown Commercial (DC)	151	77	6.0 FAR	NA	283,894	See "Commercial Units" above	1,136
Neighborhood Commercial (NC)	62	36	2.5 FAR	NA	83,111	See "Commercial Units" above	166
General Commercial (GC)	539	447	2.5 FAR	NA	406,400	See "Commercial Units" above	813
Old Town Commercial (OC)	34	16	5.0 FAR	NA	88,665	See "Commercial Units" above	355
Bayfront Commercial (BC)	69	47	4.0 FAR	NA	260,373	See "Commercial Units" above	521
Professional Office (PO)	143	99	2.5 FAR	NA	122,499	See "Commercial Units" above	245
Light Industrial (LI)	50	39	2.0 FAR	NA	89,385	NA	89
General Industrial (GI)	257	215	2.0 FAR	NA	230,679	NA	231
Coastal Dependent Industrial (CDI)	72	33	2.0 FAR	NA	22,627	NA	23
Public and Quasi-Public (PQP)	846	470	4.0 FAR	NA	16,261	NA	16
Natural Resource (NR)	776	317	Intensity Based on Zoning District	NA	NA	NA	NA

TABLE 2-5 (CONTINUED)
PROPOSED 2040 GENERAL PLAN DEVELOPMENT POTENTIAL

Land Use Designation	Gross Acres[1]	Gross Developable Acres[2]	Maximum Allowed Density/Intensity	Anticipated Incremental Growth (Dwelling Units)[3,4]	Anticipated Incremental Growth (Square Feet)[3]	Population growth[5]	Employees[6]
Non-Residential (cont.)							
Water-Development (WD)	959	NA	NA	NA	NA	NA	NA
Water-Conservation (WC)	3,201	NA	NA	NA	NA	NA	NA
Total Non-Residential	**7,160**	**1,796**	**NA**	**NA**	**1,603,894**	**NA**	**3,595**
Eureka Total	**10,360**	**3,785**	**NA**	**1,886**	**1,603,894**	**3,683**	**3,595**

NOTES:
1. The gross acres for each land use designation include all land, both developable and non-developable, that exists within the Eureka city boundary.
2. The gross developable acres for each land use designation include all developable land that has been calculated for either new development or redevelopment.
3. The anticipated incremental growth (in terms of dwelling units and non-residential square feet), assumes the new development of vacant parcels and redevelopment of a select set of already developed parcels that have been identified as suitable for redevelopment. As the City is largely developed, the amount of undeveloped land is significantly lower than the gross acreage of land designated for urban uses under the General Plan.
4. The anticipated incremental growth in dwelling units, 1,895 total dwelling units, is consistent with the growth projections identified in the City of Eureka Community Background Report, which is benchmarked to the 2010 Census total and using the annual average growth rates projected by the California Department of Finance and California Department of Transportation (Caltrans) between 2010 and 2040, in five-year increments.
5. Population growth is calculated based on two factors: 2.3 people per household for single family housing (for Estate Residential, Low Density Residential, Agricultural, and Public/Quasi-Public); and 1.88 people per household for multifamily housing (for Medium Density Residential; High Density Residential; Commercial, Office, and Mixed Use Units; and Industrial Use Units).
6. Employee calculations were determined using the following assumptions:
   1. 1 employee per 250 square feet for Downtown Commercial and Old Town Commercial.
   2. 1 employee per 500 square feet for Neighborhood Commercial, General Commercial, Bayfront Commercial, and Professional Office.
   3. 1 employee per 1,000 square feet for Light Industrial, General Industrial, Coastal Dependent Industrial, and Public/Quasi-Public.
7. "Commercial, Office, and Mixed Use Units" includes mixed use housing occurring within the Bayfront Commercial, Downtown Commercial, General Commercial, Neighborhood Commercial, Old Town Commercial, and Professional Office designations.
8. "Industrial Use Units" includes mixed use housing occurring within the General Industrial and Light Industrial designations.
9. Where applicable, acreages include the Brainard Industrial Area, which is currently undergoing annexation to the City.

SOURCES: ESA, 2018; City of Eureka, 2018.

2.4 Regulatory Requirements and Approvals

The 2040 General Plan requires the approval of a number of discretionary actions by the City Council. According to Sections 15050 and 15367 of the CEQA Guidelines, the City is designated as the Lead Agency for the project under CEQA. Responsible agencies are those agencies, other than the lead agency, that have discretionary approval authority over one or more actions involved with the development of a proposed project. Trustee agencies are state agencies having jurisdiction by law over natural resources affected by a proposed project that are held in trust for the people of the state of California.

While there are no responsible agencies for the adoption of the 2040 General Plan, there are several potential responsible agencies for the implementation of future development projects consistent with the General Plan. Those agencies include:

- Regional Water Quality Control Board (RWQCB) – Construction projects over one acre require coverage under the National Pollution Discharge Elimination System (NPDES). New point sources of discharge, including industrial and public facilities, may require individual permits issued by the RWQCB.

- California Department of Transportation (Caltrans) – Transportation improvements identified in this EIR include facilities operated by Caltrans. Encroachment permits and other approvals may be required for the implementation of these improvements.

- North Coast Unified Air Quality Management District (NCUAQMD) – Future development projects may be subject to review by the NCUAQMD. In the case of "new sources" of criteria air pollutants, the NCUAQMD may require permits, and act as a responsible agency.

- California Coastal Commission (CCC) – Review and approval of development projects within the Coastal Zone.

- Humboldt Local Agency Formation Commission (LAFCO) – Any Sphere of Influence (SOI) modifications or annexations associated with the General Plan would be reviewed and approved by LAFCO.

Federal agencies, including US Fish and Wildlife Service and the Army Corps of Engineers may have jurisdiction over future development projects (those which may impact federally protected species or jurisdictional waters of the US). For projects affecting the airspace protection surfaces surrounding Humboldt County airports, the Federal Aviation Administration may be a reviewing and/or permitting agency. Expenditure of federal funds to support future development within the scope of the 2040 General Plan (such as housing or infrastructure projects) may involve other federal agencies not identified here. While the federal agencies discussed here are identified as potential agencies of jurisdiction with regards to future development, federal agency actions must comply with the National Environmental Policy Act (NEPA), and are therefore not typically considered responsible agencies under CEQA.

The Final EIR, along with other applicable documents including CEQA Findings of Fact and a Statement of Overriding Considerations, will be reviewed by the Planning Commission and a recommendation will be made to the City Council regarding Final EIR approval. The City Council will consider and certify the Final EIR if it is determined to be in compliance with CEQA. The Final EIR will include any text changes made to the Draft EIR, responses to comments received on the Draft EIR during the public review period, and the Mitigation Monitoring and Reporting Program (MMRP) for the proposed project. After or concurrent with certification of the Final EIR, the City Council will consider the 2040 General Plan for approval.

2.5 Required Approvals and Actions

The following actions by the Eureka City Council will be required in order to adopt the General Plan:

- Certification of the EIR; and
- Adoption of the 2040 General Plan

CHAPTER 3
Environmental Analysis

Introduction to the Environmental Analysis

This section sets the parameters and defines the terms used in this EIR.

Existing Conditions Serve as the Baseline of Analysis

Section 15125(a) of the CEQA Guidelines requires that an EIR include a description of the physical environmental conditions (environmental setting) as they exist at the time the Notice of Preparation (NOP) is published. The environmental setting will normally constitute the baseline physical conditions used by the Lead Agency as the point of comparison for determining the significance of an environmental impact.

Each technical section of this Draft EIR (see Sections 3.1 through 3.13) includes a summary of the environmental setting based on information that was prepared as part of the Community Background Report (CBR), which is included as Appendix B of this Draft EIR. Where any discrepancies may exist between the referenced material and the material presented in the Draft EIR, the material presented here should be considered as the most up to date and is to be relied on for the environmental setting and analyses.

Definitions of Terms Used in the EIR

This Draft EIR (Draft EIR) uses a number of terms that have specific meaning under CEQA. Among the most important of the terms used in the Draft EIR are those that refer to the significance of environmental impacts. The following terms are used to describe environmental effects of the proposed General Plan Update:

- **Significance Criteria:** A set of criteria used by the lead agency to determine at what level or threshold an impact would be considered significant. Standards of Significance used in this EIR include those standards provided by the City of Eureka and based on Appendix G of the State CEQA Guidelines.

- **No impact** denotes that there would be no impact on the environment. No mitigation measure is required.

- A project impact is considered **less than significant** when it does not reach the standard of significance and, therefore, would cause no substantial change in the environment. No mitigation is required for less-than-significant impacts.

- A **significant impact** is a substantial, or potentially substantial, adverse change in the environment. Physical conditions in the area will be directly or indirectly affected by implementation of the General Plan Update. Impacts may be direct or indirect and short-term or long-term. A project impact is considered significant if it reaches or exceeds the threshold of significance identified in the Draft EIR. Mitigation measures may reduce a potentially significant impact to a less-than-significant impact.

- A **significant-and-unavoidable impact** occurs when even with the adoption of all feasible mitigation measures a significant impact cannot be avoided or mitigated to a less-than-significant level should the project be implemented.

- **Cumulative Impact:** Under CEQA, a cumulative impact refers to "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."[1] Like any other significant impact, a significant cumulative impact is one in which the cumulative adverse physical change would exceed the applicable significance criterion and the project's contribution is "cumulatively considerable."[2]

- **Mitigation Measure:** A mitigation measure is an action that could be taken that would avoid or reduce the magnitude of a significant impact. Section 15370 of the State CEQA Guidelines defines mitigation as:

  1. Avoiding the impact altogether by not taking a certain action or parts of an action;
  2. Minimizing impacts by limiting the degree of magnitude of the action and its implementation;
  3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
  4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
  5. Compensating for the impact by replacing or providing substitute resources or environments.

Section Format

Chapter 3 is divided into technical sections that present, for each environmental resource issue area, the physical environmental setting, regulatory setting, significance criteria, methodology and assumptions, and impacts on the environment. Where required, potentially feasible mitigation measures are identified to lessen or avoid significant impacts. Each section includes an analysis of project-specific and cumulative impacts for each issue area.

The technical environmental sections each begin with a description of the **environmental setting** and the **regulatory overview** as it pertains to a particular issue. The environmental setting provides a point of reference for assessing the environmental impacts of the proposed General Plan Update. The environmental setting discussion addresses the conditions that exist prior to implementation of the proposed General Plan Update. The setting establishes the baseline by which the proposed General Plan Update is measured for environmental impacts. Various

[1] State CEQA Guidelines, section 15355.
[2] State CEQA Guidelines, section 15130(a).

sections of the Draft EIR refer to the Community Background Report (CBR) that was prepared as a part of the proposed 2040 General Plan. The CBR is included with this Draft EIR as Appendix B and includes information relevant to the environmental settings for various impact topics, in addition to providing relevant information to the Draft EIR impact discussions. Where any discrepancies exist between the referenced material and the material presented in the Draft EIR, the material presented in the Draft EIR should be considered as the most up to date and is to be relied upon for the environmental setting and analyses. The regulatory overview presents relevant information about federal, state, regional, and/or local laws, regulations, plans or policies that pertain to the environmental resources addressed in each section.

Next, each section presents **significance criteria**, which identify the standards used by the City of Eureka to determine the significance of effects of the proposed General Plan Update. The significance criteria used for this analysis were derived from the City's established significance standards, which, in turn, reflect policies of the proposed 2040 General Plan, as well as other criteria applicable under CEQA, including thresholds established by trustee and responsible agencies.

A **methodology and assumptions** description in each section presents the analytical methods and key assumptions used in the evaluation of effects of the proposed General Plan Update, followed by an identification of **issues not discussed** in the impact analysis and the reason why the issue(s) do not require further analysis.

Proposed 2040 General Plan policies specifically relevant to the environmental topic area and which could reduce or eliminate potential environmental impacts are identified in each technical section. Each proposed policy is followed by the new or revised policy's relationship to current policies contained within the City's existing 1997 General Plan.

The **impacts and mitigation measures** portion of each section includes impact statements, prefaced by a number in bold-faced type. An explanation of each impact is followed by an analysis of its significance. The subsection concludes with a statement that the impact, following implementation of the mitigation measure(s) and/or the continuation of existing policies and regulations, would be reduced to a less-than-significant level or would remain significant and unavoidable.

Where applicable, the analysis of environmental impacts considers both the construction and operational phases associated with implementation of the proposed General Plan Update. As required by section 15126.2(a) of the State CEQA Guidelines, direct, indirect, short-term, long-term, onsite, and/or off-site impacts are addressed, as appropriate, for the environmental issue area being analyzed. Under CEQA, economic or social changes by themselves are not considered to be significant impacts, but may be considered in linking the implementation of the proposed General Plan Update to a physical environmental change, or in determining whether an impact is significant.

Mitigation measures pertinent to each individual impact, if available, appear after the impact discussion section. The magnitude of reduction of an impact and the potential effect of that reduction in magnitude on the significance of the impact is also disclosed. An example of the format is shown below.

Impacts and Mitigation Measures

Impact 3.X-1: Impact Statement.

A discussion of the potential impact of the proposed General Plan Update on the resource is provided in paragraph form. A statement of the level of significance before application of any mitigation measures is provided in **bold**.

Mitigation Measure

If the impact is determined to be less than significant, the text here will say, "None required." If the impact is determined to be potentially significant, mitigation will be listed here.

> **Mitigation Measure 3.X-1:**
>
> Recommended mitigation measure.

Where appropriate, one or more potentially feasible mitigation measures are described. If necessary, a statement of the degree to which the available mitigation measure(s) would reduce the significance of the impact is included in **bold**.

Cumulative Impacts

An analysis of cumulative impacts follows the project-specific impacts and mitigation measures evaluation in each section. A cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other past, present, and reasonably foreseeable projects causing related impacts.[3]

The beginning of the cumulative impact analysis in each technical section includes a description of the cumulative analysis methodology and the geographic or temporal context in which the cumulative impact is analyzed (e.g., the City of Eureka, North Coast Air Quality Management District, other activity concurrent with project construction). In some instances, a project-specific impact may be considered less than significant, but when considered in conjunction with other cumulative projects or activities may be considered significant or potentially significant.

As noted above, where a cumulative impact is significant when compared to existing or baseline conditions, the analysis must address whether the project's contribution to the significant cumulative impact is "considerable." If the contribution of the project is considerable, then the EIR must identify potentially feasible measures that could avoid or reduce the magnitude of the project's contribution to a less-than-considerable level. If the project's contribution is not considerable, it is considered less than significant and no mitigation of the project contribution is required.[4] The cumulative impacts analysis is formatted the same as the project-specific impacts, as shown above.

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3 State CEQA Guidelines section 15355.
4 State CEQA Guidelines section 15130(a)(3).

3.1 Aesthetics

This section evaluates potential impacts of developing the proposed General Plan on aesthetic, visual, and scenic resources, including potential loss of views, direct impacts to scenic resources, and effects of increased lighting on motorists and residents in the Plan Area (i.e., the Eureka city limits). Policies provided in the proposed General Plan and standard City requirements are evaluated as to their effect of mitigating or avoiding any potentially significant effects.

During the Notice of Preparation (NOP) comment period, no comments were provided in direct relation to Aesthetics.

3.1.1 Environmental Setting

Overview of Visual Character in the Plan Area

Eureka's visual character is a result of a number of factors including the City's natural setting, the history of the area, and the City's growth pattern. The City was established in the 1850s as a planned development by a land company that divided the land into lots, delineated streets and roads and managed the land for members and investors. Early settlers claimed large pieces of property, eventually selling off smaller portions to other buyers. Some families bought entire blocks, building on one portion and subdividing the rest into streets and lots. Today, many neighborhoods in Eureka contain intact remnants of these early divisions.

Development of many of these large tracts over time has fostered cohesive neighborhoods that integrate a variety of architectural styles. Rows of modest cottages coexist next to ornate Victorians or large Arts and Crafts bungalows. Landscapes often incorporate formal plantings at street side with native trees in the backyard. The variety and distribution of historic structures in Eureka also creates a visual character that reflects the history of the community. The retention and rehabilitation of a significant number of Victorian-era structures that provide a direct link to the City's history, and the maintenance of the cultural continuity of the Victorian era, are significant components of the City's existing land use patterns and visual character.

The center of the City, organized by a traditional gridded street pattern with the numbered streets running east-west and the alphanumeric streets running north-south, is situated on a coastal plain along the Humboldt Bay shoreline. Relative to the rest of California, Eureka has historically seen a relatively low development density, which is apparent in the City to this day, with the pre-1900 street pattern constituting nearly two-thirds of the land area in the City. However, Eureka has a significantly higher development density than any other community in the surrounding five-county region.

The visual transition between the Eureka City limits and the neighboring, smaller unincorporated communities is not readily discernible. The most recently developed areas within unincorporated Humboldt County on the eastern side of the City include secluded developments in or in close proximity to extensive second growth forest. The terrain then gives way to hills and mountains of the rugged coast range, which quickly exceed 2,000 feet in elevation.

Landmarks and Historic Sites

Eureka has many historic and architecturally significant structures which contribute considerably to its visual character. There are many historic properties within Eureka, including 47 sites/properties listed on the National Register of Historic Places, and over 600 structures listed or eligible for listing on the City of Eureka Local Register of Historic Places. Many of the most significant landmarks in Eureka are located in Old Town and Downtown, where there are high concentrations of older and historic buildings. Some of the more notable historic sites include the Carson Mansion and Old Town itself, which has been designated a National Historic District.

There are also notable landmarks outside of the Eureka's core, including the Fisherman's Statue on Woodley Island, the Small Boat Basin, the Samoa Bridge, the tower of St. Bernard's Church, the Eureka Inn, the County Courthouse, and the stack on the Louisiana-Pacific plant. Surrounding residential neighborhoods also contain a number of historic buildings.

Natural Resources and Views

Eureka is located between the inner shoreline of Humboldt Bay and surrounding timber and agricultural lands. The City is visually separated from the Pacific Ocean by the Samoa Peninsula, which contributes to an urban area that feels more protected than many other California coastal cities.

There are four major natural features that contribute to Eureka's urban form and visual character: (1) the configuration of the Bay shoreline; (2) the topography, stream channels, and tree-cover of the foothills in the southern area of the City; (3) the sloughs that penetrate the southern and northerly portions of the City; and (4) the gulches that transect the older urban area in several locations. While these features comprise important edges and barriers to development, they also delineate major contrasts in the visual character of the landscape, thereby contributing to the significant scenic qualities of the area.

Although the grid and block residential pattern that defines the central City was originally imposed on a forested area, there is no strong presence of native vegetation in that area of the City today. There are gulches and greenways that permeate the easterly portion of the City from both the north (Eureka Slough, First Slough, Second Slough) and the south (Martin Slough) that remain forested. Sequoia Park is a significant forested area within the City. Forested lands also surround the City (e.g., the McKay Tract, Elk River).

A gradual increase in elevation affords views of the Bay from inland sites, along street corridors and from unobstructed upper story windows. The core of the City is defined largely by the presence of historic buildings reaching a height averaging two to three stories, with three structures with more than four stories. Historic buildings extend inland for 2.5 miles towards the Coast Range foothills where more recent residential developments have been constructed atop the rising topography. While the subtle topography and buildings tend to obscure views of the downtown area, the skyline is pronounced when viewed from the Bay or from Woodley Island.

A description of "Community Places" can be found in the Project Description.

Light and Glare

Nighttime lighting is necessary to provide and maintain safe, secure, and attractive environments; however, these lights have the potential to produce spillover light and glare, and if designed incorrectly, could be considered unattractive. Although nighttime light is a common feature of urban areas, spillover light can adversely affect light-sensitive uses, such as residential units, at nighttime.

Glare results when a light source directly in the field of vision is brighter than the eye can comfortably accept. Squinting or turning away from a light source is an indication of glare. The presence of a bright light in an otherwise dark setting may be distracting or annoying, referred to as discomfort glare, or it may diminish the ability to see other objects in the darkened environment, referred to as disability glare. Reflective glare, such as the reflected view of the sun from a window or mirrored surface, can be distracting during the day.

Plan Area Lighting and Glare

The Plan Area is largely built-out, and a significant amount of artificial light and glare from urban sources already exists. The Broadway Corridor has a higher concentration of artificial light and reflective surfaces that produce glare than outlying residential areas due to the amount of artificial light associated with exterior building lights, lighted signs, street lights, roadways, signal lights, and parking area lights.

Although many of the buildings in the Plan Area are clad in non-reflective surfaces (e.g., brick, wood), the Plan Area contains a few sources of reflective glare, including buildings with exteriors that include glass (e.g., buildings that comprise the Bayshore Mall). Finally, automobiles traveling along local roadways and U.S. 101 also contribute to nighttime sources of light and glare in the Plan Area.

3.1.2 Regulatory Overview

Federal

There are no federal regulations that pertain to aesthetics or visual resources that are applicable to the proposed project.

State

The California State Scenic Highway Program was created by the California Legislature in 1963 to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code.

A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development

intrudes upon the traveler's enjoyment of the view. When a city or county nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. A scenic corridor is the land generally adjacent to and visible from the highway. A scenic corridor is identified using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. The corridor protection program does not preclude development, but seeks to encourage quality development that does not degrade the scenic value of the corridor. Jurisdictional boundaries of the nominating agency are also considered. The agency must also adopt ordinances to preserve the scenic quality of the corridor or document such regulations that already exist in various portions of local codes. These ordinances make up the scenic corridor protection program. County roads can also become part of the Scenic Highway System. To receive official designation, the county must follow the same process required for official designation of state scenic highways.

As an extension of Pacific Coast Highway Route One (PCH 1), the U.S. 101 corridor in Eureka has been determined eligible for designation as a scenic route. In addition, the City's proximity to the California coastline could allow for the designation of scenic vista points throughout the City. Several plans have called for policies and infrastructure supporting such designations, and while investments have been made along some segments of Waterfront Drive, the overall visual quality along the corridor provides some limitations on the qualifications of the area for scenic route designation. There are no designated state scenic highways in or in the vicinity of the Planning Area.[1]

Local

City of Eureka 1997 General Plan

The City's 1997 General Plan contains policies and implementation measures relevant to aesthetic resources. Specifically, the 1997 General Plan includes policies that protect and enhance aesthetic resources that are unique to the area. Upon approval of the proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded.

View Corridors

Goal 1.H: To maintain and expand views of the waterfront, inner harbor, and landmark buildings from public streets and other public spaces.

Policies

1.H.1: The City shall promote unobstructed view corridors to the waterfront from public streets and other public spaces through careful building siting and effective street tree maintenance.

1.H.3: The City shall maintain unobstructed views of the Carson Mansion along the entire length of 2nd Street through street tree pruning or removal as necessary.

[1] California Department of Transportation. 2017. Scenic Highway Routes. Sutter County. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed on December 8, 2017.

Architectural/Landscape Character

Goal 1.I: To maintain the distinctive architecture, historic character, and landscape quality within the Core Area.

Policies

1.I.4: The City shall encourage property owners to maintain, enhance, and protect the existing character of historic buildings, with a particular emphasis on retaining or restoring original style, consistent with the Secretary of the Interior's standards.

1.I.7: The City shall maintain the basic scale and character of the traditional grid street pattern in the Core Area, including street dimensions and alignment, sidewalk width, curb lines, and parallel parking.

1.I.8: The City shall maintain the historic pattern of building siting in the Core Area by requiring that buildings be built to the street property and side lines, and by retaining the building scale and cadence created by historic parcel dimensions, even where lot consolidation is necessary to create economically viable development.

1.I.9: The City shall promote the creation of a strong and appealing retail environment by requiring the use of transparent commercial storefronts (i.e., windows and doors) and continuous and compatible building facades. Conversely, the City shall prohibit the creation of blank walls and discontinuity in building facades.

1.I.10: The City shall enhance the pedestrian environment through streetscape elements such as attractive planter boxes; comfortable seating that discourages domination by a single social group; attractive and functional lighting and street signs; attractive trash receptacles; clean, secure and convenient public restrooms; and convenient parking.

1.I.11: The City shall upgrade the visual and pedestrian amenity quality of 2nd Street through repair and renovation of existing street furniture, street lights, street signs and sidewalks; pruning of street trees, and where necessary, removal of street trees that are blocking views of the Carson Mansion; replacements of missing or damaged street trees; re-landscaping of planters and other planting areas; and other improvements within the public way.

Maintenance and Safety

Goal 1.J: To create a safe, clean, and pedestrian-friendly Core Area.

Policies

1.J.1: The City shall provide a high level of maintenance to ensure that the Core Area is free of trash and litter.

1.J.3: The City shall ensure that street lighting supports a safe, well-lighted pedestrian environment for night use of the Core Area.

1.J.4: The City shall provide adequate and attractive trash receptacles on sidewalks.

1.J.5: The City shall remove or upgrade obsolete or dysfunctional poles, posts, and bicycle racks on sidewalks in the Core Area.

1.J.6: The City shall maintain and prune trees and landscaping in public rights-of-way, parks, and plazas to facilitate visibility and surveillance of public spaces in the interest of public safety.

Residential/Neighborhood Development

Goal 1.K: To provide adequate land in a range of residential densities to accommodate the housing needs of all income groups expected to reside in Eureka.

Policies

1.K.2: The City shall promote the individuality and identity of each neighborhood while at the same time upgrading the overall environment through excellence of architecture, design, landscaping, retention of views and street furniture.

1.K.4: The City shall ensure that infill development (either new or rehabilitated residential structures) is compatible with the overall established character of residential neighborhoods.

Commercial Development

Goal 1.L: To ensure an adequate supply of commercial land for and promote the development of commercial uses to meet the present and future needs of Eureka residents and visitors and to maintain economic vitality.

Policies

1.L.2: The City shall promote high quality design, visual attractiveness, proper location, adequate sites, sufficient off-street parking, and a convenient circulation system for commercially-designated areas of the city.

Design Review

The City of Eureka design review process reviews projects for compatibility with the surrounding neighborhood. Design review may include site plan review and/or architectural review. Site plan review focuses on how the project complies with the zoning standards such as siting, parking, and landscaping. Architectural review focuses on the actual exterior design, looking at the materials, textures, and colors.

Site plan review is required for most permitted commercial and industrial developments or multifamily residential developments. Architectural review is required for all conditionally permitted uses or those uses within an architectural review combining zone.

When site plan review and architectural review, or only architectural review, are required, after an application packet has been accepted as complete and all other project clearances (except building permits) have been obtained, a project is scheduled before a meeting of the Design Review Committee. If the Design Review Committee approves the application, or if the conditions or modifications recommended by the Committee are acceptable to the applicant, the application can be approved.

3.1.3 Analysis, Impacts, and Mitigation

Significance Criteria

Implementation of the 2040 General Plan would result in a significant impact if it would:

a) Have a substantial adverse effect on a scenic vista;

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;

c) Substantially degrade the existing visual character or quality of the site and its surroundings; or

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Methodology and Assumptions

Impacts on aesthetics and visual resources are evaluated using the criteria listed above. Impacts are evaluated based on information included in the *Eureka General Plan Community Background Report*[2] and the *Draft Eureka 2040 General Plan*.[3] Site reconnaissance and review of digital aerial imagery was also conducted in the process of preparing this section.

Issues Not Discussed in Impacts

The Plan Area and surrounding environs do not include any designated state scenic highways. Therefore, implementation of the proposed 2040 General Plan would not adversely affect scenic resources within a state scenic highway (criterion b, above), and this issue is not evaluated further in this Draft EIR.

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are specifically relevant to aesthetic and visual resources within the Plan Area.

Goal LU-1: A Community that values its unique small town charm and livability while thoughtfully advancing new prospects for growth and economic vitality.

Policies

LU-1.12: Attractive Design. Preserve Eureka's unique charm and character by applying design guidance that promotes attractive and well maintained development that carefully integrates the new with the best of the old.

LU-1.13: Lighting. Minimize obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary, and requiring light for development to be directed downward to minimize spill-over onto adjacent properties and reduce vertical glare.

2 City of Eureka. 2015. *Eureka General Plan Community Background Report.*

3 City of Eureka. 2017. *Draft Eureka 2040 General Plan.*

LU-1.14: Public Realm. Provide safe, clean and pedestrian friendly streetscapes and public spaces through careful design and active maintenance of sidewalks, street trees, landscaping, street furnishings, lighting, public art and other elements.

LU-1.15. Private Maintenance of Public Realm. Establish programs that encourage and incentivize businesses and private land owners to take pride in and to maintain the public streetscape.

LU-1.16: Public Access. Maintain and improve physical linkages from the community to the coastline, gulches, forests and Eureka's other distinct recreational resources where feasible by creating/preserving view corridors, enhancing trail and roadway connections, and providing signage and other wayfinding cues.

LU-1.19: Pedestrian-oriented Design. In the downtown, commercial core, mixed use, and neighborhood commercial areas, promote the creation of a strong and appealing pedestrian environment by requiring the use of transparent commercial storefronts (i.e., windows and doors) and continuous and compatible building facades, while prohibiting the creation of blank walls and discontinuity in building facades.

Impacts and Mitigation Measures

Impact 3.1-1: Implementation of the proposed Eureka 2040 General Plan would not have a substantial adverse effect on a scenic resource or scenic vista.

Scenic resources can include natural open spaces, topographic formations, and landscapes. Many people associate natural landforms and landscapes with scenic resources, such as woodlands, shorelines, ocean views, rivers, and streams. In an urban setting, scenic resources can also include urban open spaces and elements of the built environment. Examples of these would include parks, trails, pathways, nature centers, archaeological and historical resources, and buildings and infrastructure that includes distinctive or historic architectural features.

As discussed above, Eureka is located between the inner shoreline of Humboldt Bay and surrounding timber and agricultural lands. The City is visually separated from the Pacific Ocean by the Samoa Peninsula. Major natural features that contribute to Eureka's urban form and visual environment include the Bay shoreline; the topography, stream channels, and tree-cover of the foothills in the southern area of the City; the sloughs that penetrate the southern and northerly portions of the City; and the gulches that transect the older urban area in several locations. These features constitute major contrasts in the visual character of the landscape, thereby contributing to the significant scenic qualities of the area.

The core of the City is defined largely by the presence of historic buildings reaching a height averaging two to three stories, with approximately two structures with more than four stories. Historic buildings extend inland for 2.5 miles towards the Coast Range foothills where more recent residential developments have been constructed atop the rising topography. While the subtle topography and buildings tend to obscure views of the downtown area from within the older section of the City, the skyline is pronounced when viewed from the Bay or from Woodley Island.

While the Plan Area is largely a built-up urban environment, implementation of the 2040 General Plan would result in gradual physical changes within the Plan Area over a 20-year period,

including an increase of up to 1,886 dwelling units and a total of up to 1.6 million square feet of nonresidential uses. However, these changes would be distributed broadly and incrementally across the 16.4-square-mile City and would not comprise a substantial intensification or concentration of physical development. Consequently, new development under the General Plan would not be expected to result in changes to important scenic resources as seen from visually sensitive locations, including immediate or distant views of scenic resources, such as woodlands, shorelines, rivers, streams, or historic resources. Moreover, the proposed 2040 General Plan includes policies that are designed to protect scenic resources, including proposed Policy LU-1.12, which aims to preserve Eureka's unique charm and character by applying design guidance that promotes attractive and well maintained development that carefully integrates the new with the best of the old, and proposed Policy LU-1.16, which seeks to maintain and improve physical linkages from the community to the coastline, gulches, forests and Eureka's other distinct recreational resources where feasible by creating/preserving view corridors. Finally, new development associated with the 2040 General Plan would be reviewed for consistency with zoning standards, and some development would receive architectural review to focus on the actual exterior design of the project and/or compatibility review with surrounding areas through Use Permits and related processes.

Consequently, the modest, gradual, and broadly distributed program of physical development that would occur under the proposed 2040 General Plan, combined with policies designed to protect and enhance important scenic resources and the City's development standards review and permitting processes would ensure that impacts to scenic vistas and scenic resources would be **less than significant**.

Mitigation Measures

None required.

Impact 3.1-2: Implementation of the proposed Eureka 2040 General Plan would not substantially degrade the existing visual character or quality of the Plan Area or its surroundings.

As discussed above, implementation of the proposed 2040 General Plan would result in gradual physical changes within the Plan Area over a 20-year period, including an increase of up to 1,886 dwelling units and a total of up to 1.6 million square feet of nonresidential uses. These changes would be distributed broadly and incrementally across the 16.4-square-mile City and would not comprise a substantial intensification or concentration of physical development. Accordingly, new development under the General Plan would not be expected to result in physical changes that would substantially degrade the existing visual character or quality of the site and its surroundings.

In addition, the proposed 2040 General Plan includes policies that are designed to protect and enhance the visual character and quality of the Plan Area, including proposed Policy LU-1.12, which seeks to preserve Eureka's unique charm and character by applying design guidance that promotes attractive and well maintained development that carefully integrates the new with the

best of the old; proposed Policy LU-1.14, which promotes safe, clean, and pedestrian friendly streetscapes and public spaces through careful design and active maintenance of sidewalks, street trees, landscaping, street furnishings, lighting, public art and other elements; proposed Policy LU-1.16, which seeks to maintain and improve physical linkages from the community to the coastline, gulches, forests and Eureka's other distinct recreational resources where feasible by creating/preserving view corridors; and proposed Policy LU-1.19, which promotes the creation of a strong and visually appealing pedestrian environment by requiring the use of transparent commercial storefronts (i.e., windows and doors) and continuous and compatible building facades, while prohibiting the creation of blank walls and discontinuity in building facades, in the downtown, commercial core, mixed use, and neighborhood commercial areas.

Finally, as discussed above, development under the proposed 2040 General Plan would be subject to the City's Design Review process, which would ensure the new development is of high visual quality and is compatible with the surrounding environment.

Consequently, the modest, gradual, and broadly distributed program of physical development that would occur under the proposed 2040 General Plan combined with City policies and processes designed to protect the visual character or quality of the Plan Area would ensure that impacts to visual character or quality would be **less than significant**.

Mitigation Measure

None required.

Impact 3.1-3: Implementation of the proposed Eureka 2040 General Plan would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Light

As discussed above. although many of the buildings in the Plan Area are clad in non-reflective surfaces, the Plan Area contains a few sources of reflective glare, including buildings with exteriors that include glass. In addition, automobiles traveling along local roadways and U.S. 101 also contribute to nighttime sources of light and glare in the Plan Area.

New residential land uses would be developed with implementation of the proposed General Plan, and in some cases would be located adjacent to commercial uses and other uses that include night lighting. Commercial facilities typically include substantial amounts of lighting for building exteriors and parking lots. Nighttime lighting is necessary to provide safe environments (e.g., roadways, sidewalks, parking lots) and promote nighttime activities (e.g., signs for movie theaters, restaurants, nightclubs).

Glare

Daytime glare could be produced by the increased amount of surface area of commercial and residential structures that would be developed with implementation of the proposed General Plan.

Glare is caused by light reflections from pavement, vehicles, and building materials such as reflective glass and polished surfaces. During daylight hours, the amount of glare depends on the intensity and direction of sunlight. Glare can create hazards to motorists and nuisances for pedestrians and other viewers.

Analysis

Night Sky Lighting Effects

As discussed above, new development can result in increases to ambient nighttime lighting that can affect nighttime views of the sky. Implementation of the proposed 2040 General Plan would result in gradual physical changes within the Plan Area over a 20-year period, including an increase of up to 1,886 dwelling units and a total of up to 1.6 million square feet of nonresidential uses. While there could be a minor increase in ambient light in the Plan Area as a result of implementation of the proposed 2040 General Plan, because the Plan Area is already urbanized and subject to substantial amounts of existing nighttime ambient light, the increase in such light that would be attributable to development under the General Plan would not significantly affect nighttime views of the sky. In addition, proposed 2040 General Plan Policy LU-1.13 minimizes obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary, and requires light for development to be directed downward to minimize spill-over onto adjacent properties and reduce vertical glare. Consequently, impacts of the proposed 2040 General Plan on nighttime views of the sky would be **less than significant**.

Spillover Light

As discussed above, proposed 2040 General Plan Policy LU-1.13 minimizes obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary, and requires light for development to be directed downward to minimize spill-over onto adjacent properties and reduce vertical glare. In addition, development under the proposed General Plan would be subject to the City of Eureka Design Review process, which reviews projects for compatibility with the surrounding neighborhood, ensuring that spillover light impacts resulting from implementation of the proposed General Plan would be **less than significant**.

Glare

As discussed above, daytime glare could be produced by the increased amount of surface area of commercial and residential structures that would be developed with implementation of the proposed General Plan. However, as discussed above, development under the proposed General Plan would be subject to the City of Eureka Design Review process, which reviews projects for compatibility with surrounding uses, ensuring that glare impacts resulting from implementation of the proposed General Plan would be **less than significant**.

<u>Mitigation Measure</u>

None required.

Cumulative Impacts

The geographic context for the analysis of cumulative aesthetic and visual resources impacts varies by threshold. The cumulative context for each threshold is presented in the impact discussions below.

Impact 3.1-4: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not have a substantial adverse effect on a scenic resource or scenic vista.

The geographic context for the analysis of cumulative scenic resource impacts is cumulative development in the City of Eureka (the Plan Area) and the larger Study Area, as shown on Figure 2-3 in Chapter 2, *Project Description*. The Study Area encompasses the area within the City limits (the Plan Area), the larger Sphere of Influence (SOI) and the SOI expansion area south of Myrtletown, and some peripheral areas that could be effected by City planning and development activities (see Figure 2-2 for the boundaries of these areas). As described above, the City of Eureka encompasses approximately 16.4 square miles within its boundary, and the City's SOI includes an additional 19.5 square miles in the areas south and east of the City limits. The SOI reflects the potential future physical boundaries for the City. While the City is considered to be largely built out, there is potential for additional development within the SOI in unincorporated Humboldt County lands east and south of the City limits. If the new development is not designed to be compatible with and sensitive to scenic resources and sensitive public views, adverse effects to scenic resources could occur. Because there is a potential for future cumulative development outside of the City limits to adversely affect sensitive public views and scenic resources within the Study Area, this cumulative impact is considered potentially significant.

As discussed above, new physical development that would occur under the proposed 2040 General Plan would be required to comply with applicable plans, policies, and guidelines that are designed to protect views of important scenic resources from visually sensitive areas. Consequently, the contribution of the proposed 2040 General Plan to the cumulative impact would be **less than considerable**, and this impact would be **less than significant**.

<u>Mitigation Measure</u>

None required.

Impact 3.1-5: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not substantially degrade the existing visual character or quality of the Plan Area or its surroundings.

The geographic context for cumulative impacts associated with the degradation of visual quality includes the portions of the City and its SOI that are visible from the Plan Area, or areas that would be visible from locations that currently afford views of the Plan Area. These areas include the aforementioned unincorporated Humboldt County lands east and south of the City limits within the City's SOI, where there is potential for additional development. If new development

within these areas is lacking in visual quality and is not designed to be compatible with the surrounding environment, adverse effects related to visual character could occur. Because there is a potential for future cumulative development outside of City limits to adversely affect visual character within the surrounding area, this cumulative impact is considered potentially significant.

As discussed above, new development under the proposed General Plan would not be expected to result in physical changes that would substantially degrade the existing visual character or quality of the site and its surroundings. In addition, the proposed 2040 General Plan includes policies that are designed to protect and enhance the visual character and quality of the Plan Area. Moreover, development under the proposed General Plan would be subject to the City's design review process, which would ensure the new development is of high visual quality and is compatible with the surrounding environment. Consequently, the contribution of the proposed 2040 General Plan to the cumulative impact would be **less than considerable**, and this impact would be **less than significant**.

Mitigation Measure

None required.

Impact 3.1-6: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Light

The geographic context for the analysis of cumulative light impacts is cumulative development in the Eureka City limits and the City's SOI.

Night Sky Lighting Effects

Cumulative new development within the Plan Area, particularity within the aforementioned unincorporated Humboldt County lands east and south of the City limits where there is potential for additional development, could increase the ambient nighttime lighting levels in these areas where very little ambient lighting currently exists. However, future development in these areas would not be expected to be of a type, magnitude, or intensity (e.g., large-scale commercial) that would be anticipated to result in the creation of substantial new sources of light that could negatively affect nighttime views. As discussed above, while there could be a minor increase in ambient light in the Plan Area as a result of implementation of the proposed 2040 General Plan, because the Plan Area is already urbanized and subject to substantial amounts of existing nighttime ambient light, the increase in light that would be attributable to development under the General Plan would not significantly affect nighttime views of the sky. In addition, proposed 2040 General Plan Policy LU-1.13 minimizes obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary, and requires light for development to be directed downward to minimize spill-over onto adjacent properties and reduce vertical glare. Therefore, cumulative impacts associated with ambient nighttime lighting would be considered **less than significant**.

Spillover Light

The cumulative context for spillover light would be development adjacent to the Plan Area that could be subject to spillover light effects from new development under the proposed General Plan. Spillover light is a site-specific effect that could be compounded by other projects in the immediate vicinity of the affected property. As discussed above, proposed 2040 General Plan Policy LU-1.13 minimizes obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary, and requires light for development to be directed downward to minimize spill-over onto adjacent properties and reduce vertical glare. In addition, lighting issues, including adverse effects of excessive or spillover light, are considerations that are by the City through the design review process. Development in the Plan Area would be subject City design review process, which addresses excessive or spillover, ensuring that cumulative spillover light impacts would be a **less than significant**.

Glare

The cumulative context for glare effects is the area surrounding the Plan Area potentially affected by glare produced from development under the proposed General Plan, including areas to the south and east of the Plan Area where there are existing residential uses and where potential future residential uses could occur. As previously discussed, development under the proposed General Plan would be subject to the City of Eureka design review process, which reviews projects for compatibility with surrounding uses, ensuring that glare would be minimized. Consequently, the contribution of the proposed General Plan to the cumulative impact would be **less than considerable**, and this impact would be **less than significant**.

Mitigation Measure

None required.

3.2 Agricultural and Timber Resources

This section of the EIR examines the effects of implementation of the Eureka 2040 General Plan (proposed project) on agricultural and timber resources and operations in the Plan Area and on nearby lands. It analyzes the potential conversion of farm and timber lands to non-agricultural/ timber uses, the potential conflicts with existing zoning of agricultural and timber uses or land under Williamson Act contract, and the potential conflicts with City goals and policies that may lead to substantial physical effects on the environment. Analysis of impacts to agricultural lands and agricultural operations includes potential impacts to aquaculture operations.

During the Notice of Preparation (NOP) comment period, no comments were provided in direct relation to Agricultural and Timber Resources.

3.2.1 Environmental Setting

Agricultural Resources

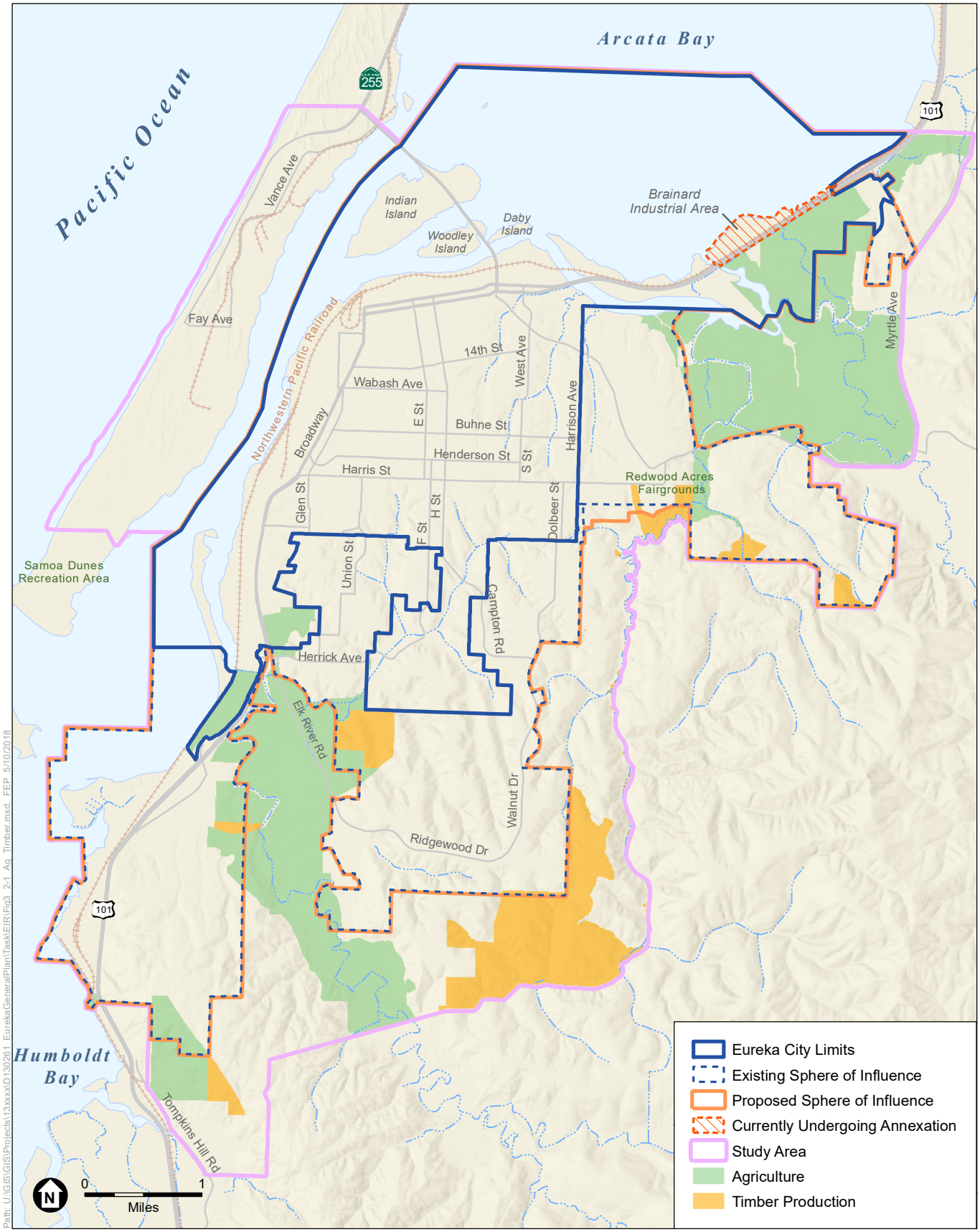
With ample precipitation, fertile soils, and the mild coastal climate of the Humboldt County region, the Eureka area has highly productive agricultural lands which remain an important component of both the local economy and character of the region. The agricultural soils in the region can be generally categorized as alluvial or upland soils, which are replenished by seasonal flooding and sustain both forests and open rangelands.

This analysis considers the General Plan's Study Area, which includes lands within the City limits, the City's Sphere of Influence (SOI), and peripheral areas that could be influenced by the City's planning activities. **Figure 3.2-1**, below, shows these areas. The Study Area is located within Humboldt County, from which the majority of agricultural revenues are generated from livestock products, livestock, timber production, and nursery stock.[1] Regional timber production is described under Timber Resources, below. Livestock production in Humboldt County is dominated by beef cattle, with approximately 51,000 head in 2016, a decrease of approximately 3,000 head from the prior year.[2] Beef cattle and calves accounted for approximately 57 percent of the County's total livestock revenue in 2016, generating $51,638,000 in revenues. The second largest generator of livestock revenue in the County was dairy products, $26,820,000, approximately 30 percent of total revenues for 2016.

Livestock products generated within Humboldt County are mainly cows' milk, generated as conventional and organic market milk, conventional manufacturing milk, and manufacturing milk. In 2016, cow milk products accounted for approximately 75 percent of revenues generated from livestock products. Cheese products accounted for another 24 percent of total revenue from livestock products. Other types of livestock products generated within the County include wool, apiary, dairy goat products, and goat milk.

1 County of Humboldt Department of Agriculture/Weights & Measures, 2017. *2016 Crop Report*. October 18, 2017. p. 2.

2 County of Humboldt Department of Agriculture/Weights & Measures, 2017. *2016 Crop Report*. October 18, 2017.



SOURCE: City of Eureka, 2018; USDA, 2017; ESA, 2018

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Figure 3.2-1
Agriculture and Timber Production

Nursery production in Humboldt County includes cut flowers and decoratives, bedding plants, ornamentals, and forest nursery tree production, and accounted for approximately $55,945,000 in revenues in 2016 (17 percent of total agricultural revenues).

As of 2014, there were approximately 5,486 acres of agricultural land in the Study Area, with 563 acres located within the City of Eureka. Figure 3.2-1 shows the location of agricultural and timber lands within the Study Area. Much of this land is concentrated near the former tideland areas south and northeast of the Eureka terrace, which is used primarily for grazing. These farmed wetlands provide summer grazing for beef cattle. The Elk River Valley includes dairy operations which require year-round grazing or the production or purchase of hay for winter feed. Small commercial orchards can also be found in the Mitchell Heights and Upper Elk Valley areas. Commercial "boarding" for domestic livestock animals is also found on the fringes of developed communities in the Study Area.

Parcels within the City limits designated under the current General Plan as "Agriculture" are contained within three noncontiguous areas of the City, and include: (1) a more than 350-acre area to the south of US-101 on the northeast side of the City near Murray Field; (2) a more than 60-acre area immediately east of US-101 and north of Herrick Avenue in the southwest portion of the City; and (3) an approximately 100-acre area immediately west of US-101, south of the Elk River. The later area is currently transitioning from grazing uses to restoration as a tidal wetland.

Williamson Act Contracts

Much of the agricultural land in Humboldt County is afforded protections from conversion through the Williamson Act, which created a tax incentive to property owners for keeping their land in agricultural production. The Humboldt County Board of Supervisors (BOS) first adopted guidelines for the Williamson Act locally on June 24, 1969, and currently there are just over 280,000 acres in the program in 155 established preserves and 1,450 parcels throughout Humboldt County.

There are no lands within the City of Eureka under active Williamson Act contract, though several parcels in adjoining areas of the larger Study Area are under contract. These parcels consist of grazing lands along the lower Elk River south of the City limits and another area of grazing and crop lands southeast of Murray Field. Both of these areas are located in unincorporated portions of Humboldt County.

Farmland Classification

Farmland is divided into classifications for the purpose of identifying the location and extent of soils that are best suited to food, feed, fiber, forage, and oilseed crops. Farmland classification identifies agricultural lands as Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, or Unique Farmland. Under CEQA, Important Farmland is comprised of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. The Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) identifies agricultural land that is lost, as well as gained, during two-year periods. Agricultural land is quantified based upon acreage and classified as Prime, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land.

The FMMP develops Important Farmland maps for individual counties, but does not develop maps for all counties within the state, and Humboldt County has not been mapped as part of the FMMP program. For areas in which FMMP data is not available, soil characteristics can be used to identify the suitability of lands for agricultural production. Within the Eureka City limits, however, most of the land area is urbanized, and is therefore precluded from agricultural production. Other areas within the City, such as the City's gulches and hillside areas, are forested or otherwise vegetated, or present steep slopes that make agricultural use impractical. This leaves only the three areas of grazing lands in the northeast and southwest portions of the City, as has been previously described. These three areas present the only portions of the City where agricultural production is suitable, and the agricultural activity currently occurring in those locations is limited to grazing.

Summary

As described above, the City of Eureka has approximately 563.5 acres of land under the Agricultural zoning designation within the City limits, most of which are currently in some level of agricultural production, typically grazing. No agricultural lands within the City are under an existing Williamson Act contract.

Aquaculture Resources

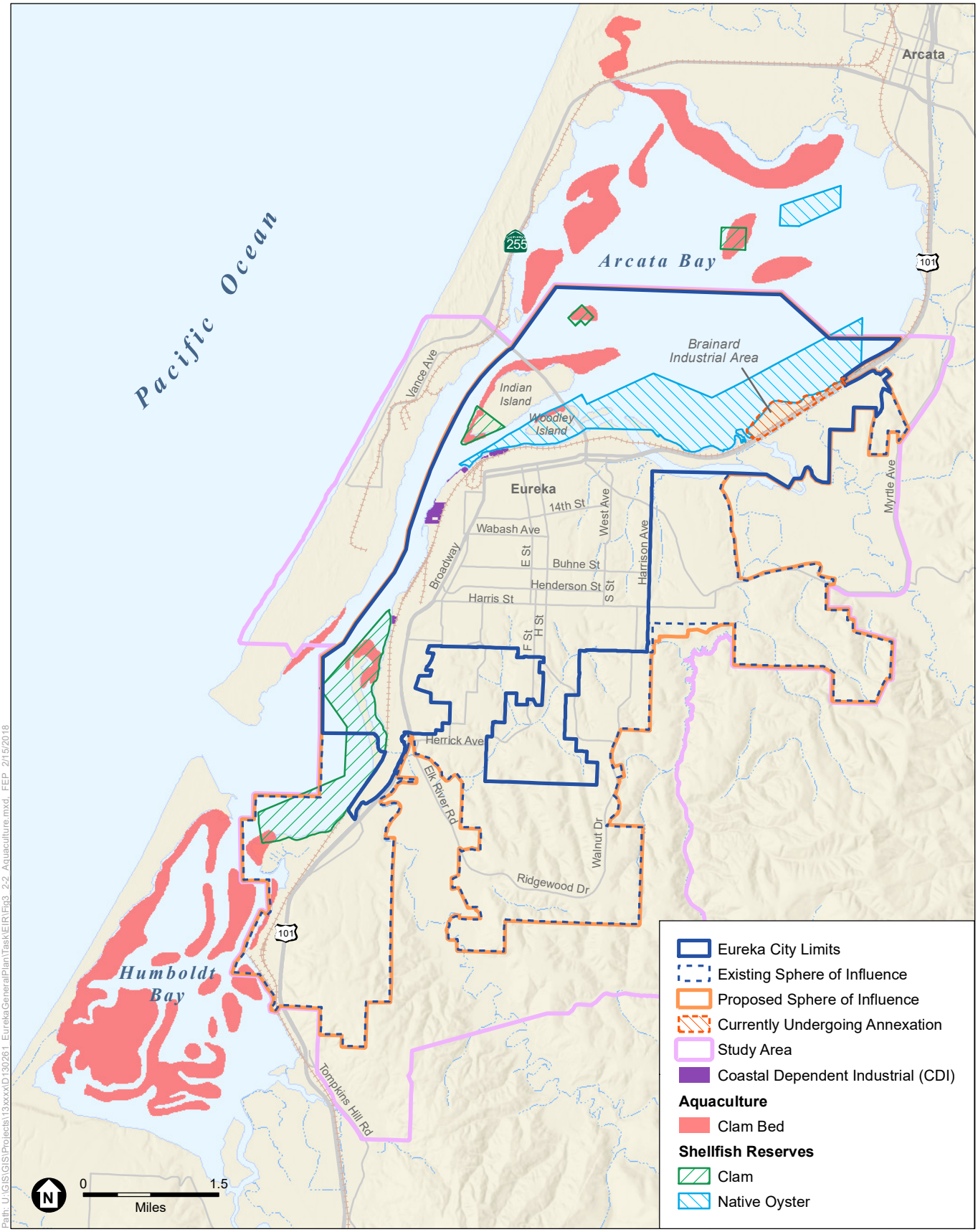
Aquaculture may be defined as a form of agriculture that uses an aquatic medium to produce food, usually animals, which would otherwise be acquired by harvesting wild organisms. Also called "Mariculture", aquaculture is a prevalent industry in Humboldt Bay, due to the presence of good water quality, a healthy estuary, and sheltered tidal substrates.[3] The aquaculture industry within Humboldt Bay consists of shellfish farming, primarily oysters but also clams; both seed and adult oysters are produced. Humboldt Bay supports a large pacific oyster farming industry, mainly located in the northern Arcata Bay with smaller independent operations near Eureka and Samoa (see **Figure 3.2-2**). Active aquaculture operations are present throughout the northern portion of Humboldt Bay in mudflats and areas of continuous or patchy eelgrass.

Aquaculture for oysters and clams accounted for approximately 11 percent of total agricultural revenues for Humboldt County in 2016, at $10,280,000.[4] Approximately 300 acres within the County of Humboldt are used for the purpose of aquaculture. Most active sites are located within Humboldt Bay, some within the boundaries of the Study Area.

Coast Seafoods Incorporated, the largest aquaculture company on Humboldt Bay, uses Humboldt Bay for oyster and clam cultivation, providing fresh and canned fish to local and foreign markets. A number of smaller aquaculture companies are in operation throughout Arcata Bay. Aquaculture operators in Humboldt Bay generally require dock facilities, access to rapid, land-based transport, and dry working areas for the processing and transport of aquaculture goods. For these reasons, the aquaculture industry on Humboldt Bay has a dry-land support component that must be considered when analyzing impacts to aquaculture resources. Existing facilities that support

3 Humboldt Bay Harbor Recreation & Conservation District, 2007. *Humboldt Bay Management Plan; Volume 1; The Plan*. May 2007. p. 83.

4 County of Humboldt Department of Agriculture/Weights & Measures, 2017. *2016 Crop Report*. October 18, 2017. p. 5.



SOURCE: City of Eureka, 2018; ESA, 2018

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Figure 3.2-2

Aquaculture

aquaculture operations in Humboldt Bay are located along the waterfront within the City of Eureka, in areas under the Coastal Dependent Industrial (CDI) and Water Development (WD) General Plan land use designations.

Timber Resources

Appendix G of the State CEQA Guidelines defines forestland as land that can support 10 percent native tree cover and woodland vegetation of any species – including hardwoods – under natural conditions, and that allows for management of one or more forest resource – including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits (California Public Resources Code 12220[g]).

With forested lands covering over 80 percent of its total land area, Humboldt County is the largest producer of timber products in the State. As the value of harvested timber has increased in recent years, there has been a dramatic increase in the overall agricultural value of timber resources.

The City of Eureka contains forested areas in southeastern areas of the City, which are contiguous with forested areas in unincorporated Humboldt County. These areas are zoned for Low Density Residential uses. As shown in Figure 3.2-1, the Study Area contains areas designated for timber production, known as Timber Production Zones (TPZ), as designated under the Forest Taxation Reform Act. The TPZ designation indicates that designated land is committed to timber growing and compatible uses, thus forming the long-term productive base of the State's privately owned forestland. The Eureka TPZ consists of redwood forests, with redwoods interspersed with a variety of other conifers and red alder. Timber production in the Study Area primarily occurs in the McKay Tract area south and east of the City, which has been continuously used for commercial tree crops since the beginning of the timber industry in Humboldt County. There are no areas designated as TPZ within the Eureka City limits.

In coordination with the City of Eureka, the County of Humboldt acquired a portion of the McKay Tract, in proximity to the Eureka City limits and within a portion of the Study Area, to be managed as a community forest. The McKay Tract Community Forest will provide public access and recreation, watershed and resource protection, and sustainable timber harvest for Eureka and other nearby communities. The land is located west of Ryan Creek, a highly productive Coho salmon stream that feeds into Freshwater Creek and Humboldt Bay. Due to some restrictions along the watercourses and near a known Northern Spotted Owl activity center, only 786 acres of the land may potentially be utilized for harvest.

3.2.2 Regulatory Overview

Federal

There are no federal regulations that pertain to agricultural and forestry resources that are applicable to the proposed project.

State

Agricultural Resources

Williamson Act

The California Land Conservation Act of 1965 (Government Code Section 51200), also known as the Williamson Act, recognizes the importance of agricultural land as an economic resource. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive reduced property tax assessments because they are based upon farming and open space uses as opposed to full market value.

Williamson Act contracts remain in effect for 10 years. Contracts are automatically renewed every 10 years, unless the property owner files for a notice of nonrenewal with the County. The contracts may not be cancelled, except for a limited number of public purposes and a cancellation fee could be assessed. The filing of a notice of nonrenewal triggers a nine-year dissolution period on the contract. When Williamson Act contract lands are annexed to a city, that city assumes to the administration of the contract, which typically remains in force until it is cancelled or expires.

Right to Farm

California law provides that an agricultural activity which has been in operation for three years or more cannot become a nuisance due to changed circumstances, including new residential development, which occurs near the farming operation, provided that the farm was not a nuisance when it began. This provision is codified in Section 3482.5 of the Civil Code, and supersedes contrary local ordinances and regulations. Also under state law, any homes that are sold within one mile of land designated on the County's "Important Farmland Map" must contain a deed disclosure notifying the purchaser of the limitations on nuisance claims provided by the Right to Farm law (Civil Code Sec 1103.4).

Public Resources Code (CEQA) Section 21060.1

Under CEQA, agricultural land is defined as follows:

1. "Agricultural land" means prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture land inventory and monitoring criteria, as modified for California.

2. In those areas of the state where lands have not been surveyed for the classifications specified by subdivision (a), "agricultural land" means land that meets the requirements of "prime agricultural land" as defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code. (Public Resources Code (PRC) Section 21060.1.)

Local

City of Eureka 1997 General Plan

The City's 1997 General Plan contains policies and implementation measures relevant to agricultural and timber resources. Specifically, the 1997 General Plan includes policies that identify, protect, and enhance agricultural and timber resources that are unique to the area. These types of resources could be extended to include aquacultural and fisheries resources, so policies

that protect or enhance those resources and the economic activities that are reliant upon them are also relevant to this discussion. Upon approval of the proposed Eureka 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded. Goals and policies, from the existing 1997 General Plan that are currently relevant to agricultural and timber resources are listed below.

Land Use and Development Framework

Goal 1.A: To establish and maintain a land use pattern and mix of development in the Eureka area that protects residential neighborhoods, promotes economic choices and expansion, facilitates logical and cost-effective service extensions, and protects valuable natural and ecological resources.

Policies

1.A.4: To promote the public safety, health, and welfare, and to protect private and public property, to assure the long-term productivity and economic vitality of coastal resources, and to conserve and restore the natural environment, the City shall protect the ecological balance of the coastal zone and prevent its deterioration and destruction.

1.A.5: Within the coastal zone, the City shall ensure that coastal-dependent developments have priority over other developments on or near the shoreline. Except as provided elsewhere in this General Plan, coastal-dependent development shall not be sited in a wetland. Coastal-related developments shall generally be accommodated proximate to the coastal-dependent uses they support.

1.A.6: The City shall continue to work with the Humboldt Bay Harbor, Recreation, and Conservation District to implement the projects described in the City's *Eureka Waterfront Revitalization Program* and listed below:

a) Establishment of a comprehensive wetland management program that includes all of Eureka's restored and natural wetland areas.

b) Implementation of the PALCO Marsh Enhancement Plan.

c) Construction of a public access vista point at the foot of Truesdale Street.

d) Reconstruction of a public access vista point near the foot of C Street.

e) Design and construction of a public berthing facility in Inner Reach near the Adorni Center.

f) Development of a multi-use building between C and F Streets to house a Fisherman's-Farmer's Market and retail stores.

g) Development of Fisherman's Parcel for fishing fleet activities.

h) Rehabilitation of the existing small boat basin, dredging and expansion of the Humboldt Yacht Club, and development of a fishing industry support facility.

i) Completion of a waterfront bicycle/pedestrian trail from K Street to Del Norte Street.

j) Development of a Wetland Mitigation Bank as a comprehensive tool for mitigating the loss of wetlands to development.

k) Development of a facility for the Humboldt Bay Rowers Association near the Adorni Center.

Goal 1.B: To create a compact, pedestrian-oriented, economically robust central Core Area that provides a clear geographic focus for attracting visitors and residents and for increasing private sector investment.

Policies

1.B.1: The City shall promote the development of a compact Core Area of concentrated commercial, residential, fishing-related, civic, cultural, and recreational activities by unifying parts of the three historical central "districts" (i.e., Old Town, Downtown, and the Waterfront).

1.B.2: The City shall actively encourage, support, and provide incentives, where feasible, for the types of development it prefers in the Core Area, including the following:

a) Mixed-use projects.

b) Housing in upper stories of buildings.

c) Professional offices in upper stories of buildings.

d) Projects that reinforce viable existing uses, such as fisheries.

e) Projects that reinforce the identity of the Core Area.

Goal 1.D: To revitalize the Core Area waterfront, enhancing coastal-related tourism and recreation, while maintaining the economic base and employment provided by the fishing industry.

Policies

1.D.3: The City shall promote the continued operation of existing fisheries-related industry throughout the Core Area waterfront.

1.D.4: The City shall encourage expansion of the fisheries industry west of C street in the Core Area.

Commercial Development

Goal 1.L: To ensure an adequate supply of commercial land for and promote the development of commercial uses to meet the present and future needs of Eureka residents and visitors and to maintain economic vitality.

Policies

1.L.11: The City shall protect and, where feasible, upgrade facilities serving the commercial fishing and recreational boating industries. Existing commercial fishing and recreational boating space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. New recreational boating facilities shall, to the maximum extent feasible, be designed and located so as not to interfere with the needs of the commercial fishing industry.

Industrial Development

Goal 1.M: To ensure an adequate supply of industrial land for and promote the development of industrial uses to meet the present and future needs of Eureka and to maintain economic vitality.

Policies

1.M.3: The City shall support the retention of existing and establishment of new fishing facilities related uses in the area north of the railroad tracks between Commercial Street and C Street in the Core Area. The City shall encourage new development in the area that reinforces the essentially industrial character of the area and reduces potential land use conflicts and speculative inflation of land values.

1.M.4: The City shall promote the development of a modern multiple-purpose dock a Dock B that would combine a cruise ship terminal with a break-bulk/container cargo terminal and fishing facilities.

1.M.7: The City shall encourage coastal-dependent industrial facilities to locate or expand within existing sites. Non-coastal-dependent uses located along the waterfront shall, if feasible, be relocated to other more appropriate areas within the city.

Water Transportation

Goal 3.G: To support the water transportation needs of commercial fishing and recreational boating operations.

Policies

3.G.1: The City shall protect and, where feasible, upgrade facilities serving the commercial fishing and recreational boating industries. Existing commercial fishing and recreational boating space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, to the maximum extent feasible, be designed and located so as not to interfere with the needs of the commercial fishing industry.

3.G.3: The City shall participate in the reconstruction for the Landing dock near the foot of C Street.

3.G.5: The City shall participate in the development of Fisherman's Parcel for fishing fleet activities.

3.G.6: The City shall participate in the rehabilitation of the existing small boat basin, dredging and expansion of the Humboldt Yacht Club, and development of a fishing industry support facility.

Public Facilities and Services

General Public Facilities and Services

Goal 4.A: To ensure the effective and efficient provision of public facilities and services for existing and new development.

Policies

4.A.3: The City shall require that all land designated for urban development be served by adequate water and other utilities necessary for health, safety, and welfare of citizens and property. Conversely, the City shall not provide urban utilities to areas that are not designated for urban development, particularly agricultural areas, wetland areas, forest lands, and areas with unsuitable topography.

4.A.7: Within the coastal Zone, the City shall prohibit the extension of urban services (sewer and water) into areas with Open Space designations (i.e., Agricultural,

Timberland, Natural Resources, Water—Development, and Water—Conservation), except that the water system intertie line in the southwestern part of the city shall be permitted to extend into these areas, provided no connections for private users shall be allowed.

Water Supply and Delivery

Goal 4.B: To ensure the availability of an adequate and safe water supply and the maintenance of high quality water for residents of and visitors to Eureka.

Policies

4.B.1: To the extent feasible, within the Coastal Zone, the City shall preserve water system capacity needed for priority uses. These uses and their order of priority are as follows:

a) Coastal-dependent uses;

b) Essential public services;

c) Basic industries vital to the economic health of the region, state or nation;

d) Public recreation;

e) Commercial recreation; and

f) Visitor-serving uses.

Natural Resources

Aquatic Resources and Marine, Wetland, and Riparian Habitat

Goal 6.A: To protect and enhance the natural qualities of the Eureka area's aquatic resources and to preserve the area's valuable marine, wetland, and riparian habitat.

Policies

6.A.1: The City shall maintain, enhance, and, where feasible, restore valuable aquatic resources, with special protection given to areas and species of special biological or economic significance. The City shall require that uses of the marine environment are carried out in the manner that will sustain the biological productivity of coastal waters and that will maintain health populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

6.A.6: The City declares the following to be environmentally sensitive habitat areas within the Coastal Zone:

a) Rivers, creeks, sloughs, gulches and associated riparian habitats, including but not limited to Eureka Slough, Fay Slough, Cut-Off Slough, Freshwater Slough, Cooper Slough, Second Slough, Third Slough, Martin Slough, Ryan Slough, Swain Slough, and Elk River.

b) Wetlands and estuaries, including that portion of Humboldt Bay within the City's jurisdiction, riparian areas, and vegetated dunes.

c) Indian Island, Daby Island, and the Woodley Island wildlife area.

d) Other unique habitat areas, such as water bird rookeries, and habitat for all rare or endangered species on state or federal lists.

e) Grazed or farmed wetlands (i.e., diked former tidelands).

6.A.14: Consistent with all other applicable policies of this General Plan, the City shall limit development or uses within wetlands that are neither farmed nor grazed, or within estuaries, to the following:

a) Port facilities.

b) Energy facilities.

c) Coastal-dependent industrial facilities, including commercial fishing facilities.

d) Maintenance of existing or restoration of previously dredged depths in navigation channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

e) Incidental public service purposes which temporarily impact the resources of the area, such as burying cables or pipes, inspection of piers, and maintenance of existing intake and outfall lines.

f) Restoration projects.

g) Nature study, aquaculture, or similar resource-dependent activities.

h) New or expanded boating facilities in estuaries, consistent with the demand for such facilities.

i) Placement of structural piling for public recreational piers that provide public access and recreational opportunities.

6.A.15: The City shall limit uses and development in grazed or farmed wetlands to the following:

a) Agricultural operations limited to accessory structures, apiaries, field and truck crops, livestock raising, greenhouses (provided they are not located on slab foundations and crops are grown in the existing soil on site), and orchards;

b) Farm-related structures, including barns, sheds, and farmer-occupied housing, necessary for the performance of agricultural operations. Such structures may be located on an existing grazed or farmed wetland parcel only if no alternative upland location is available for such purpose and the structured are sited and designed to minimize adverse environmental effects on the farmed wetland. No more than one permanent residential structure per parcel shall be allowed.

c) Restoration projects, including the PALCO on-site restoration and enhancement program.

d) Nature study, aquaculture, and similar resource-dependent activities; and,

e) Incidental public service purposes which may temporarily impact the resources of the area, such as burying cables or pipes.

6.A.16: Consistent with all other applicable policies of this General Plan, the City shall limit uses within open coastal waters to the following:

a) Port facilities.

b) Energy facilities.

c) Coastal-dependent industrial facilities, including commercial fishing facilities.

d) Maintenance of existing or restoration of previously dredged depths in navigation channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

e) Incidental public service purposes which temporarily impact the resources of the area, such as burying cables or pipes, inspection of piers, and maintenance of existing intake and outfall lines.

f) Restoration projects.

g) Nature study, aquaculture, or similar resource-dependent activities.

h) New or expanded boating facilities.

i) Placement of structural piling for public recreational piers that provide public access and recreational opportunities.

6.A.18: The City may permit new fill for repair and maintenance purposes on lands adjacent to the previously filled northern waterfront provided that it is consistent with other General Plan policies and where all of the following apply:

a) Fill will be placed in previously filled areas which have been subject to erosion;

b) Fill will not be placed beyond the existing bulkhead line;

c) Fill is necessary to protect existing development, coastal-dependent uses, or redeveloped areas from erosion;

d) Fill will not interfere with commercial fishing activities and facilities; and

e) Placement of the fill is consistent with the coastal public access policies of the General Plan.

Agricultural Preservation

Goal 6.B: To protect agricultural lands for their resource, aesthetic, and economic values.

Policies

6.B.1: The City shall not approve non-agricultural development on agricultural lands with Class I or Class II soils within the Planning Area.

6.B.2: The City shall require the retention in agricultural use of agricultural lands within the Coastal Zone with soils other than Classes I or II in agricultural use, except under the following conditions:

a) Continued or renewed agricultural use is demonstrated to be infeasible,

b) Conversion to urban uses would locate development within, contiguous with, or in close proximity to, existing developed areas, or

c) Farmed wetlands are proposed and funded through a wetland management and restoration program for restoration of resource-dependent activities.

6.B.3: The City shall limit uses in grazed or farmed wetlands to the following:

a) Agricultural operations (except for greenhouses on slab foundations).

b) Farm-related structures (including barns, sheds, and farmer-occupied housing) necessary for the continuance of the agricultural operation. Such structures may be located on an existing grazed or farmed wetland parcel only if no alternative upland location is available for such purpose and the structures are sited and designed to minimize the adverse environmental effects on the farmed wetland. No more than one primary residential structure per parcel shall be allowed.

c) Restoration and enhancement projects.

d) Nature study, aquaculture, and similar resource-dependent activities.

e) Incidental public service purposes which may temporarily impact the resources of the area, such as burying cable and pipes.

6.B.4: The City shall ensure that expansion of public services and public service facilities, which is otherwise consistent with the provisions of this General Plan, does not reduce agricultural viability through increased assessment costs.

6.B.5: Consistent with the Coastal Act (California Resources Code Section 3025(a)), the City shall prohibit land division of existing agriculturally-designated land within the Coastal Zone, other than for leases for agricultural uses.

Conservation of Open Space

Goal 6.C: To support the continued protection of valuable open space resources in and around Eureka.

Policies

6.C.1: The City shall preserve vital portions of open-space areas around and within the city in their natural state in order to insure their maintenance as wildlife and fish habitat areas, natural drainage areas, agricultural areas, and areas of passive recreation and outdoor education.

Timber Resources

Goal 6.D: To conserve the Eureka area's timber resources, enhance the quality and diversity of forest ecosystems, reduce conflicts between forestry and other uses, and encourage a sustained yield of forest products.

Policies

6.D.1: The City shall work with Humboldt County and the California Department of Forestry and Fire Protection (CDF) to encourage the sustained productive use of timberland as a means of providing open space and conserving other natural resources.

6.D.2: The City shall work with Humboldt County and the California Department of Forestry and Fire Protection (CDF) to discourage development that conflicts with timberland management.

6.D.3: The City shall encourage and promote the productive use of wood waste generated in the Eureka area.

3.2.3 Analysis, Impacts, and Mitigation

Significance Criteria

The significance criteria for this analysis were developed from questions presented in Appendix G of the State CEQA Guidelines and based on the professional judgement of the City of Eureka and its consultants. The proposed Eureka 2040 General Plan would result in a significant impact if it would:

- Result in conversion of Important Farmland to non-agricultural use;
- Convert aquaculture-supporting land uses to non-aquaculture-supporting uses;
- Convert forest land to non-forest use;
- Conflict with a Williamson Act contract;
- Conflict with zoning for aquaculture-supporting uses
- Conflict with zoning for forest land or timber land;
- Indirectly result in the conversion of farmland to non-agricultural use;
- Indirectly result in the conversion of aquaculture-supporting land uses to non-aquaculture-supporting land uses; or
- Indirectly result in the conversion of forest land to non-forest use.

Methodology and Assumptions

Impacts on agricultural and timber resources are evaluated using the criteria listed above. Impacts are evaluated based on information included in the *Eureka General Plan Community Background Report* and the *Draft Eureka 2040 General Plan*.

Issues Not Discussed in Impacts

The proposed Eureka 2040 General Plan would not change the land-use designation of aquaculture-supporting uses, nor directly result in the conversion of such uses to non-aquaculture-supporting uses. For this reason, this impact is not discussed in the impacts section, below. However, potential conflicts with aquaculture-supporting uses or changes that may indirectly result in the conversion of aquaculture-supporting uses are discussed in Impact 3.2-1 and 3.2-2 respectively.

There are no land areas within the City of Eureka that are under Williamson Act contract. Therefore, implementation of the proposed Eureka 2040 General Plan would not result in an impact to lands under Williamson Act contract. The impact is not analyzed further in this section.

There are no lands designated as timber production zone (TPZ) lands within the City of Eureka. As described in the environmental setting, timber production areas exist within the larger Study area, adjacent to the southern boundary of the Eureka City limits, and in areas southeast of the City along the eastern boundary of the Study Area. Private property owners may harvest timber

on their properties, as permitted by federal, state and local regulations. Implementation of the proposed Eureka 2040 General Plan would not create policies that would inhibit the ability of private property owners to maintain or harvest the timber resources within their properties. The proposed plan would also include Policy AG-1.12, which would require the City to allow for the management of timberlands and hazardous trees, including removal of trees on residentially zoned properties, balanced with protection of timber as a resource. Therefore, implementation of the proposed Eureka 2040 General Plan would support the continued ability of private property owners to manage their forest resources and would not be anticipated to affect nearby TPZs. For these reasons, the impact is not analyzed further in this section.

Potential conflicts with agricultural, aquaculture-supporting, or timber land uses are analyzed in Section 3.9, *Land Use, Population, and Housing*. Aquaculture operations in Humboldt Bay rely on good water quality, among other elements. Impacts to water quality are evaluated in Section 3.8, *Hydrology and Water Quality*.

Proposed General Plan Policies

The following goals and policies from the proposed Eureka 2040 General Plan are specifically relevant to agricultural and timber resources within the Planning Area.

Goal LU-5: A wide range of quality industries that provides job opportunities for Eureka's residents.

Policy

LU-4.8: Fishing Industry. Support the fishing industry and other related compatible uses north of the railroad tracks between Commercial Street and C Street.

Goal E-3: Abundant opportunities to facilitate the establishment and expansion of key job and revenue generating uses within the City.

Policy

E-3.9: Regional Industrial Center. Strengthen Eureka's role as a regional manufacturing and industrial center for a variety of industries, such as niche manufacturing, water-based manufacturing, aquaculture, mariculture, seafood processing, artisan and craft manufacturing, and specialty food and beverage manufacturing.

Goal E-4: Abundance of thriving industries operating on well-utilized waterfront industrial lands and Bayfront facilities.

Policy

E-4.3: Cold Storage Facility. Work with the HBHRCD [Humboldt Bay Harbor, Recreation, and Conservation District], private landowners, and other stakeholders to secure a site and funding for the construction and operation of a commercial cold storage facility.

Goal E-5: Infrastructure to meet the needs of existing and future businesses and industries.

Policy

E5.5: Fishing and Boating Facilities. Protect and, where feasible, upgrade facilities serving the commercial fishing, recreational boating, and aquaculture industries. Provide the commercial fishing industry with priority use of maritime docking, fueling, storage and related infrastructure west of C Street and on Woodley Island.

Goal NR-3: Protection and enhancement of valuable open space resources in and around Eureka. (Modified 1997 General Plan Goal 6.C)

Policy

NR-3.1: Preserve Open Space. Preserve unique and valuable areas within and around the city that provide visual and physical relief to the cityscape, as well as critical habitat, natural drainage, farming opportunities, timber extraction, passive recreation or outdoor education in their natural state to define and enhance the city's distinct character and heritage.

Goal AG-1: Preservation of agricultural and timber lands and aquaculture and fishing operations within and surrounding Eureka, enhanced forest ecosystems, reduced land use conflicts, and a sustained yield of forest, agricultural, and fisheries products.

Policies

AG-1.1: Agricultural Lands within Coastal Zone. Protect and conserve designated agricultural lands within Eureka's Coastal Zone consistent with the California Coastal Act and the Local Coastal Program.

AG-1.3: Limit Aquaculture Impacts. Ensure that aquaculture does not adversely impact natural ecological processes or native wildlife or fisheries or their habitat in Humboldt Bay. Require applicants for new aquaculture uses to demonstrate that adequate precautions will be taken to prevent new adverse impacts to natural ecological processes.

AG-1.4: Fishing Operations. Promote development or rehabilitation of on-shore facilities that support the commercial fishing industry.

AG-1.6: Productive Use of Timberlands. Continue to work with Humboldt County and the California Department of Forestry and Fire Protection (CDF) to encourage the sustained productive use of timberland as a means of providing open space, conserving other natural resources, and preventing urban conversions. (Modified 1997 General Plan Policy 6.D.1)

AG-1.7: Discourage Conflicts with Timberland Management. Continue to work with Humboldt County and the California Department of Forestry and Fire Protection (CDF) to discourage development that conflicts with timberland management.

AG-1.8: McKay Tract Community Forest. Collaborate with Humboldt County to establish public transit, non-motorized access routes, and public access points to the McKay Tract Community Forest for use by Eureka's residents.

AG-1.9: Setbacks. Set back development adjacent to the McKay Tract Community Forest boundary to a sufficient distance to prevent exposure to potential hazards and to maintain forest integrity.

AG-1.10: Timber Harvest Plans. Request review of all Timber Harvest Plans (THP) within Eureka's sphere of influence in cooperation with California Department of Forestry. THPs should be reviewed for measures that protect water quality, control erosion and flooding, and preserve the forested character surrounding the City of Eureka.

AG-1.11: Wood Waste. Encourage and promote the productive use of wood waste generated in the Eureka area.

AG-1.12: Timber Management in Residential Zones. Allow management of timberlands and hazardous trees, including removal of trees on residentially zoned properties, balanced with protection of timber as a resource.

Goal M-8: Water transportation facilities that serve the needs of commercial fishing and recreational boating operations, short sea shipping, and a maritime highway.

Policy

M-8.1: Fishing Facilities. Protect and, where feasible, upgrade facilities serving and supporting the commercial fishing and recreational boating industries. Participate in the design and construction of new or improved facilities to support commercial fishing and recreational boating and seek funding sources to maintain and enhance existing facilities. Such facilities shall not be reduced unless the demand for the facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, to the maximum extent feasible, be designed and located so as not to interfere with the needs of the commercial fishing industry.

Impacts and Mitigation Measures

Impact 3.2-1: The proposed Eureka 2040 General Plan would not result in conversion of Important Farmland to non-agricultural use.

Under the proposed Eureka 2040 General Plan, all lands within the City that are currently designated for Agriculture would remain in that designation, with the exception of an approximately 94-acre area of currently-designated Agricultural grazing land in the southwest corner of the City. This area would be redesignated to a Natural Resource land use designation. Plans for the area include use of the site as a salt marsh restoration and recreational area, and it would be allowed to revert back to salt marsh, consistent with adjacent salt marsh areas near the Elk River estuary.

Plans for the restoration of this area to saltmarsh have been underway for many years. The area was originally a tidal wetland, but it became isolated from the adjacent Humboldt Bay when the Northwestern Pacific Railroad was constructed along the shoreline. The railway's construction necessitated the placement of a levee along the shoreline, which blocked tidal flows into the former wetlands. Over time, the area transitioned to occasional grazing uses, though the soils in the area provided for only marginal quantities of forage. For a time, the area was used as a site for disposal of sludge from the City's sewage treatment plant. In recent years, the aforementioned railroad levee was breached in several locations due to wave and flooding action, and the area is once again subject to regular salt water intrusion, which has further limited its utility for grazing. As such, the area has been included as part of a larger restoration effort within the Elk River Estuary, which is being undertaken by the City and a number of partnering agencies. The

redesignation of the area from Agriculture to Natural Resource is a recognition of this change in status, and is a part of the natural transition of the area back to its former use. Therefore, the proposed redesignation would not convert Important Farmland to non-agricultural use.

The proposed Eureka 2040 General Plan includes policies that encourage the continuation of existing agricultural operations within the City. Policy NR-3.1 calls for the City to preserve farming opportunities within the City. Policy AG-1.1 requires the City to protect and conserve designated agricultural lands within Eureka's Coastal Zone. In light of these policies and for the reasons described above, this impact would be **less than significant**.

Mitigation Measures

None required.

Impact 3.2-2: The proposed Eureka 2040 General Plan would not conflict with existing zoning for agriculture, aquaculture-supporting, or timber uses.

The proposed Eureka 2040 General Plan would implement a reduction in agricultural acreage relative to existing conditions and result in the conversion of agricultural lands to non-agricultural uses. As described in Impact 3.2-1, under the proposed Eureka 2040 General Plan, the land use designation for approximately 94 acres of existing agricultural land in the southwestern edge of the City, south of Pound Road and west of US-101, currently under the Agricultural designation, would be re-designated as a Natural Resource land use. Over time, this land would revert from agricultural/grazing uses to salt marsh habitat, consistent with the adjacent uses to the north. The change in land use would not be anticipated to preclude grazing on the site for the immediate future and would be more consistent with nearby land uses.

The proposed Eureka 2040 General Plan would support ongoing farming opportunities through Policy NR 3.1, *Preserve Open Space*, which requires the City to preserve unique and valuable areas within and around the City that provide farming opportunities. Policy AG-1.1, *Agricultural Lands Within Coastal Zone*, requires the City to protect and conserve designated agricultural lands within the City's coastal zone. However, the conversion of land from agricultural use to natural resource use, as described above, would be intended to improve the quality of natural habitat within the City. Impacts to natural habitat are analyzed in Section 3.4, *Biological Resources*, of this EIR.

As described above, the new land use plan for the proposed Eureka 2040 General Plan, would convert approximately 94 acres of land currently designated for agricultural uses to natural resource uses. However, that change in land use would be consistent with adjacent land uses. In addition, land use in proximity to existing agricultural zones in other areas of the City would remain consistent with existing uses. In addition, the proposed Eureka 2040 General Plan provides policies that encourage preservation of agricultural opportunities within the City. For this reason, the City does not anticipate that there would be a substantial conflict between agricultural zones and adjacent uses under the proposed Eureka 2040 General Plan. For these

reasons, there impact of implementation of the proposed Eureka 2040 General Plan would be **less than significant**.

Mitigation Measures

None required.

Impact 3.2-3: The proposed Eureka 2040 General Plan would not conflict with existing zoning for aquaculture-supporting uses.

As described in Section 3.2.1, Environmental Setting, aquaculture-supporting uses have been traditionally concentrated in areas under the Core Coastal-Dependent Industrial (C-CDI) and Costal Dependent Industrial (CDI) general plan land use designations. Under the proposed Eureka 2040 General Plan, existing areas under the C-CDI land use designation would continue to be designated as CDI. The large block of existing CDI uses along the northwest bay shore would be divided into smaller groupings of land use designations, including CDI, General Industrial (GI), Public/Quasi Public (PQP), Water Development (WD), and General Commercial (GC) land use designations. While land areas under the CDI designation would be reduced, existing aquaculture-supporting uses would remain under the CDI land use designation and underlying zoning. Zoning adjacent to aquaculture-supporting uses would include Bayfront Commercial, General Commercial, Industrial, Public/Quasi-Public, and Old Town Commercial.

The proposed Eureka 2040 General Plan includes policies that are designed to protect aquaculture operations within Humboldt Bay, including maintaining existing aquaculture-supporting facilities on dry land within City limits. Policy LU-5.8 and Policy E-3.9, *Regional Industrial Center*, directs the City to support the fishing industry and other related compatible uses in the area under the existing C-CDI land use designation. The proposed Eureka 2040 General Plan would support aquaculture operations with policies designed to maintain, improve, and construct new supporting facilities. Policy E-4.3, *Cold Storage Facility*, would direct the City to work with the HBHRCD and private landowners to construct a commercial cold storage facility. Policy E-5.5, *Fishing and Boating Facilities*, calls for the protection and, where feasible, upgrading of facilities serving a number of aquatic uses, including aquaculture industries. Policy AG-1.4, *Fishing Operations*, would promote development or rehabilitation of on-shore facilities that support the commercial fishing industry. Policy M-8.1 calls for the City to protect and, where feasible, upgrade facilities serving and supporting the commercial fishing and recreational boating industries. The policy goes further to require such facilities not be reduced unless the demand for such facilities no longer exists or adequate substitute space has been provided. The above policies include protection and maintenance of existing operations and development of new facilities that support aquaculture operations in Humboldt Bay. For these reasons, implementation of the proposed Eureka 2040 General Plan would not be anticipated to conflict with existing zoning that supports aquaculture. Therefore, there would be **no impact** to aquaculture-supporting uses from conflicts with development under adjacent zoning, under the proposed Eureka 2040 General Plan.

Mitigation Measures

None required.

Impact 3.2-4: The proposed Eureka 2040 General Plan would not conflict with existing zoning for timber uses.

As described in the Environmental Setting, above, there are no forest areas within Eureka City limits. Figure 3.2-1 shows the location of timber production areas within the larger Study Area, including their locations, relative to the City limits. If development along the City boundary were to intensify, that development could conflict with nearby land zoned for timber production, to the south and southeast of the City. However, the proposed Eureka 2040 General Plan would not alter zoning or land use designations in the southeastern areas of the City, nearest to timber production areas. The General Plan would maintain the Low Density Residential (LDR) general plan land use designation in those areas of the City. Further, the areas of the City in close proximity to forest areas or areas designated for timber production by the County, are already built out for low density residential. Based on the conservative growth assumptions for the City, it is not anticipated that areas under the LDR land use designation would be subject to substantial redevelopment of existing developed parcels. In addition, any development in nearby LDR zones, pursuant to the proposed Eureka 2040 General Plan would not be anticipated to apply development pressure to forest lands.

The proposed Eureka 2040 General Plan includes policies that would support ongoing timber extraction and forest land preservation in the vicinity of the City of Eureka. The City would be required by Policy AG-1.7, *Discourage Conflicts with Timberland Management*, to work with the County and California Department of Forestry and Fire Protection to discourage development and conflicts with timberland management. Policy AG-1.9, *Setbacks*, would require the City to setback development adjacent to the McKay Tract Community Forest boundary. For the reasons described above and the proposed policies in support of timber lands and ongoing timber extraction, the proposed Eureka 2040 General Plan would have **no impact** attributable to conflicts with existing zoning for timber uses.

Mitigation Measures

None required.

Impact 3.2-5: Implementation of the proposed Eureka 2040 General Plan would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use, aquaculture-supporting uses to non-aquaculture-supporting uses, or conversion of forest land to non-forest use.

Agriculture

With the exception of the land converted to natural resource use, described in Impact 3.2-1, above, all other agricultural land uses would remain under the proposed Eureka 2040 General Plan. While implementation of the General Plan Update would add 1,886 new dwelling units and approximately 1.6 million square feet of non-residential development to the City of Eureka, that proposed development would not take place in agricultural use areas or in forest land or timber harvest areas. Under the proposed Eureka 2040 General Plan, all growth within the City would take place within existing urbanized zones, away from land-based agricultural and timber resources. For this reason, there would be **no impact** from the proposed Eureka 2040 General Plan to agricultural or timber uses, due to other changes to the existing environment, not previously analyzed under Impact 3.2-1.

Aquaculture

As discussed under Impact 3.2-2, the proposed Eureka 2040 General Plan would not directly convert aquaculture-supporting uses to other types of land uses. Existing aquaculture-supporting uses would remain under the CDI land use designation and underlying zoning. Zoning adjacent to aquaculture-supporting uses would be complimentary uses, including Bayfront Commercial, General Commercial, Industrial, Public/Quasi-Public, and Old Town Commercial. The changes that would be implemented in the preferred land use plan for the proposed Eureka 2040 General Plan are designed to focus infill development in vacant and underutilized sites. The land uses adjacent to the areas under CDI designations that support aquaculture operations are generally already developed and utilized in a manner consistent with the proposed General Plan Update. For this reason, it is not anticipated that physical changes in the environment associated with the proposed Eureka 2040 General Plan would take place in immediate proximity to aquaculture-supporting uses or would occur to such an extent as to cause the conversion of those uses to non-aquaculture-supporting uses.

The proposed Eureka 2040 General Plan further includes policies that are designed to protect aquaculture operations within Humboldt Bay, including maintaining aquaculture-supporting uses on dry land within City limits. Policy LU-5.8 and Policy E-3.9, *Regional Industrial Center*, directs the City to support the fishing industry and other related compatible uses in the area under the existing C-CDI land use designation. The proposed Eureka 2040 General Plan would support aquaculture operations with policies designed to maintain, improve, and construct new supporting facilities. Policy E-4.3, *Cold Storage Facility*, would direct the City to work with the HBHRCD and private landowners to construct a commercial cold storage facility. Policy E-5.5, *Fishing and Boating Facilities*, calls for the protection and, where feasible, upgrading of facilities serving a number of aquatic uses, including aquaculture industries. Policy AG-1.4, *Fishing Operations*, would promote development or rehabilitation of on-shore facilities that support the commercial fishing industry. Policy M-8.1, calls for the City to protect and, where feasible, upgrade facilities serving and supporting the commercial fishing and recreational boating industries. The policy

goes further to require such facilities not be reduced unless the demand for such facilities no longer exists or adequate substitute space has been provided. For these reasons, the City does not anticipate that implementation of the proposed Eureka 2040 General Plan would indirectly lead to the conversion of aquaculture-supporting uses to other unrelated uses. Therefore, this impact would be **less than significant**.

Mitigation Measures

None required.

Cumulative Impacts

The cumulative context for each threshold is presented in the impact discussions below.

Impact 3.2-6: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not result in conversion of Important Farmland to non-agricultural use.

The geographic context for the analysis of cumulative impacts to agricultural and timber resources varies by resource. The geographic context for the analysis of cumulative agricultural resource impacts is cumulative development in the City of Eureka (the Plan Area) and unincorporated Humboldt County (County). Within the County, agricultural uses are generally dispersed between Agricultural Grazing (AG) and Agricultural Exclusive (AE) County of Humboldt General Plan land use designations. Most productive agricultural acreage is located in low lying coastal areas, at the mouths of key waterways that flow into or near Humboldt Bay, mostly under the AE land use designation, in large contiguous areas. These areas include more than 40,000 acres to the south of Humboldt Bay along the Eel River watershed; 1,200 acres immediately south of the City of Eureka, contiguous with existing agricultural uses within the City; 1,800 acres immediately east of Eureka, contiguous with lands under the City's Agricultural land use designation; and 6,500 acres to the north of Humboldt Bay and west of Arcata, along the Mad River watershed, in an area commonly referred to as the "Bottoms". Altogether, the low-lying coastal region around Humboldt Bay contains approximately 50,000 acres of productive agricultural lands, the majority of which is dedicated to beef cattle and dairy production.

In the Draft EIR for the Humboldt County General Plan Update[5] the County determined that implementation of their General Plan would lead to a significant and unavoidable impact from the permanent conversion of agricultural lands to non-agricultural uses. The County determined that implementation of their General Plan would result in the re-designation of approximately 1,037 acres of prime agricultural lands in the unincorporated areas of Humboldt County, to either non-agricultural, public, or timber designations. These changes are mainly attributable to the need to recognize existing parks and open space use or habitat protection, primarily due to state ownership of those lands as part of their respective park and recreational areas. Nonetheless, the City concurs with the County's finding, that the conversion of more than 1,000 acres of prime agricultural lands to non-agricultural uses within the County is a significant impact.

5 County of Humboldt, 2017. *Humboldt County General Plan Update Revised Draft Environmental Impact Report* (SCH# 2007012089). April 19, 2017.

Implementation of the proposed Eureka 2040 General Plan, in combination with the reduction in agricultural acreage under the recently approved Humboldt County General Plan Update, would have a cumulatively significant impact on agricultural resources, by converting Important Farmland to non-agricultural uses.

As previously described in Impact 3.2-1, the proposed Eureka 2040 General Plan would redesignate approximately 94 acres of designated agricultural land to the Natural Resource land use designation. However, as described under Impact 3.2-1, the area to be redesignated is part of a larger salt marsh restoration project that would revert marginally suitable agricultural lands back to their former use. Therefore, the proposed redesignation would not convert Important Farmland to non-agricultural use, and the impact to Important Farmland from the proposed Eureka 2040 General Plan would **not be cumulatively considerable**.

Mitigation Measures

None required.

Impact 3.2-7: Implementation of the proposed Eureka 2040 General Plan would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of aquaculture-supporting uses to non-aquaculture-supporting uses.

The geographic context for the analysis of cumulative impact to aquaculture-supporting uses would include cumulative development in the City of Eureka (the Plan Area) and the larger Humboldt Bay and Coastal Zone areas. As described in the Environmental Setting, above, Humboldt Bay supports a large pacific oyster farming industry, primarily based in the northern Arcata Bay with smaller independent operations near Eureka and Samoa. Active aquaculture operations are present throughout northern Humboldt Bay in mudflats and areas of continuous or patchy eelgrass, with the greatest concentration of culture acreage located in patchy eelgrass. Permits for aquaculture operations in Arcata Bay are managed locally by the Humboldt Bay Harbor, Recreation & Conservation District (HBHRCD) and regulated by various state and federal agencies. During 2017, HBHRCD Certified the Final EIR for the Coast Seafoods Company's (Coast) Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project,[6] which would permit an additional 622 acres of intertidal culture area, in addition to the approximately 300 acres of shellfish culture, under Coast's previously existing permit. Coast's permit represents the largest permit area within Arcata Bay and represents an expansion of aquaculture operations in the Bay, relative to previous conditions. Within the Humboldt Coastal Zone, aquaculture-supporting uses are generally located within the C-CDI and CDI zones within the City of Eureka and at small boat facilities throughout the bay, for small operators. Due to the planned expansion of aquaculture operations in Humboldt Bay, it is not anticipated that aquaculture-supporting land uses throughout the bay would be subject to conversion to other, unrelated uses, and that expansion of such uses, while not anticipated, would be a more likely scenario.

6 Humboldt Bay Harbor, Recreation and Conservation District, 2017. *Certified Final EIR for the Coast Seafoods Company Humboldt Bay Shellfish Aquaculture Permit Renewal and Expansion Project (SCH# 2015082051).* February 28, 2017.

As described for Impact 3.2-4, above, the proposed Eureka 2040 General Plan would not directly convert aquaculture-supporting uses to other types of land uses. Existing aquaculture-supporting uses would remain under the CDI land use designation and underlying zoning. Zoning adjacent to aquaculture-supporting uses would be complimentary uses, including Bayfront Commercial, General Commercial, Industrial, Public/Quasi-Public, and Old Town Commercial. The changes that would be implemented in the preferred land use plan for the proposed Eureka 2040 General Plan are designed to focus infill development in vacant and underutilized sites. The land uses adjacent to the areas under CDI designation that support aquaculture operations, are generally already developed and utilized in a manner consistent with the proposed General Plan Update. For this reason, it is not anticipated physical changes in the environment that would occur pursuant to the proposed Eureka 2040 General Plan, would take place in immediate proximity to aquaculture-supporting uses or would occur to such an extent as to cause the conversion of those uses to non-aquaculture-supporting uses.

The proposed Eureka 2040 General Plan further includes policies that are designed to protect aquaculture operations within Humboldt Bay, including maintaining aquaculture-supporting uses on dry land within City limits. Policy LU-5.8 and Policy E-3.9, *Regional Industrial Center*, directs the City to support the fishing industry and other related compatible uses in the area under the existing C-CDI land use designation. The proposed Eureka 2040 General Plan would support aquaculture operations with policies designed to maintain, improve, and construct new supporting facilities. Policy E-4.3, *Cold Storage Facility*, would direct the City to work with the HBHRCD and private landowners to construct a commercial cold storage facility. Policy E-5.5, *Fishing and Boating Facilities*, calls for the protection and, where feasible, upgrading of facilities serving a number of aquatic uses, including aquaculture industries. Policy AG-1.4, *Fishing Operations*, would promote development or rehabilitation of on-shore facilities that support the commercial fishing industry. Policy M-8.1, calls for the City to protect and, where feasible, upgrade facilities serving and supporting the commercial fishing and recreational boating industries. The policy goes further to require these facilities not be reduced unless the demand for such facilities no longer exists or adequate substitute space has been provided. For these reasons, the City does not anticipate that implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would implement changes to the environment that would lead to the conversion of aquaculture-supporting uses to other unrelated uses. Therefore, this impact would be **less than significant**.

Mitigation Measures

None required.

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3.3 Air Quality and Greenhouse Gas Emissions

This section provides background information regarding air quality and greenhouse gases (GHG) within the Plan Area, the regulations and programs that relate to air quality protection and greenhouse gas reduction, and an assessment of the potential impacts of implementing the proposed 2040 General Plan. This section also assesses the potential air quality and GHG emissions and climate change effects of construction and operation of projects implemented according to the proposed 2040 General Plan, and identifies potentially feasible mitigation measures where appropriate. An analysis of energy impacts is also provided in this section.

No comments pertaining to air quality and greenhouse gas emissions were submitted in response to the NOP.

In addition to the *Eureka General Plan Community Background Report*[1] and the *Draft Eureka 2040 General Plan*,[2] the analysis included in this section was developed based on project-specific operational features, traffic information provided by the traffic consultant, and information from the North Coast Unified Air Quality Management District (NCUAQMD) and the California Air Resources Board (CARB).

3.3.1 Environmental Setting

Air Quality

Climate and Meteorology

Air quality is affected by both the rate and location of pollutant emissions and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

The City of Eureka lies within the North Coast Air Basin (NCAB), which includes all of Humboldt, Del Norte, Mendocino, and Trinity Counties, and the northern portion of Sonoma County. Eureka is located on the northern California coast, generally characterized by cool summers with frequent fog and mild winters with substantial rain. The ocean helps to moderate temperatures year round, with the average temperature in Eureka between 48 and 50 degrees Fahrenheit in the winter and between 55 and 57 degrees in the summer. The predominant winds in Eureka are from the north-northwest at an average speed of 8 to 10 miles per hour. Due to the location along the coast and the relatively low temperatures, the potential for air pollutant accumulation in Eureka is low.

Air Pollutants of Concern

Air pollutants of concern within the NCAB include certain criteria air pollutants and toxic air contaminants (TACs).

1 City of Eureka. 2015. *Eureka General Plan Community Background Report.*
2 City of Eureka. 2017. *Draft Eureka 2040 General Plan.*

Criteria Air Pollutants

As required by the federal Clean Air Act (FCAA) passed in 1970, the U.S. EPA has identified six criteria air pollutants that are pervasive in urban environments, and for which state and national health-based ambient air quality standards have been established. The U.S. EPA calls these pollutants "criteria air pollutants" because the agency has regulated them by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. Ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter, and lead are the six criteria air pollutants. Notably, particulate matter is measured in two size ranges: PM_{10} for particles less than 10 microns in diameter, and $PM_{2.5}$ for particles less than 2.5 microns in diameter.

The pollutant of greatest concern in the region is particulate matter, PM_{10}.

Particulate Matter (PM_{10} and $PM_{2.5}$). PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Some sources of particulate matter, such as wood burning in fireplaces, demolition, and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. 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 can also damage materials and reduce visibility. Large dust particles (diameter greater than 10 microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance rather than as a health hazard. The remaining fraction, PM_{10} and $PM_{2.5}$, are a health concern particularly at levels above the federal and state ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus, are able to penetrate to the deepest parts of the lungs. Scientific studies have suggested links between fine particulate matter and numerous health problems including asthma, bronchitis, acute and chronic respiratory symptoms such as shortness of breath and painful breathing. Recent studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Children are more susceptible to the health risks of PM_{10} and $PM_{2.5}$ because their immune and respiratory systems are still developing.

Other Criteria Pollutants. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG), also sometimes referred to as volatile organic compounds (VOC) by some regulating agencies, and NOx. The main sources of ROG and NOx, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

CO (Carbon Monoxide) is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce

angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. CO measurements and modeling have not been a priority in most California air districts due to meeting state and federal standards.

NO_2 (Nitrogen dioxide) is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels.

SO_2 (Sulfur dioxide) is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease.

Lead levels in the air have decreased substantially since leaded gasoline was eliminated. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California.

Toxic Air Contaminants

TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic and/or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, diesel engines, dry cleaners, industrial operations, and painting operations. TACs are regulated differently than criteria air pollutants at both federal and state levels. As listed in CARB's Facility Search Tool, there are 82 stationary sources of TACs in the City of Eureka (as of 2015), of which 34 are gas stations, print shops, auto body shops, or dry cleaners.[3]

CARB identified diesel particulate matter (DPM) as a toxic air contaminant in 1998, primarily based on evidence demonstrating cancer effects in humans. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways and rail lines with diesel locomotive operations. In addition to stationary source (such as diesel-fueled emergency generators) or construction equipment engines, the two major sources of DPM in Eureka are from diesel fueled on-road vehicles and railroad freight trains.

Asbestos is also a TAC of concern. Asbestos is a fibrous mineral, which is both naturally occurring in ultramafic rock (a rock type commonly found in California) and used as a processed component of building materials. Because asbestos has been proven to cause serious adverse health effects, including asbestosis and lung cancer, it is strictly regulated based on its natural widespread occurrence and its use as a building material.

[3] California Air Resources Board (CARB). 2017. Facility Search Tool. Available: https://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php. Accessed February 7, 2018.

Existing Air Quality

The NCUAQMD and CARB operate a regional air quality monitoring network that measures the ambient concentrations of criteria air pollutants. Data from these stations record existing air pollutant levels. Probable future levels of air quality in the project area can generally be inferred from ambient air quality measurements conducted at the nearest monitoring stations by examining trends over time. There are two active air quality monitoring stations in or near Eureka, located at Jacobs Avenue and Humboldt Hill. An air quality monitor at 6th and I Streets in Eureka discontinued monitoring in 2013. **Table 3.3-1** shows the most recent five-year (2012 through 2016) trend summary of available monitoring data for ozone, PM_{10}, and $PM_{2.5}$ recorded at these stations. As can be seen from the data in Table 3.3-1, there have been no violations of state or federal air quality standards for ozone or $PM_{2.5}$ over the past five years. There have been violations of the state PM_{10} standard recorded at both the Jacobs Avenue station and the 6th and I Street station.

TABLE 3.3-1
CITY OF EUREKA - SUMMARY OF AIR QUALITY MONITORING DATA (2012–2016)

Station	Applicable Standard	Number of Days Standards Were Exceeded and Maximum Concentrations Measured[a]				
		2012	2013	2014	2015	2016
JACOBS AVENUE STATION, EUREKA						
Ozone						
- Days 1-hour State Std. Exceeded	>0.09 ppm[b]	0	0	0	0	0
- Max. 1-hour Conc. (ppm)		0.053	0.061	0.060	0.054	0.047
- Days 8-hour National Std. Exceeded	>0.07 ppm[c]	0	0	0	0	0
- Days 8-hour State Std. Exceeded	>0.07 ppm[b]	0	0	0	0	0
- Max. 8-hour Conc. (ppm)		0.048	0.049	0.044	0.045	0.045
PM_{10}						
- Estimated Days Over 24-hour National Std.[d]	>150 µg/m³ [c]	0	0	0	0	0
- Estimated Days Over 24-hour State Std.[d]	>50 µg/m³ [b]	0	12	NA	NA	NA
- Max. 24-hour Conc. National/State (µg/m³)		44.5/46.3	64.3/**66.7**	104.7/NA	54.9/NA	53.6/NA
- State Annual Average (µg/m³)	>20 µg/m³ [b]	16.0	18.3	18.1	18.0	16.2
$PM_{2.5}$						
- Estimated Days Over 24-hour National Std.[d]	>35 µg/m³ [c]	0	0	0	0	0
- Max. 24-hour Conc. (µg/m³)		22.3	28.1	21.2	18.6	20.0
- Annual Average (µg/m³)	>12 µg/m³ [b]	5.7	NA	5.3	5.8	6.0

TABLE 3.3-1 (CONTINUED)
CITY OF EUREKA - SUMMARY OF AIR QUALITY MONITORING DATA (2012–2016)

Station	Applicable Standard	Number of Days Standards Were Exceeded and Maximum Concentrations Measured[a]				
		2012	2013	2014	2015	2016
HUMBOLDT HILL STATION, EUREKA						
Ozone						
- Days 1-hour State Std. Exceeded	>0.09 ppm[b]	0	0	0	0	0
- Max. 1-hour Conc. (ppm)		0.053	0.055	0.049	0.060	0.058
- Days 8-hour National Std. Exceeded	>0.07 ppm[c]	0	0	0	0	0
- Days 8-hour State Std. Exceeded	>0.07 ppm[b]	0	0	0	0	0
- Max. 8-hour Conc. (ppm)		0.047	0.048	0.043	0.052	0.051
PM_{10}						
- Estimated Days Over 24-hour National Std.[d]	>150 µg/m^3 [c]	0	0	NA	NA	NA
- Estimated Days Over 24-hour State Std.[d]	>50 µg/m^3 [b]	0	0	NA	NA	NA
- Max. 24-hour Conc. National/State (µg/m^3)		28.2/28.8	44.6/45.8	NA	NA	NA
- State Annual Average (µg/m^3)	>20 µg/m^3 [b]	9.6	11.6	NA	NA	NA
$PM_{2.5}$						
- Estimated Days Over 24-hour National Std.[d]	>35 µg/m^3 [c]	0	0	0	0	0
- Max. 24-hour Conc. (µg/m^3)		21.2	21.1	9.5	13.1	10.0
- Annual Average (µg/m^3)	>12 µg/m^3 [b]	6.7	7.1	3.0	4.6	3.4
6th and I Street Station, Eureka						
PM_{10}						
- Estimated Days Over 24-hour National Std.[d]	>150 µg/m^3 [c]	0	0			
- Estimated Days Over 24-hour State Std.[d]	>50 µg/m^3 [b]	0	15			
- Max. 24-hour Conc. National/State (µg/m^3)		48.9/47.1	64.3/**66.7**			
- State Annual Average (µg/m^3)	>20 µg/m^3 [b]	16.7	18.9			
$PM_{2.5}$						
- Estimated Days Over 24-hour National Std.[d]	>35 µg/m^3 [c]	NA	0			
- Max. 24-hour Conc. (µg/m^3)		18.0	24.3			
- Annual Average (µg/m^3)	>12 µg/m^3 [b]	NA	6.7			

NOTES:
Bold values are in excess of applicable standard. "NA" indicates that data is not available.
conc. = concentration; ppm = parts per million; ppb=parts per billion; µg/m3 = micrograms per cubic meter
PM_{10} and $PM_{2.5}$ monitoring at 6th and I Street Station and PM_{10} monitoring at Humboldt Hill Station discontinued for 2013 on.

a Number of days exceeded is for all days in a given year, except for particulate matter. PM10 and PM2.5 are monitored every six days.
b State standard, not to be exceeded.
c Federal standard, not to be exceeded.
d Particulate matter sampling schedule of one out of every six days, for a total of approximately 60 samples per year. Estimated days exceeded mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

SOURCE: CARB, 2018. Air Quality Trends Summaries, 2012-2016, http://www.arb.ca.gov/adam/trends/trends1.php, accessed February 15, 2018.

Emissions Inventory

Table 3.3-2 presents the latest (2012) average daily emissions for criteria air pollutants including total organic gases (TOG), reactive organic gases (ROG), CO, nitrogen oxides (NOx), SO_X (sulfur oxides), PM_{10}, and $PM_{2.5}$ for Humboldt County, of which Eureka is one of the principal cities. It should be noted that there are a wide variety of activities that contribute to the emission of criteria air pollutants in Humboldt County, such as waste disposal, fuel combustion, farming operations, motor vehicles, ocean going vessels, and managed burning.

TABLE 3.3-2
2012 ESTIMATED ANNUAL AVERAGE DAILY EMISSIONS (TONS/DAY), HUMBOLDT COUNTY

	TOG	ROG	CO	NOX	SOX	PM	PM_{10}	$PM_{2.5}$
Stationary Sources								
Fuel combustion	0.62	0.23	7.93	2.70	0.24	0.52	0.47	0.41
Waste disposal	26.47	0.18	0.07	0.02	0.02	0	0	0
Cleaning and surface coatings	0.78	0.67	--	--	--	--	--	--
Petroleum production and marketing	2.92	1.91	--	--	--	--	--	--
Industrial processes	0.13	0.12	0.03	0.70	0	1.13	0.71	0.40
Total Stationary Sources	**30.91**	**3.11**	**8.03**	**3.43**	**0.26**	**1.65**	**1.19**	**0.82**
Areawide Sources								
Solvent evaporation	2.66	2.48	--	--	--	--	--	--
Miscellaneous processes	18.00	3.33	19.41	0.55	0.10	18.55	11.60	3.12
Total Area-Wide Sources	**20.66**	**5.81**	**19.41**	**0.55**	**0.1**	**18.55**	**11.6**	**3.12**
Mobile Sources								
On-road motor vehicles	2.76	2.51	19.53	6.23	0.02	0.31	0.31	0.19
Other mobile sources	2.28	2	12.99	12.05	2.36	0.64	0.63	0.6
Total Mobile Sources	**5.04**	**4.5**	**32.52**	**18.28**	**2.38**	**0.95**	**0.94**	**0.79**
Grand Total for Humboldt County	**56.61**	**13.42**	**59.96**	**22.25**	**2.74**	**21.16**	**13.73**	**4.73**

SOURCE: CARB, 2017. Almanac Emission Projection Data, https://www.arb.ca.gov/app/emsinv/2017/emssumcat_query.php?F_DIV=-4&F_DD=Y&F_YR=2012&F_SEASON=A&SP=SIP105ADJ&F_AREA=CO&F_CO=12, accessed February 7, 2018.

Odorous Emissions

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Odor

impacts should be considered for any proposed new odor sources located near existing receptors, as well as any new sensitive receptors located near existing odor sources. Generally, increasing the distance between the receptor and the odor source will mitigate odor impacts. However, because offensive odors rarely cause any physical harm and no requirements for their control are included in state or national air quality regulations, the NCUAQMD has no rules or standards related to odor emissions, other than its nuisance rule. Any actions related to odors are based on citizen complaints to local government agencies including the NCUAQMD.

Odor complaints in the City of Eureka have generally been associated with light industrial uses (coffee roasters in particular), the Pacific Choice Seafood plant, decomposing organic matter in bay mud, autobody shop finishing and painting operations, and open burning activities. In addition, heavy industrial uses along the Samoa Peninsula, such as the Samoa Pulp Mill, historically resulted in odor complaints due to operations, but is currently closed.

Sensitive Receptors

Some individuals are considered to be more sensitive than others to air pollution. Reasons for greater sensitivity can include existing health problems, duration of exposure to air pollutants, or certain peoples' increased susceptibility to pollution-related health problems due to factors such as age.

Land uses such as day care providers, primary and secondary schools, playgrounds, hospitals, and convalescent homes are considered to be sensitive receptors to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality related health problems than the general public. Residential uses are considered sensitive because people in residential areas are often at home for extended periods of time, so they can be exposed to pollutants for extended periods. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on the human respiratory function.

In April 2005, CARB released the Air Quality and Land Use Handbook, which encourages local land use agencies to consider the risks from air pollution prior to making decisions that approve the siting of new sensitive receptors (e.g., schools, homes, and daycare centers) near sources of pollution.[4]

Greenhouse Gases

Global climate change refers to a change in the average weather of the earth that may be measured by wind patterns, storms, precipitation, and temperature. Historically, the rate of temperature change has typically been incremental, with warming and cooling occurring over the course of thousands of years. In the past 10,000 years the earth has experienced incremental warming as glaciers retreated across the globe. However, scientists have observed an unprecedented increase in the rate of warming over the past 150 years, roughly coinciding with the global industrial revolution and the associated release of greenhouse gas (GHG) emissions to the atmosphere.

[4] California Air Resources Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available: https://www.arb.ca.gov/ch/handbook.pdf. Accessed February 22, 2018.

Although global climate change is now widely accepted as occurring, the extent and speed of change to be expected, and the exact contribution from human sources, remains in debate. Nonetheless, the world's leading climate scientists have reported that it is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century, and that hotter temperatures and rising sea levels will continue for centuries no matter how much humans control their future emissions.[5]

According to the California Adaptation Planning Guide (CAPG), accelerating global climate change has the potential to cause a number of adverse impacts in California, including but not limited to: more variable precipitation patterns and decreasing precipitation overall; a shrinking Sierra snowpack that would threaten the state's water supply; public health threats caused by higher temperatures and more smog; damage to agriculture and forests due to reduced water storage capacity, rising temperatures, increasing salt water intrusion, flooding, and pest infestations; critical habitat modification and destruction; eroding coastlines; increased wildfire risk; and increased electricity demand.[6] These impacts have and will continue to have considerable costs associated with them.

While all of these impacts may be felt to some extent in Eureka, of particular concern are coastal erosion, flooding, and habitat modification, as well as water supply issues.

GHGs trap heat in the Earth's atmosphere and play a critical role in determining the Earth's surface temperature. Part of the solar radiation that enters Earth's atmosphere from space is absorbed by the Earth's surface. The Earth reflects this radiation back toward space, but GHGs absorb some of the radiation. As a result, radiation that otherwise would have escaped back into space is retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. However, scientists generally believe that emissions from human activities— such as electricity generation, vehicle emissions, and even farming and forestry practices— have elevated the concentration of GHGs in the atmosphere beyond naturally-occurring concentrations, contributing to the larger process of global climate change. The six primary GHGs are:

- Carbon dioxide (CO_2), emitted as a result of fossil fuel combustion, with contributions from cement manufacture;
- Methane (CH_4), produced through the anaerobic decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion;
- Nitrous oxide (N_2O), typically generated as a result of soil cultivation practices, particularly the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning;
- Hydrofluorocarbons (HFCs), primarily used as refrigerants;

5 Intergovernmental Panel on Climate Change (IPCC). 2013. Fifth Assessment Report. Available: http://www.ipcc.ch/report/ar5/. Accessed February 22, 2018.

6 California Emergency Management Agency (CEMA). 2012. California Adaptation Planning Guide. Available: http://resources.ca.gov/docs/climate/01APG_Planning_for_Adaptive_Communities.pdf. Accessed February 22, 2018.

- Perfluorocarbons (PFCs), originally introduced as alternatives to ozone depleting substances and typically emitted as by-products of industrial and manufacturing processes; and
- Sulfur hexafluoride (SF_6), primarily used in electrical transmission and distribution systems.

Though there are other GHG emissions, these six are identified explicitly in California legislation as being of primary concern. GHGs have varying potentials to trap heat in the atmosphere, known as global warming potential (GWP), and atmospheric lifetimes. GWP ranges from 1 (carbon dioxide) to 22,800 (sulfur hexafluoride). GHG emissions with a higher GWP have a greater global warming effect on a molecule-by-molecule basis. For example, one metric ton (MT) of CH_4 has the same contribution to the greenhouse effect as approximately 25 MT of CO_2. GWP is alternatively described as "carbon dioxide equivalents", or CO_2e. The parameter "atmospheric lifetime" describes how long it takes to restore the system to equilibrium following an increase in the concentration of a GHG in the atmosphere. Atmospheric lifetimes of GHGs range from tens to thousands of years.

Greenhouse Gas Emissions Estimates

Global Emissions

Worldwide emissions of GHGs in 2016 were approximately 49.3 billion metric tons of CO_2e.[7] This includes ongoing emissions from both industrial and agricultural sources, but excludes emissions from land use changes.

U.S. Emissions

In 2016, the United States emitted about 5,829.3 million metric tons of CO_2e. Of the four major emission sectors—residential, commercial, industrial, and transportation—transportation accounts for the highest fraction of GHG emissions (approximately 36.1 percent); these emissions are generated from direct fossil fuel combustion.[8]

State of California Emissions

California produced approximately 440.4 million metric tons of CO_2e in 2015. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2015, accounting for 39 percent of total GHG emissions in the state. This was followed by the industrial sector (23 percent), and the electric power sector (including both in-state and out-of-state sources) (19 percent).[9]

Local and Regional Emissions

On March 31, 2014, Redwood Coast Energy Authority published the *City of Eureka 2005 Community Greenhouse Gas Emissions Inventory*, which presents GHG emissions estimates for the Eureka community as a whole for the calendar year 2005. Emissions estimates were

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7 PBL Netherlands Environmental Assessment Agency, 2017. Trends in Global CO2 and Total Greenhouse Gas Emissions, 2016 Report. Available: http://themasites.pbl.nl/publications/pbl-2017-summary-trends-in-global-co2-and-total-greenhouse-gas-emissions-2983.pdf. Accessed February 23, 2018.

8 U.S. Environmental Protection Agency, 2018. *Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016; Executive Summary, Table ES-2.* February 2018. Available: https://www.epa.gov/sites/production/files/2018-01/documents/2018_executive_summary.pdf. Accessed February 23, 2018.

9 California Air Resources Board, 2017. *California Greenhouse Gas Inventory 2017 Edition.* Available: www.arb.ca.gov/cc/inventory/data/data.htm.

developed using the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, developed by ICLEI - Local Governments for Sustainability USA and released in October 2012. The 2005 Community Inventory reports a total of 312,505 MT CO_2e, as shown in **Table 3.3-3**. A sector-by-sector breakdown of the City of Eureka inventory is provided in **Table 3.3-4**, indicating that the largest contributor to total emissions is the transportation sector (53.1 percent) which consists of mobile emissions from passenger vehicles, freight and service trucks, off-road vehicles, and construction equipment. Residential energy use (15.6 percent) and commercial energy use (14.4 percent) are the next biggest contributors to the inventory, followed by solid waste (13.4 percent), industrial energy (2.0 percent), wastewater treatment (0.9 percent), and leaked refrigerants (0.6 percent).

TABLE 3.3-3
COMPARATIVE GREENHOUSE GAS EMISSIONS

Area	Population	Emissions (MT CO2e)	Per Capita Rate (metric tons/yr/person)
City of Eureka (2005)	28,870	312,505	10.8
Unincorporated Humboldt County (2005)	132,226	1,336,333	10.1
California (2004)	35,055,000	103 million	14.3
United States (2006)	299,398,000	7,054 million	23.6

SOURCES: Population data for the City of Eureka and Unincorporated Humboldt County are from the Humboldt County website (available: http://co.humboldt.ca.us/portal/about.asp). This population data for is for year 2010, which is assumed to be similar to year 2005 and 2006 population levels, given the minimal population growth over the timeframe. Emissions data for the City of Eureka is from the Redwood Coast Energy Authority Community Inventory spreadsheet (version 5). Emissions data for the unincorporated County are from the County of Humboldt Climate Action Plan, 2012. Emissions for California are from the California Energy Commission 2007 Integrated Energy Policy Report and population data from the U.S. Census Bureau (2004 American Community Survey). Emissions for the United States are from the EPA (Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2006. U.S. Environmental Protection Agency, Washington, D.C. April 15, 2008).

TABLE 3.3-4
2005 CO2E EMISSIONS (MT) IN HUMBOLDT COUNTY AND CITY OF EUREKA

	Unincorporated Humboldt County	% of Total	Eureka	% of Total
Residential	100,523	7.5%	48,756	15.6%
Commercial	118,461	8.9%	45,096	14.4%
Industrial	378,084	28.3%	6,192	2.0%
Transportation	643,689	48.2%	165,819	53.1%
Solid Waste	14,413	1.1%	41,817	13.4%
Wastewater Treatment	--	--	2,820	0.9%
Leaked Refrigerants	--	--	2,005	0.6%
Other[1]	51,163	3.8%	--	--
Total	1,336,333	100%	312,505	100%
Per Capita	10.1		10.8	

NOTE:
1 For Eureka, the 'Other' sector includes upstream emissions for utility fuel stationary combustion and mobile combustion, and emissions from wastewater treatment.

In July 2012, Redwood Coast Energy Authority published the *Eureka Municipal Greenhouse Gas Emissions Inventory for 2005*, an accounting of 2005 GHG emissions associated with the

municipal operations of the City of Eureka. That inventory, which is considered a subset of the 2005 Community Inventory, reports 6,153 MT CO_2e associated with municipal operations, with approximately half those emissions associated with wastewater treatment. The rest are associated with energy used by municipal buildings, fleet vehicles, public lighting, water and wastewater conveyance, and government-generated solid waste.

In January 2012, Humboldt County developed a Draft Climate Action Plan, which includes 1990, 2003, 2004, 2005, and 2006 community GHG inventories for the unincorporated County. Table 3.3-3 includes the results for 2005, when total GHG emissions for the unincorporated County were 1,336,333 MT CO2e. Overall emissions decreased by 27 percent from 1990 to 2005 and by 28 percent from 1990 to 2006. The unincorporated County's transportation sector was the primary source of GHG emissions for all years. In 2005, the transportation sector contributed 48 percent of emissions, followed by industrial (28 percent), commercial (9 percent), residential (8 percent), other (4 percent), and solid waste (1 percent). Total unincorporated County emissions by sector are presented in Table 3.3-4.

The sector-by-sector comparison of GHG emissions for Eureka and Humboldt County (Table 3.3-4) shows that unincorporated Humboldt County's countywide emissions in 2005 averaged 10.1 MT CO_2e per capita. For the same year, emissions in Eureka were estimated to be 312,505 MT, or about 10.8 MT CO_2e per capita, similar to unincorporated County levels.

3.3.2 Regulatory Overview

Regulation of air pollution is achieved through both national and state ambient air quality standards and through emissions limits on individual sources of air pollutants. Local Air Quality Management Districts (AQMD's) and Air Pollution Control Districts (APCD's) are responsible for demonstrating attainment with state air quality standards through the adoption and enforcement of Attainment Plans.

Federal

Air Quality

Criteria Air Pollutants

The FCAA requires the U.S. Environmental Protection Agency (US EPA) to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. The US EPA has set NAAQS for six principal pollutants, called criteria air pollutants. These criteria air pollutants include O3, NO2, SO2, CO, PM, and lead. **Table 3.3-5** on the following page presents current NAAQS and state ambient air quality standards. Pursuant to the 1990 Federal Clean Air Act Amendments (FCAAA), the US EPA classifies air basins (or portions thereof) as "attainment", "nonattainment", or "unclassified" for each criteria air pollutant, based on whether or not the national standards had been achieved. Humboldt County is listed as attainment or unclassified for all national standards.[10]

[10] California Air Resources Board (CARB). 2017. Area Designation Maps/State and National. Available: https://www.arb.ca.gov/desig/adm/adm.htm. Accessed February 7, 2018.

TABLE 3.3-5
STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS AND MAJOR SOURCES

Pollutant	Averaging Time	State Standard	National Standard	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	Formed when reactive organic gases (ROG) and nitrogen oxides (NO_X) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hour	0.070 ppm	0.070 ppm	
Carbon Monoxide	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hour [1]	9.0 ppm	9 ppm	
Nitrogen Dioxide	1 hour	0.18 ppm	100 ppb	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030 ppm	0.053 ppm	
Sulfur Dioxide	1 hour	0.25 ppm	75 ppb	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hour	---	0.5 ppm [2]	
	24 hour	0.04 ppm	0.14 ppm	
	Annual Avg.	---	0.030 ppm	
Respirable Particulate Matter (PM_{10})	24 hour	50 ug/m^3	150 ug/m^3	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 ug/m^3	---	
Fine Particulate Matter ($PM_{2.5}$)	24 hour	---	35 ug/m^3	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_X, sulfur oxides, and organics.
	Annual Avg.	12 ug/m^3	12.0 ug/m^3	
Lead	Monthly Ave.	1.5 ug/m^3	---	Present source: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 ug/m^3	
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Geothermal power plants, petroleum production and refining
Sulfates	24 hour	25 ug/m^3	No National Standard	Produced by the reaction in the air of SO_2.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	See $PM_{2.5}$.
Vinyl chloride	24 hour	0.01 ppm	No National Standard	Polyvinyl chloride and vinyl manufacturing.

NOTE:
1 A more stringent 8-hour carbon monoxide state standard exists around Lake Tahoe (6 ppm).
2 Secondary national standard.

ppb = parts per billion; ppm = parts per million; ug/m^3 = micrograms per cubic meter.

SOURCES: California Air Resources Board, 2016. *Ambient Air Quality Standards.* Available: https://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Standards last updated May 4, 2016;
California Air Resources Board, 2009. *ARB Fact Sheet: Air Pollution Sources, Effects and Control*. Available: http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm.

The FCAA requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAAA added requirements for states containing areas that violate the national standards to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest

emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The US EPA has the responsibility to review all SIPs to determine if they conform to the mandates of the FCAAA and will achieve air quality goals when implemented.

As noted above, measurements of ambient concentrations of the criteria pollutants are used by the US EPA and CARB to assess and classify the air quality of each air basin, county, or, in some cases, a specific developed area. As shown in **Table 3.3-6**, Humboldt County is designated as a State-level nonattainment area for the 24-hour PM_{10} standard. Humboldt County is in attainment for all other federal and State ambient air quality standards (including the federal ambient air quality standard for PM_{10}).

TABLE 3.3-6
HUMBOLDT COUNTY ATTAINMENT STATUS

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone	Unclassified/Attainment	Attainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Unclassified/Attainment	Attainment
CO	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Lead	Unclassified/Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Attainment
Sulfates	No Federal Standard	Attainment
Vinyl Chloride	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

SOURCE: California Air Resources Board (CARB), 2017, *Area Designation Maps / State and National.* Available: https://www.arb.ca.gov/desig/adm/adm.htm. Accessed February 9, 2018.

Toxic Air Contaminants

Regulation of TACs, termed Hazardous Air Pollutants (HAPs) under federal regulations, is achieved through federal, state, and local controls on individual sources. The 1977 FCAAA required the US EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. These substances include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals.

Greenhouse Gases

U.S. Environmental Protection Agency "Endangerment" and "Cause or Contribute" Findings

The U.S. Supreme Court has held that the United States Environmental Protection Agency (US EPA) must consider regulation of motor vehicle GHG emissions. In *Massachusetts v.*

Environmental Protection Agency et al., twelve states and cities, including California, together with several environmental organizations sued to require the US EPA to regulate GHGs as pollutants under the CAA (127 S. Ct. 1438 (2007)). The Supreme Court ruled that GHGs fit within the CAA's definition of a pollutant and the US EPA had the authority to regulate GHGs.

On December 7, 2009, the US EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:[11]

- *Endangerment Finding:* The current and projected concentrations of the six key GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- *Cause or Contribute Finding:* The combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, the US EPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161), that required the US EPA to develop "…mandatory reporting of GHGs above appropriate thresholds in all sectors of the economy…" The Reporting Rule applies to most entities that emit 25,000 metric tons of CO_2e or more per year. Since 2010, facility owners must submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for the US EPA to verify annual GHG emissions reports.

State

Air Quality

Criteria Air Pollutants

CARB manages air quality, regulates mobile emissions sources, and oversees the activities of county APCDs and regional AQMDs. CARB establishes state ambient air quality standards and vehicle emissions standards. California has adopted more stringent ambient air quality standards for some criteria air pollutants (referred to as State Ambient Air Quality Standards, or state standards) and has adopted air quality standards for some pollutants for which there is no corresponding national standard (shown in Table 3.3-5). Under the California Clean Air Act (CCAA), patterned after the FCAA, areas have been designated as "attainment", "nonattainment", or "unclassified" with respect to the state standards. The entire NCAB is currently designated as nonattainment for the state 24-hour PM_{10} standard and designated as attainment or unclassified with respect to the other state standards.

Toxic Air Contaminants

The Health and Safety Code defines TACs as air pollutants which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to

[11] U.S. Environmental Protection Agency. 2016. Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. Available: www3.epa.gov/climatechange/endangerment/.

human health. The State Air Toxics Program was established in 1983 under AB 1807 (Tanner). A total of 243 substances have been designated TACs under California law, including the 189 (federal) HAPs adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. Toxic air contaminant emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment and, if specific thresholds are violated, are required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80 percent decrease in statewide diesel health risk in 2020 as compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel. Subsequent regulations of diesel emissions by CARB include the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Offroad Diesel Vehicle Regulation, and the New Offroad Compression Ignition Diesel Engines and Equipment Program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment.

In 2004, CARB adopted a measure to limit idling of diesel-fueled commercial motor vehicles. Heavy-duty diesel vehicles with a Gross Vehicle Weight Rating (GVWR) of 10,000 lbs. or heavier are prohibited from idling for more than 5 minutes within California's borders. Exceptions to the rule apply for certain circumstances.

Despite these reduction efforts, CARB recommends that proximity to sources of DPM emissions be considered in the siting of new sensitive land uses. In April 2005, CARB published Air Quality and Land Use Handbook: a Community Health Perspective. This handbook is intended to give guidance to local governments in the siting of sensitive land uses near sources of air pollution. Recent studies have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities such as ports, rail yards, and distribution centers. Sensitive receptor siting recommendations are listed in **Table 3.3-7** below. CARB notes that these recommendations are advisory and should not be interpreted as defined "buffer zones," and that local agencies must balance other considerations, including transportation needs, the benefits of urban infill, community economic development priorities, and other quality of life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary CARB's position is that infill development, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level.[12]

[12] California Air Resources Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available: https://www.arb.ca.gov/ch/handbook.pdf. Accessed February 22, 2018.

TABLE 3.3-7
RECOMMENDATIONS FOR SITING NEW SENSITIVE LAND USES

Source Category	Advisory Recommendations of Locations to Avoid
Freeways and High-Traffic Roads	500' of a freeway or urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.
Distribution Centers	1,000' of a distribution center that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week. Also, avoid locating new sensitive land uses near entry and exit points.
Rail Yards	1,000' of a major service and maintenance rail yard. Within one mile, consider siting limitation and mitigation approaches.
Ports	Immediately downwind in the most heavily impacted zones. Consult local air district or CARB on the status of pending analyses of health risks.
Refineries	Immediately downwind of petroleum refineries. Consult local air district and other local agencies to determine an appropriate separation.
Chrome Platers	1,000' of a chrome plater.
Dry Cleaners Using Perchloroethylene	300' of any dry cleaning operation. For operations with two or more machines, provide 500'. For operations with three or more machines, consult the local air district. Also, do not site new sensitive receptors in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	300' of a large gas station, defined as a facility with a throughput of 3.6 million gallons per year or greater. A 50' separation is recommended for typical gas dispensing facilities.

SOURCE: CARB, 2005

Greenhouse Gases

In California, the legal framework for GHG emission reduction has come about through an incremental set of Governors' Executive Orders, legislation, and regulations put in place since 2002. The major components of California's climate change initiative are reviewed below.

Assembly Bill 1493

In 2002, then-Governor Gray Davis signed AB 1493. AB 1493, also known as the "Pavley" regulations (named for the bill's author, State Senator Fran Pavley), required CARB to develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the state."

To meet the requirements of AB 1493, in 2004 CARB approved amendments to the California Code of Regulations (CCR), adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 (13 CCR 1900, 1961), and adoption of Section 1961.1 (13 CCR 1961.1), require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes (i.e., any medium-duty vehicle with a gross vehicle weight (GVW) rating of less than 10,000 pounds and that is designed primarily for the transportation of persons), beginning with model year 2009. For passenger cars and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 pounds or less, the GHG emission limits for model year 2016 are approximately 37 percent lower than the limits for the first year of the regulations, model year 2009. For light-duty trucks with an LVW of

3,751 pounds to a GVW of 8,500 pounds, as well as for medium-duty passenger vehicles, GHG emissions were reduced approximately 24 percent between 2009 and 2016.

Because the Pavley regulations would impose stricter standards than those under the CAA, California applied to the US EPA for a waiver under the CAA; this waiver was initially denied in 2008. In 2009, however, the US EPA granted the waiver.

Senate Bills 1078 and 107 and Executive Orders S-14-08 and S-21-09

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

In November 2008, then-Governor Schwarzenegger signed Executive Order S-14-08, which expanded the state's Renewable Portfolio Standard to 33 percent renewable power by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs CARB under its AB 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020.

The 33-percent-by-2020 goal was codified in April 2011 with SB X1-2, which was signed by Governor Edmund G. Brown, Jr. This new Renewable Portfolio Standard (RPS) preempts CARB 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state, including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. Consequently, electricity suppliers in the area must meet the 33 percent goal by 2020. All of these entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013 and 25 percent by the end of 2016, with the 33 percent requirement being met by the end of 2020.

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, then-Governor Arnold Schwarzenegger established Executive Order S-3-05, which set forth the following target dates by which statewide GHG emissions would be progressively reduced: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32, Senate Bill 32, and the California Climate Change Scoping Plan

In 2006, the California legislature passed AB 32 (California Health and Safety Code Division 25.5, Sections 38500, et seq.), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emissions limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25-percent reduction in emissions). AB 32 anticipates that the GHG reduction goals will be met, in part, through local government actions. CARB has identified a GHG reduction target of 15 percent from current levels for local governments (municipal and community-wide) and notes that successful implementation of the plan relies on local

governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions.

Pursuant to AB 32, CARB adopted a *Climate Change Scoping Plan* in December 2008 (re-approved by CARB on August 24, 2011[13]) outlining measures to meet the 2020 GHG reduction goals. In order to meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from today's levels. It estimates that a reduction of 174 million metric tons of CO_2e (about 191 million U.S. tons) from the transportation, energy, agriculture, forestry, and other sources could be achieved should the state implement all of the measures in the Scoping Plan. The Scoping Plan relies on the requirements of SB 375 (discussed below) to implement the carbon emission reductions anticipated from land use decisions.

In May 2014, CARB published its First Update to the Scoping Plan.[14] This update builds upon the initial Scoping Plan with new strategies and recommendations. The update defines ARB's climate change priorities and sets the groundwork to reach long-term goals set forth in Executive Orders S-3-05 and B-16-2012. CARB updated the Scoping Plan again in December 2017 to reflect the accelerated GHG reduction goal of 40 percent below 1990 by 2030 target required by SB 32.

Executive Order S-1-07

Executive Order S-1-07, signed by then-Governor Arnold Schwarzenegger in 2007, proclaimed that the transportation sector is the main source of GHG emissions in California, at over 40 percent of statewide emissions. The order established a goal of reducing the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020. It also directed CARB to determine whether this Low Carbon Fuel Standard could be adopted as a discrete, early-action measure after meeting the mandates in AB 32. CARB adopted the Low Carbon Fuel Standard on April 23, 2009.

Senate Bill 1368

SB 1368 is the companion bill of AB 32 and was signed by then-Governor Schwarzenegger in September 2006. SB 1368 requires the California Public Utilities Commission (CPUC) to establish a GHG emission performance standard for baseload generation from investor-owned utilities by February 1, 2007. The California Energy Commission (CEC) was also required to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the GHG emission rate from a baseload combined-cycle natural gas-fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the CPUC and CEC.

Senate Bill 375

In addition to policy directly guided by AB 32, the legislature in 2008 passed SB 375, which provides for regional coordination in land use and transportation planning and funding to help

[13] California Air Resources Board, 2008. *Climate Change Scoping Plan.* Adopted December 11, 2008, re-approved by CARB August 24, 2011. pp. ES-1 and 17.
[14] California Air Resources Board, 2012. *First Update to the Climate Change Scoping Plan.* Adopted May 28, 2014.

meet the AB 32 GHG reduction goals. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, and land use and housing allocations. SB 375 requires Regional Transportation Plans (RTPs) developed by the state's 18 metropolitan planning organizations (MPOs) to incorporate a "sustainable communities strategy" (SCS) that will achieve GHG emission reduction targets set by CARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects, such as transit-oriented development.

There is no MPO for the Plan Area or region, and therefore no SCS. The Humboldt County Association of Governments (HCAOG) is the designated Regional Transportation Planning Agency (RTPA).

Senate Bill 350

SB 350 (Clean Energy and Pollution Reduction Act of 2015) was signed into law on October 7, 2015, establishing new goals for clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 requires the following:

- Increase California's renewable electricity procurement goal under the RPS from 33 percent by 2020 to 50 percent by 2030,
- Double existing building energy efficiency by 2030; and
- Facilitate the growth of renewable energy markets within the western U.S. by reorganizing the California Independent System Operator (CAISO).

Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code (CALGreen) that establishes mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. These standards include a mandatory set of minimum guidelines, as well as more rigorous voluntary measures, for new construction projects to achieve specific green building performance levels. This Code went into effect as part of local jurisdictions' building codes on January 1, 2011 and was most recently updated as the 2016 California Green Building Standards Code (effective January 1, 2017).[15]

Title 24 Building Energy Efficiency Standards

Title 24, of the California Code of Regulations, Part 6 sets forth California's energy efficiency standards for residential and nonresidential buildings and was established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. The most recent standards (2016) were made effective on January 1, 2017. Single family homes built to the 2016 standards will use about 28 percent less energy for lighting, heating, cooling, ventilation, and water heating than those built to the previous (2013) standards.

[15] California Building Standards Commission, 2016. California 2016 Green Building Standards Code, CalGreen California Code of Regulations, Title 24, Part 11. Effective Date: January 1, 2017.

Executive Order B-16-12

In 2012, Governor Brown issued Executive Order B-16-12, ordering "that California's state vehicle fleet increase the number of zero-emission vehicles through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles be zero-emission by 2015 and 25 percent of fleet purchases of light-duty vehicles be zero-emission by 2020. The executive order also requires that California target for 2050 a reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels.

Executive Order B-30-15

In 2015, Governor Brown issued Executive Order B-30-15, establishing a GHG reduction target of 40 percent below 1990 levels by 2030. This goal was set to make it possible to reach the ultimate goal of AB 32 to reduce GHG emissions 80 percent under 1990 levels by 2050.

California Environmental Quality Act (CEQA) and Senate Bill 97

Under CEQA, lead agencies are required to disclose the reasonably foreseeable adverse physical environmental effects of projects they are considering for approval. GHG emissions have the potential to adversely affect the environment because they contribute to global climate change. In turn, global climate change has the potential to raise sea levels, alter rainfall and snowfall, and affect habitat.

SB 97, signed in August 2007, acknowledges that climate change is a prominent environmental issue requiring analysis under CEQA. On December 30, 2009, the Natural Resources Agency adopted amendments to the State CEQA Guidelines, as required by SB 97. These State CEQA Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments became effective March 18, 2010.

The State CEQA Guidelines are embodied in the CCR, Public Resources Code, Division 13, starting with Section 21000. State CEQA Guidelines section 15064.4 specifically addresses the significance of GHG emissions, requiring a lead agency to make a "good-faith effort" to "describe, calculate or estimate" GHG emissions in CEQA environmental documents. Section 15064.4 further states that the analysis of GHG impacts should include consideration of (1) the extent to which the project may increase or reduce GHG emissions, (2) whether the project emissions would exceed a locally applicable threshold of significance, and (3) the extent to which the project would comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions." The CEQA Guidelines also state that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including plans or regulations for the reduction of GHG emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (State CEQA Guidelines section 15064(h)(3)). The State CEQA Guidelines do not, however, set a numerical threshold of significance for GHG emissions.

The CEQA Guidelines also include the following direction on measures to mitigate GHG emissions, when such emissions are found to be significant:

> Consistent with Section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:
>
> (1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;
>
> (2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures;
>
> (3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;
>
> (4) Measures that sequester greenhouse gases; and
>
> (5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.[16]

Local

Air Quality

Air Quality Plans

Humboldt, Del Norte, and Trinity Counties are located in the NCAB under the regulation of the NCUAQMD. The 1977 FCAAA require that regional planning and air pollution control agencies prepare a regional Air Quality Plan to outline the measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve all standards specified in the FCAA. The 1988 CCAA also requires development of air quality plans and strategies to meet state air quality standards in areas designated as non-attainment (with the exception of areas designated as non-attainment for the state PM standards). Maintenance plans are required for attainment areas that had previously been designated non-attainment in order to ensure continued attainment of the standards. Air quality plans developed to meet federal requirements are referred to as SIPs, discussed above.

To address the NCAB's nonattainment status with respect to PM_{10}, the NCUAQMD prepared a draft PM_{10} Attainment Plan identifying cost-effective control measures that can be implemented to bring ambient PM_{10} levels down to the California standards. The control strategies include transportation control measures (public transit, ridesharing, vehicle buy-back program, traffic

[16] State CEQA Guidelines section 15126.4(a).

flow improvement, bicycle incentives, etc.), land use measures to reduce reliance on automobiles, and open burning measures.[17] The NCUAQMD is planning to update the document.

North Coast Unified Air Quality Management District

The NCUAQMD is the regional agency responsible for rulemaking, permitting, and enforcement activities affecting stationary sources in Humboldt, Del Norte and Trinity Counties. NCUAQMD does not have authority to regulate emissions from motor vehicles. Specific rules and regulations adopted by the NCUAQMD limit the emissions that can be generated by various stationary sources, and identify specific pollution reduction measures that must be implemented in association with various activities. These rules regulate not only emissions of the six criteria air pollutants, but also TACs and acutely hazardous non-radioactive materials emissions.

Emissions sources subject to these rules are regulated through the NCUAQMD's permitting process and standards of operation. Through this permitting process, including an annual permit review, the NCUAQMD monitors generation of stationary emissions and uses this information in developing its air quality plans. Several rules to be considered or applicable to most projects are described below.

Naturally Occurring Asbestos. The NCUAQMD is required by State law to implement and enforce all State Airborne Toxic Control Measures (ATCM). The NCUAQMD has instituted a registration program for all construction, grading, quarrying, and surface mining operations within its jurisdiction. An applicant must first register with the NCUAQMD prior to engaging in specific activities covered by the regulation. Registration is also required for existing operations, projects, and facilities. As part of the registration process, the applicant may be required to submit a dust control plan. Notification must be made to the NCUAQMD at least 14 days before any activity begins. However, the Naturally Occurring Asbestos ATCM includes a series of exemptions, including:

- The project is located in an area not designated as an ultramafic rock unit by the California Department of Conservation Division of Mines and Geology;
- A professional geologic evaluation indicating the absence of asbestos containing material and ultramafic rock;
- Agriculture and timber operations that do not include the construction of roads and buildings;
- Homeowners and tenant projects involving the construction and grading of one acre or less;
- Emergency road repairs;
- Construction and grading conducted at remote locations; and
- Sand and gravel operations that process materials from alluvial deposits only.

Rule 104 (Prohibitions) - 4.0 Fugitive Dust Emissions. NCUAQMD Rule 104 prohibits the handling, transporting, or open storage of materials in such a manner that allows or may allow unnecessary amounts of particulate matter to become airborne. The rule requires project

[17] North Coast Unified Air Quality Management District (NCUAQMD). 1995. PM_{10} Attainment Plan. Available: http://www.ncuaqmd.org/files/NCUAQMD%20Attainment%20Plan%205-95.pdf. Accessed February 22, 2018.

applicants to take reasonable precautions to prevent particulate matter from becoming airborne, including, but not limited to, the following provisions:

- Covering open bodied trucks when used for transporting materials likely to give rise to airborne dust.
- Installing and using hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Containment methods can be employed during sandblasting and other similar operations.
- Conducting agricultural practices in such a manner as to minimize the creation of airborne dust.
- Using water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
- Applying asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts.
- Paving roadways and maintaining them in a clean condition.
- Promptly removing earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means.

City of Eureka 1997 General Plan

The City's 1997 General Plan contains goals relevant to air quality resources. Specifically, the 1997 General Plan includes policies that protect and improve air quality and integrate air quality planning in land use and transportation planning. Upon approval of the proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded.

Industrial Development

Goal 1.M: To ensure an adequate supply of industrial land for and promote the development of industrial uses to meet the present and future needs of Eureka and to maintain economic vitality.

Policy

1.M.11: The City shall require that industrial development avoids or minimizes creating substantial pollution, noise, glare, odor, or other significant offensive activity that would contribute negatively to adjacent uses and other areas of the city.

Community Facilities

Goal 1.N: To ensure an adequate supply of land for community facilities and services to meet the present and future needs of Eureka.

Policy

1.N.2: The City shall work with local school districts to ensure that school sites are relatively free from external disturbing factors such as heavy traffic, excessive noise, offensive odors and incompatible land use.

Air Quality – General

Goal 6.E: To protect and improve air quality in the Eureka area.

Policies

6.E.1: The City shall cooperate with other agencies to develop a consistent and effective approach to air quality planning and management and to develop mitigation measures to minimize stationary and area sources emissions.

6.E.2: The City shall support the North Coast Unified Air Quality Management District in its development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds, and rules to more adequately address the air quality impacts of new development.

6.E.3: The City shall require project-level environmental review to include identification of potential air quality impacts and designation of design and other appropriate mitigation measures or offset fees to reduce impacts. The City shall work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures.

6.E.4: The City shall submit development proposals to the North Coast Unified Air Quality Management District for review and comment in compliance with CEQA prior to consideration by the Planning Commission and /or City Council.

6.E.5: In reviewing project applications with potential for creating air quality impacts, the City shall consider alternatives or amendments that reduce emissions of air pollutants.

Air Quality – Transportation/Circulation

Goal 6.F: To integrate air quality planning with the land use and transportation planning process.

Policies

6.F.1: The City shall attempt to ensure smooth-flowing traffic conditions for major roadways through planning of traffic signals and traffic signal coordination, parallel roadways, and intra- and inter-neighborhood connections where significant reductions in overall emissions can be achieved.

6.F.2: The City shall continue and, where appropriate, expand the use of synchronized traffic signals to smooth traffic flow and thereby reduce pollutant emissions.

6.F.3: The City shall encourage the use of alternative modes of transportation by incorporating public transit, bicycle and pedestrian modes in City transportation planning and by encouraging new development to provide adequate pedestrian and bikeway facilities.

6.F.4: The City shall consider instituting disincentives for single-occupant vehicle trips, including limitations in parking supply in areas where alternative transportation modes are available and other measures identified by the North Coast Unified Air Quality Management District.

6.F.5: The City shall endeavor to secure adequate funding for transit services so that transit is a viable transportation alternative. New development shall pay its fair share of the cost of transit equipment and facilities required to serve new projects.

Greenhouse Gases

2012 Humboldt Regional Bicycle Plan

The Regional Bicycle Plan facilitates HCAOG, local, state, and tribal jurisdictions, and other stakeholders to plan and develop a unified, connected bicycle transportation system throughout Humboldt County. The goal of the plan is to "create the safest conditions for bicyclists by providing bikeways and improving roadways to eliminate barriers to bicycle travel." The adopted *Humboldt Regional Bicycle Plan - Update 2012*, helps establish HCAOG member entities' eligibility for the State's Bicycle Transportation Account funding.[18]

City of Eureka Climate Action Plan and Draft Greenhouse Gas Reduction Measures

The City of Eureka has developed draft policy objectives, strategies, and programs to address GHG emissions and climate change. These draft policies include improving energy efficiency, increasing renewable energy, reducing transportation emissions through vehicle and fuel strategies, reducing vehicle miles traveled through land use strategies, reducing vehicle miles traveled through public transit, transportation demand management, and active transportation strategies, reducing solid waste sent to landfill, water conservation, and supporting local business and agriculture.

The City of Eureka plans to partner with RCEA to adopt a Climate Action Plan consistent with State reduction targets and regulations.

City of Eureka 1997 General Plan

The City's 1997 General Plan does not contain goals directly concerning reducing greenhouse gases and climate change. However, the 1997 General Plan includes other relevant policies and goals that would have an effect in reducing emissions of GHGs. Upon approval of the proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded.

Industrial Development

Goal 1.M: To ensure an adequate supply of industrial land for and promote the development of industrial uses to meet the present and future needs of Eureka and to maintain economic vitality.

Policy

3.M.1: The City shall ensure that areas designated for industrial development be adequately served by utilities and facilities so as to promote consolidated development and reduce energy consumption.

Housing

Goal 5: To encourage and maintain energy efficiency in new and existing housing.

[18] Humboldt County Association of Governments (HCAOG). 2012. Humboldt Regional Bicycle Plan Update 2012. Available: http://hcaog.net/sites/default/files/bike_plan_2012_full_final_0.pdf. Accessed February 22, 2018.

Policy

5-1: The City shall continue to promote energy conservation in the design of all new residential structures and shall promote incorporation of Title 24 energy conservation and weatherization features in existing homes.

Streets and Highways

Goal 3.A: To provide for the planning and development of the city's roadway system, ensure safe and efficient movement of people and goods, and provide sufficient access to new development.

Policy

3.A.1: The City shall endeavor to manage its street and highway system so as to maintain Level of Service C operation on all roadway segments, except for any portion of U.S. 101, where Level of Service D shall be acceptable. For evaluation purposes, service levels shall be determined on the basis of midblock roadway planning capacities shown in Table 3-3 [of the 1997 General Plan] and the definitions of service levels shown in Table 3-4 [of the 1997 General Plan].

Public Transit

Goal 3.B: To provide coordinated transit service within Eureka and surrounding areas as an alternative to automobiles.

Policies

3.B.1: The City will continue to fund and operate the Eureka Transit Service in a manner that responds to the needs of its primary markets—senior citizens, the economically disadvantaged, school-aged children, college students, and others determined to be transit-dependent—within the limitations of funding available to the City.

3.B.2: The City shall work with the staff of Humboldt Transit Authority to maximize the coordination of the Eureka Transit Service and the Redwood Transit System operated by Humboldt County. Coordination shall be reviewed in terms of scheduling, fares, and in providing for a common transfer location in Eureka's Core Area.

3.B.3: The City shall work with the Humboldt Transit Authority to develop an intermodal transportation center between A and Commercial Streets, south of Waterfront Drive and the railroad tracks. The center would provide a central focal point for all transportation modes serving Humboldt County, including buses, cabs and limousines, railroad passenger service, bay excursion services, horse-drawn carriages, and possibly cruise ships and trolleys.

3.B.4: The City supports continuation of Amtrak feeder service to Eureka and coordination of this feeder service with the Eureka Transit Service and the Redwood Transit System.

3.B.5: Where appropriate, the City shall require new development to dedicate easements for and provide sheltered public stops for transit patron access.

3.B.8: The City shall work with Core Area employers to encourage their employees to use public transit, thereby reducing traffic congestion and parking demand in the Core Area.

Bicycle Transportation

Goal 3.C: To encourage the use of the bicycle as an alternate, energy efficient mode of transportation within the city and to develop a system of bikeways and bicycle parking facilities which will safely and effectively serve those wishing to utilize bicycles for commute or recreational trips.

Policies

3.C.1: The City shall consider the needs of bicyclists in the design of all new or reconstructed streets, with particular attention to those streets designated as bikeways in this plan.

3.C.2: The City shall coordinate development of the bikeway system, as listed in Table 3-6 and shown in Figure 3-3, particularly Class II facilities which require striping, with the resurfacing program for city streets.

3.C.4: The City shall promote the installation of secure bicycle racks in areas generating substantial bicycle traffic and at major public facilities. The City shall also require the installation of bicycle racks whenever a major traffic generator is developed.

3.C.5: The City shall ensure that development of bicycle facilities in the city is coordinated with the efforts by Humboldt County and Caltrans, where appropriate.

3.C.6: The City shall pursue development of a system of local bikeways that extends throughout the urban sections of the city and which is interconnected with regional bikeway system.

Pedestrian Transportation

Goal 3.D: To encourage and facilitate walking throughout the city.

Policies

3.D.1: The City shall provide for the extension of sidewalks, trails, and walking facilities throughout the city to allow for convenient and safe pedestrian movement.

3.D.4: The City shall promote the linkage of sidewalks and walkways with bike and pedestrian trails leading to and through outdoor recreational areas such as parks and schools, as well as commercial areas.

Rail Transportation

Goal 3.F: To support efforts of the North Coast Railroad to maintain and expand freight and passenger rail service between Eureka and service points to the south and east.

Policy

3.F.1: The City shall support efforts of the North Coast Railroad to re-establish passenger rail service within Humboldt County and between Eureka and the San Francisco Bay Area.

Water Supply and Delivery

Goal 4.B: To ensure the availability of an adequate and safe water supply and the maintenance of high quality water for residents of and visitors to Eureka.

Policy

4.B.4: The City shall promote efficient water use and reduced water demand by requiring water-conserving design and equipment in new construction and encouraging retrofitting existing development with water-conserving devices.

Wastewater Collection, Treatment, and Disposal

Goal 4.C: To ensure adequate wastewater collection, treatment, and disposal.

Policy

4.C.1: The City shall promote efficient water use and reduced wastewater system demand by requiring water-conserving design and equipment in new construction and encouraging retrofitting with water-conserving devices.

Solid Waste Collection and Disposal

Goal 4.E: To ensure the safe and efficient disposal or recycling of solid waste generated in Eureka.

Policies

4.E.2: The City shall promote maximum use of solid waste source reduction, recycling, composting, and environmentally-safe transformation of wastes.

4.E.3: The City shall require that all new development complies with applicable provisions of the Humboldt County Integrated Waste Management Plan and the City's Source Reduction and Recycling Plan.

4.E.4: The City shall encourage the development of regional and community-based recycling facilities in heavy commercial and industrial areas.

4.E.5: The City shall encourage businesses to use recycled products in their manufacturing processes and consumers to buy recycled products.

Timber Harvesting

Goal 6.D: To ensure the safe and efficient disposal or recycling of solid waste generated in Eureka.

Policy

6.D.1: The City shall work with Humboldt County and the California Department of Forestry and Fire Protection (CDF) to encourage the sustained productive use of timberland as a means of providing open space and conserving other natural resources.

Air Quality – Transportation/Circulation

Goal 6.F: To integrate air quality planning with the land use and transportation planning process.

Policies

6.F.1: The City shall attempt to ensure smooth-flowing traffic conditions for major roadways through planning of traffic signals and traffic signal coordination, parallel roadways, and intra- and inter-neighborhood connections where significant reductions in overall emissions can be achieved.

6.F.2: The City shall continue and, where appropriate, expand the use of synchronized traffic signals to smooth traffic flow and thereby reduce pollutant emissions.

6.F.3: The City shall encourage the use of alternative modes of transportation by incorporating public transit, bicycle and pedestrian modes in City transportation planning and by encouraging new development to provide adequate pedestrian and bikeway facilities.

6.F.4: The City shall consider instituting disincentives for single-occupant vehicle trips, including limitations in parking supply in areas where alternative transportation modes are available and other measures identified by the North Coast Unified Air Quality Management District.

6.F.5: The City shall endeavor to secure adequate funding for transit services so that transit is a viable transportation alternative. New development shall pay its fair share of the cost of transit equipment and facilities required to serve new projects.

3.3.3 Analysis, Impacts, and Mitigation

Significance Criteria

Air Quality

This analysis uses the significance criteria from the CEQA Guidelines Appendix G. The proposed General Plan would result in a significant impact on air quality if it would:

a. Conflict with or obstruct implementation of the applicable air quality plan;

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);

d. Expose sensitive receptors to substantial pollutant concentrations; or

e. Create objectionable odors affecting a substantial number of people.

The Study Area is in nonattainment for the state PM_{10} standard, and the NCUAQMD has adopted a PM_{10} Attainment Plan for the NCAB. A significant impact would result from implementation of the 2040 General Plan if it includes policies that are inconsistent with the PM_{10} Attainment Plan adopted by NCUAQMD or produce PM_{10} emission levels that would contribute to exceedances of the state PM_{10} standard.

Greenhouse Gases

This analysis uses the significance criteria from the CEQA Guidelines Appendix G. The proposed General Plan would result in a significant impact on GHGs if it would:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

GHG emissions relate to an inherently cumulative impact because no single project makes a significant contribution to global climate change. The State CEQA Guidelines require the analysis of GHGs and potential climate change impacts from new development. Under section 15183.5 of the State CEQA Guidelines:

> [p]ublic agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.

As described above, the City of Eureka has developed draft policy objectives, strategies, and programs to address GHG emissions and climate change. CARB has just released the Scoping Plan Update (as of December 2017), and the City of Eureka plans to partner with RCEA to adopt a Climate Action Plan consistent with State reduction targets and regulations. Once finalized and adopted, the proposed CAP is anticipated to qualify under section 15183.5 of the State CEQA Guidelines as a plan for the reduction of GHG emissions for use in cumulative impact analysis pertaining to development projects. However, the CAP has not been finalized or adopted and in lieu, this analysis looks at consistency with CARB's 2017 Scoping Plan Update.

Methodology and Assumptions

Buildout of the proposed project will guide future development within the Study Area. While the exact timing of buildout is unknown and will ultimately be market driven, this analysis is based on the assumption that most uses will be developed by the year 2040 for modeling purposes and emissions were estimated for this planning horizon. This analysis is based on projected land uses, traffic trips, and associated vehicle-miles traveled (VMT) information provided in the Transportation analysis.

Operational emissions were calculated by using California Emissions Estimator Model (CalEEMod) version 2016.3.2. CalEEMod is a computer program that can be used to estimate anticipated emissions associated with land development projects in California. CalEEMod has separate databases for specific counties and air districts. The Humboldt County database was used for the proposed project. The model calculates criteria pollutant emissions, including CO, PM_{10}, $PM_{2.5}$, ozone precursors (ROG and NO_X), and GHGs (CO_2e).

Operational inputs to CalEEMod include (1) the specific year for project operations, (2) vehicle trip generation rates, (3) fireplace types and quantities, (4) land use features that contribute to reductions in VMT, and (5) project criteria for energy use. Model default values for trip distances and trip rates were adjusted to match information in the transportation analysis. Operational emissions calculated by the model are separated by source: energy use, area sources, mobile sources, waste disposal, and water delivery and treatment. The area sources are fireplaces,

landscape maintenance equipment, consumer products, and architectural coatings used for routine maintenance. Consumer products (e.g., household cleaners, air fresheners, automotive products, and personal care products) emit ROG. Mobile sources are the vehicles used by residents and by patrons, staff, and vendors for commercial businesses. For this analysis, the results are expressed in pounds per day and tons per year.

Appendix C of this DEIR provides detailed emission calculations used in this analysis.

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are specifically relevant to air quality and climate change within the Study Area.

Land Use

Community Form and Character

Goal LU-1: A Community that values its unique small town charm and livability while thoughtfully advancing new prospects for growth and economic vitality.

Policies

LU-1.2: Compact Form. Provide for a compact pattern of mixed land uses at densities/ intensities consistent with the development patterns Eureka experienced from the 1870s to the 1940s and at densities/intensities that are higher than were allowed in the past three general plan updates. Focus this compact pattern of land uses to radiate out from the Core Area, Employment Areas, Commercial Corridors, and Commercial Centers to make efficient use of the City's limited remaining developable lands and to promote walkability and urban growth.

LU-1.3: Beneficial Development. Support development that affords benefits to the community that:

a. Offers varied housing choices.

b. Provides for mixed use development.

c. Develops underutilized or vacant parcels.

d. Reuses and expands upon underutilized or dilapidated buildings.

e. Furthers the attraction and/or retention of businesses targeted in the Eureka Economic Development Strategic Plan.

f. Enhances the City's tax base.

g. Encourages people to walk, bike, or use transit.

h. Integrates development with public rights- of- way, parks, open spaces, plaza's, boardwalks, trails, and other public spaces.

i. Preserves and/or enhances valuable natural, historic, or cultural resources.

j. Applies practices that help to reduce development's carbon footprint.

k. Develops intersection corners and street frontages with buildings instead of parking lots.

l. Advances other City goals.

LU-1.19: Pedestrian-oriented Design. In the downtown, commercial core, mixed use, and neighborhood commercial areas, promote the creation of a strong and appealing pedestrian environment by requiring the use of transparent commercial storefronts (i.e., windows and doors) and continuous and compatible building facades, while prohibiting the creation of blank walls and discontinuity in building facades.

Core Area

Goal LU-2: A thriving, compact, and pedestrian oriented Core Area that serves as the heart of Eureka's civic, cultural, business and visitor activity and is appealing to new investment.

Policies

LU-2.11: Core Area Specific Plan. Initiate a specific plan for the Core Area to create a framework to focus community efforts and enhance the ability to attract funding for reinvestment. The specific plan should solicit the active participation of property owners, investors, local business owners, and residents and address:

a. Specific strategies to attract the types of users and activities identified in Policy LU-2.1;

b. Use of vacant buildings and unused upper story space;

c. Historic resource preservation;

d. Improvements to streetscapes and other public spaces including pedestrian scale lighting;

e. Land use strategies for key properties along the waterfront including Halverson Park and lands east of the Samoa Bridge, the waterfront properties between C and F Streets, and the property north of First Street between G and I Streets;

f. Enhanced pedestrian, bicycle, and transit connectivity and safety;

g. Parking;

h. Increased public safety and security;

i. Incentives, branding and promotional strategies; and

j. Identification of grants, associations, partnerships, financing districts and other public and private funding mechanisms to implement defined actions, improvements and maintenance.

Commercial Corridors and Centers

Goal LU-3: Active, attractive, and prosperous corridors and centers that boost Eureka's role as the regional hub of retail, professional/business services, and tourism.

Policies

LU-3.4: Corridor Plan. Coordinate with Caltrans to initiate a corridor plan for the Broadway Corridor to create a framework to focus community efforts and enhance the ability to attract funding for reinvestment. The corridor plan should solicit the active participation of local business owners and residents and address:

a. Upgrades to the visual quality and cohesiveness of development;

b. Improvements to the streetscape and other public spaces;

c. Integration of complete streets standards including enhancement of pedestrian, bicycle and transit connectivity and safety;

d. Improved access, visibility and parking for businesses;

e. The development of underutilized, dilapidated or vacant properties;

f. Uses, activities and strategies to encourage visitors and pass-through traffic to stop in Eureka;

g. Incorporation of upper floor residential uses and mixed use nodes;

h. Disposition and adaptive reuse of older hotels;

i. Increased public safety and security;

j. Incentives, unique branding, and promotional strategies that give each district/ corridor a unique image and sense of identity; and

k. Identification of grants, associations, partnerships, financing districts and other public and private funding mechanisms to implement defined actions, improvements and maintenance.

Residential Neighborhoods

Goal LU-5: Safe, walkable, and well maintained neighborhoods that provide a diversity of quality housing choices. (New Goal)

Policies

LU-5.4: Location. Encourage the location of high density housing in close proximity to commercial and community services, employment opportunities, major transportation corridors, and where City infrastructure can accommodate increased densities.

LU-5.6: New Residential Neighborhoods. Encourage, support, and look for ways to incentivize new residential neighborhoods that incorporate the following:

a. A variety of lot sizes and alternating architectural styles;

b. A pedestrian friendly scale with interconnected streets, sidewalks, pedestrian scale lighting, and pedestrian and bicycle facilities linking multiple destinations within and between neighborhoods;

c. Integrated parks, playgrounds, open space, schools, neighborhood markets, community gardens, and other gathering and activity areas within convenient walking and bicycling distance of residents;

d. Units oriented to the primary street frontage with extensive tree canopies, attractive landscaping and designs that minimize the visual prominence of garages to enhance neighborhood character;

e. Preservation of significant topography, drainages, gulches, biological, visual and other resources as appropriate;

f. Solar powered systems and lighting; and

g. Encourage parking to be accessed from an alley or rear of the residence.

LU-5.7: Neighborhood Services. Support the retention, upgrading and expansion of small neighborhood markets, restaurants and services that are compatible with the residential environment and provide for the daily needs of nearby neighborhoods.

Growth and Expansion

Goal LU-6: New growth and annexation areas that are carefully planned, efficient, and contribute positively to the community.

Policies

LU-6.2: Infill First. Promote development of vacant infill properties and redevelopment/reuse of economically underutilized sites and buildings to accommodate new growth and internal densification prior to considering potential annexation.

LU-6.8: Project Review. Review, comment, and coordinate on plans and projects of overlapping and neighboring agencies to ensure compatibility with the City's General Plan, and to ensure that impacts on the City are fully mitigated.

Economy

Infrastructure

Goal E-5: Infrastructure to meet the needs of existing and future businesses and industries.

Policies

E-5.2: Alternative Goods Movement. Support the expansion of a range of transportation options for goods movement, including heavy rail connectivity, highway improvements, port and maritime shipping facilities, and air passenger and freight facilities and services.

Air Quality and Climate Change

Goal AQ-1: Improved air quality and reduced greenhouse gas emissions throughout Eureka.

Policies

AQ-1.1: Regional Coordination. Cooperate with the North Coast Unified Air Quality Management District, Redwood Coast Energy Authority, and other agencies to develop a consistent and effective approach to air quality planning and management, as well as to reduce greenhouse gas emissions and air quality impacts in the region.

AQ-1.2: GHG Reduction. Continue to work with Redwood Coast Energy Authority to implement appropriate measures to reduce regional greenhouse gas emissions in Eureka, such as incentivizing the use of alternative energy sources, and periodically update the City's greenhouse gas inventory and reduction plan, consistent with State reduction targets and regulations.

Note: The implementation program for this policy will be to partner with RCEA to prepare a Climate Action Plan consistent with State goals, when they have been established.

AQ-1.3: New Development. Require new discretionary developments to incorporate mitigation measures that utilize best management practices and reduce emissions from

both construction and operational activities, consistent with the North Coast Unified Air Quality Management District requirements and State regulations.

AQ-1.4: Off-Street Parking. Encourage and incentivize premium parking spaces for carpool, vanpool, and alternative energy vehicles, and encourage the development and addition of electric vehicle charging stations in parking lots.

AQ-1.5: NCUAQMD Consultation. Require consultation and coordination with the North Coast Unified Air Quality Management District for any projects that may have a potential health risk or may expose the public to hazardous air pollutants, as well as determining compliance with adopted rules and regulations.

AQ-1.6: Buffering Land Uses. Require buffering of uses, facilities, and operations that may produce toxic or hazardous air pollutants and/or odors (e.g., commercial and industrial uses, highways, etc.) to provide an adequate distance from sensitive receptors (e.g., housing and schools), consistent with California Air Resources Board recommendations.

AQ-1.7: Large Employers. Encourage large employers to allow for flexibility in the work schedule that would reduce emissions of air pollutants, such as more alternative schedules and telecommuting, in addition to providing incentives for public transit and carpooling.

AQ-1.8: Localized Concentrated Air Pollution. Strive to reduce the number and generation of localized points of concentrated automobile emissions, or “hot spots,” such as by synchronizing traffic signals.

AQ-1.9: Transit Funding. Strive to secure adequate funding for transit, autonomous vehicle, and ridesharing services to provide viable transportation alternatives to help reduce greenhouse gas emissions. New development shall contribute its fair share of the transit service costs to serve new projects.

AQ-1.10: Non-Motorized Transportation. Continue to plan for and secure adequate funding for interjurisdictional non-motorized transportation facilities to help reduce greenhouse gas emissions.

AQ-1.11: City Employee Incentives. Explore incentives for City employees to promote and utilize alternative modes of transportation, such as public transit, carpooling, walking, bicycling, and telecommuting.

AQ-1.12: City Vehicle Fleet. Continue to purchase low-emission and zero-emission vehicles for the City’s non-emergency fleet and use only clean fuel sources for trucks and heavy equipment, where feasible.

AQ-1.13: Reducing the City’s Operation Emissions. Continue to promote strategies aimed at lowering the City’s operation emissions, including exploring the feasibility of purchasing 100 percent renewable power through a Community Choice Aggregation program.

AQ-1.14: Education and Outreach. Provide educational opportunities, and assist in engaging with the public, involving air quality, its health impacts, and actions that people can take to improve air quality and minimize greenhouse gas emissions.

Mobility

Complete Streets

Goal M-1: A model City for multi-modal transportation.

Policies

M-1.1: Complete Streets. Design and construct both new and reconstructed streets with adequate rights-of way and facilities to support the full range of locally available travel modes, compliant with the City of Eureka Design/Complete Streets Design Guide and the California Complete Streets Act (AB 1358).

M-1.2: Investment in Alternative Modes. In order to provide a realistic and cost-effective balance between travel modes, the City shall emphasize investment in alternative modes.

M-1.3: Multimodal Options. Establish an interconnected transportation network that offers safe and convenient mobility options including adequate streets, transit services, pedestrian walkways, bike routes, commercial rail connections, aviation services, and trucking and shipping.

M-1.4: Public Outreach. Use public outreach to educate and encourage alternative modes of travel and inform the community about the benefits of participation in new programs, approaches and strategies that support Mobility Element goals and policies.

M-1.6: Dense Development. Integrate transportation and land use decisions to enhance opportunities for development that is compact, walkable and transit friendly.

M-1.7: Consider all Users of Transportation System. Consider applying a multimodal level of service standard in order to ensure that projects do not result in degraded facilities/services for transit, bicyclists, and pedestrians.

Streets and Highways

Goal M-2: A safe and efficient movement of people and goods that provide sufficient access to new development.

Policies

M-2.2: Traffic Management. Address traffic operations, including congestion, intersection delays, and travel speeds, while balancing neighborhood livability and safety concerns.

M-2.3: Level of Service Standard. Strive to manage streets and highways to maintain Level of Service (LOS) C operation on all roadway segments and signalized intersections, except for along any portion of US 101, where LOS D shall be acceptable. For evaluation purposes, service levels shall be determined using methodologies and thresholds as set forth in the most up-to-date version of the Highway Capacity Manual, Institute of Transportation Engineers. For purposes of evaluating development proposals, if an intersection is operating at LOS E or F without project-generated traffic added, the project's impact shall be considered less-than-significant if it does not cause operation to fall from LOS E to LOS F and it increases average delay for the intersection as a whole by 5 seconds or less.

M-2.4: Vehicle Miles Traveled. Consider the applicability of using transportation performance metrics such as Vehicle Miles Traveled (VMT) and associated thresholds for measuring transportation system impacts consistent with the California Environmental

Quality Act (CEQA) guideline and State law, as well as for making General Plan consistency determinations and developing transportation financing programs.

M-2.7: Traffic Studies for Development Projects. At the discretion of the City Engineer or when a project is expected to generate 50 or more peak hour trips or that could result in any vehicle trip increase in an area already operating below the established standards, require the preparation of site-specific traffic studies. Any project that is anticipated to generate significant traffic impacts will be required to mitigate such impacts.

M-2.9: Multi-modal Access. Promote the provision of multi-modal access to activity centers such as commercial and employment uses, Downtown, Old Town, schools and parks.

Pedestrians and Bicyclists

Goal M-3: A system of walkways, bikeways and bicycle parking facilities which will safely and effectively serve those wishing to walk and bicycle for commute or recreational trips.

Policies

M-3.1: Bicycle and Pedestrian Master Plan. Develop, maintain and implement a Bicycle and Pedestrian Master Plan to set forth the long-range plans to provide a complete system of walking and bicycling facilities, building on the existing plan. Review and, if necessary, update the plan every five years at a minimum.

M-3.2: Extend Facilities. Provide for the extension of sidewalks, trails, and walking/ bicycling facilities throughout the city to allow for convenient and safe pedestrian and cyclist movement and to promote walking and bicycling as viable modes of transportation for all types of trips.

M-3.3: Continuous Networks. Provide continuous pedestrian and bicycle systems that link neighborhoods, parks, schools, commercial centers, major employers, and other frequently-visited destinations and expand access to the gulches and greenways consistent with the City's Bicycle Plan and street design guidelines.

M-3.4: Regional Connectivity. Provide a bicycle system that is interconnected with the regional bikeway system.

M-3.5: Street Design. Consider the needs of pedestrians and bicyclists in the design of all new or reconstructed streets, with improvements to be provided consistent with the street design guidelines.

M-3.6: Maintain Bikeways. Maintain designated bikeways and other local streets and bicycle parking facilities in a condition favorable to use by bicyclists.

M-3.7: Bicycle Signage Infrastructure. Install wayfinding signage, markers, and stencils on off-street paths, on-street bikeways, local roads, and State Routes to improve way finding for bicyclists, assist emergency personnel, and heighten motorist awareness.

M-3.8: Bike Parking. Promote the installation of secure bicycle parking and other supporting facilities in areas generating substantial bicycle traffic and at major public facilities.

M-3.9: Facilities at New Developments. Where applicable, require new development to provide bicycle access to and through projects, and to construct, dedicate and/or pay its equitable share contribution to the citywide system.

M-3.10: Enhanced Crossings. Evaluate need for enhanced crossing treatments, new signals or modified signal operations to promote safety for pedestrians and bicyclists. Coordinate with Caltrans to effect change along the U.S. 101 corridor.

M-3.11: Safe Routes to School. Coordinate with local school districts to plan for safe routes to schools and to access funding opportunities to ensure that safe routes to schools are available to all students.

Transit

Goal M-4: Coordinated transit service within Eureka and surrounding areas as an alternative to automobiles. (Existing Goal)

Policies

M-4.1: Transit Services. Work with local and regional transit providers to maintain and expand services within the City that meet the needs of residents, and are accessible, timely, and responsive to growth patterns, and design routes with transit stops linking to trails and recreation areas.

M-4.2: Accessible Transit Services. Support efforts to increase accessible transit services and facilities for the elderly, economically disadvantaged, disabled, school aged children, college students, and other transit-dependent persons.

M-4.3: Intermodal Transportation Center. Work with the Humboldt Transit Authority to develop an intermodal transportation center that would provide a central focal point for all transportation modes serving Humboldt County, including buses, cabs and limousines, railroad passenger service, bay excursion services, horse-drawn carriages, and possibly cruise ships and trolleys.

M-4.4: Developer Improvements. Require new development to dedicate easements for and provide sheltered public stops for transit patron access where consistent with transit agency plans, and/or pay its equitable share contribution to the Citywide transit system.

M-4.5: Transit Use. Work with Core Area employers to encourage their employees to use public transit, thereby reducing traffic congestion and parking demand in the Core Area.

M-4.6: Bus Stops. Design new bus stops and improve existing bus stops with appropriate amenities and features to increase rider comfort and feelings of safety and encourage walking and bicycling, including shelters, benches, lighting, shade trees, signs, information kiosks, waste receptacles, paved surfaces, and secure bicycle parking. Where appropriate, add either bus stop lanes or bus turnouts.

M-4.8: Safe Routes to Transit. Implement and maintain a safe routes program that prioritizes pedestrian and bicycle access to transit stops and stations.

Supply and Management

Goal M-5: A circulation and parking system that serves the diverse needs of the City.

Policies

M-5.5: Alternative Fuel Vehicle Parking. Support parking for Electric Vehicles (EVs), carpools, and hybrids, including the development of local charging stations in both public and private parking lots and large commercial parking lots.

Utilities

Water Supply and Delivery

Goal U-1: Availability of an adequate, safe, and sustainable water supply and maintenance of an efficient water system for residents and visitors.

Policies

U-1.5: Green Infrastructure. Continue to encourage the use of green infrastructure that promotes efficient water use and reduced water demand by requiring water-conserving design and equipment in new construction and encouraging the retrofitting of existing development with water-conserving devices.

Wastewater Collection, Treatment and Disposal

Goal U-2: Sustainable and adequate wastewater collection, treatment, and disposal for existing and future development.

Policies

U-2.7: Best Management Practices. Identify and implement, where feasible, best practices and technologies for wastewater collection and treatment, including strategies that reduce wastewater requiring treatment, such as waterless toilets or composting garbage disposals and toilets, maintain maximum energy efficiency, and reduce costs and greenhouse gas emissions.

Stormwater Drainage

Goal U-3: A comprehensive stormwater collection and conveyance system that reduces or prevents flooding, and protects public safety and the environment.

Policies

U-3.12: Minimize Drainage Through Design. Encourage new project designs that minimize impervious surfaces and maintain, to the extent feasible, natural site drainage conditions, while also employing techniques aimed at retaining and reusing runoff and other water used onsite.

Solid Waste Collection and Disposal

Goal U-4: Safe and efficient disposal or recycling of solid waste generated in Eureka.

Policies

U-4.3: Increase Waste Diversion. Promote maximum use of solid waste source reduction, recycling, composting, and environmentally-safe transformation of wastes, maximizing solid waste diversion opportunities.

U-4.4: Composting Programs. Support programs and facilities that divert residential, commercial, and industrial food, vegetation, and other organic waste from the landfill and continue to work with regional composting facilities to continue and increase composting services for residents and businesses.

U-4.5: Solid Waste Management per State Mandated Diversion Goals. Continue to partner with Humboldt Waste Management Authority and City-designed franchise hauler to further plan for and document compliance with State-mandated source reduction, diversion, and recycling requirements.

U-4.6: Recycling for Residential Uses. Continue to encourage residential uses to increase the solid waste diversion from landfills through participation of the recycling programs and organic waste diversion, consistent with State-mandated diversion goals and the City's goals to reduce greenhouse gas emissions. (New)

U-4.7: Recycling for Commercial and Industrial Uses. Continue to encourage the development of regional and community-based recycling facilities in heavy industrial areas while also establishing more waste reduction requirements for commercial and industrial uses. (Modified 1997 General Plan Policy 4.E.4)

U-4.8: Reduced Materials Consumption. Conserve natural resources through reduced materials consumption and regularly update the City's Zero Waste Action Plan.

U-4.9: Waste Education. Collaborate with Humboldt Waste Management Authority and City-designed franchise hauler to inform residents and businesses about methods to increase recycling and waste diversion, namely composting and organics diversion.

Energy

Goal U-5: Increased renewable energy provision and overall energy efficiency and conservation throughout the City. (New Goal)

Policies

U-5.1: Energy Conservation. Promote energy conservation and development of alternative, nonpolluting, renewable energy sources for community power in both the public and private sectors.

U-5.2: Energy Conserving Land Use Practices. Implement energy conserving land use practices that include compact and mixed use development, provision of bikeways and pedestrian paths, and the incorporation and enhancement of transit routes and facilities.

U-5.3: Design Process. Engage with property owners and developers early in the design process to incorporate energy saving strategies into appropriate projects.

U-5.4: Building Orientations. Require, to the extent feasible, building orientations and landscape designs that promote the use of natural lighting, take advantage of passive summer cooling and winter solar access, and incorporate other techniques to reduce energy demands.

U-5.5: Renewable Energy. Encourage new development to install renewable energy systems and facilities (e.g., solar and wind energies) consistent with the City's greenhouse gas emission reduction goals.

U-5.6: Community Energy Efficiency. Identify and promote programs, funding opportunities, and rebates from utility providers to increase energy conservation in existing buildings and require new buildings to implement additional energy efficient measures that are consistent with the City's greenhouse gas emission reduction goals.

U-5.8: City Energy Efficiency. Promote energy conservation for all City-owned facilities, vehicles, and equipment, and implement additional energy efficient measures that are consistent with the City's goal of reducing greenhouse gas emissions.

U-5.9: Green Buildings and Businesses. Explore providing incentives for development that generates renewable energy and uses sustainable and energy-efficient technologies that result in minimized carbon footprints.

U-5.10: Energy Education and Outreach. Encourage a public understanding of the importance of renewable energy and energy efficiency through partnerships with energy-related organizations.

Health and Safety

Hazardous Materials and Toxic Contamination

Goal HS-4: Safe production, use, storage, transport, treatment, and disposal of hazardous materials and hazardous waste.

Policies

HS-4.5: Buffering. Require new industries that store and process hazardous materials provide a buffer between the installation and the property boundaries sufficient to protect public safety. The adequacy of the buffer zone shall be as determined by the city.

HS-4.6: Disclosure. Require applications for discretionary development projects that will generate hazardous wastes or utilize hazardous materials to include detailed information on hazardous waste reduction, recycling, and storage, consistent with local, regional, and State regulations.

HS-4.7: Best Management Practices. Encourage industries, businesses, and residents to incorporate best management practices and technologies to minimize the hazardous material use and hazardous waste generation.

HS-4.9: Public Education. Promote education efforts regarding the proper use, storage, and disposal of hazardous materials in Eureka.

Impacts and Mitigation Measures

Air Quality

Impact 3.3-1: Implementation of the Eureka 2040 General Plan would not conflict with or obstruct implementation of the applicable air quality plan.

As discussed above, the City of Eureka is in attainment of all federal and state criteria air pollutant standards, except for state PM_{10} levels, for which the entire North Coast Air Basin, including Humboldt County, is currently designated as a non-attainment area and for which the NCUAQMD has adopted the PM_{10} Attainment Plan. A significant impact would result from implementation of the 2040 General Plan if it included policies that are inconsistent with the PM_{10} Attainment Plan adopted by NCUAQMD or produce PM_{10} emission levels that would contribute to exceedances of the state PM_{10} standard.

The 2040 General Plan contains policies, standards, and implementation measures to support the implementation of the PM_{10} Attainment Plan and other NCUAQMD regulations. The Attainment Plan includes the following control strategies:

- *Transportation Control Measures*, including public transit service, rideshare programs, park and ride lots, a vehicle buy-back program, a smoking vehicle program, traffic flow improvements, and a bicycling program;
- *Land Use Measures*, addressed through the air quality elements of General Plans;

- *Open Burning Measures*, including residential burning and property development, woodstove PM_{10} control strategies, and residential wood burning control measures (enhanced woodstove operation, replacement of conventional woodstoves, prohibit sale or installation of woodstoves or require EPA certified woodstoves for new development, smoke day woodstove curtailments, public education, and home weatherization.

The 2040 General Plan includes the following goals for that are consistent with the PM_{10} Attainment Plan: LU-1.2, Compact Form; LU-1.3, Beneficial Development; LU-1.19, Pedestrian-oriented Design; LU-2.11, Core Area Specific Plan; LU-3.4, Corridor Plan; LU-5.4, Location; LU-5.6, New Residential Neighborhoods; LU-5.7, Neighborhood Services; LU-6.2, Infill First; LU-6.8, Project Review; E-5.2, Alternative Goods Movement; AQ-1.1, Regional Coordination; AQ-1.3, New Development; AQ-1.4, Off-Street Parking; AQ-1.7, Large Employers; AQ-1.8, Localized Concentrated Air Pollution: AQ-1.9, Transit Funding; AQ-1.10, Non-Motorized Transportation; AQ-1.11, City Employee Incentives; AQ-1.12, City Vehicle Fleet; AQ-1.13, Reducing the City's Operation Emissions; AQ-1.14, Education and Outreach; M-1.1, Complete Streets; M-1.2, Investment in Alternative Modes; M-1.3, Multimodal Options; M-1.4, Public Outreach; M-1.6, Dense Development; M-1.7, Consider all Users of Transportation System, M-2.2, Traffic Management; M-2.3, Level of Service Standard; M-2.4, Vehicle Miles Traveled; M-2.7, Traffic Studies for Development Projects; M-3.1, Bicycle and Pedestrian Master Plan; M-3.2, Extend Facilities; M-3.3, Continuous Networks; M-3.4, Regional Connectivity; M-3.5, Street Design; M-3.6, Maintain Bikeways; M-3.7, Bicycle Signage Infrastructure; M-3.8, Bike Parking; M-3.9, Facilities at New Developments; M-3.10, Enhanced Crossings; M-3.11, Safe Routes to School; M-4.1, Transit Services; M-4.2, Accessible Transit Services; M-4.3, Intermodal Transportation Center; M-4.4, Developer Improvements; M-4.5, Transit Use; M-4.6, Bus Stops; M-4.8, Safe Routes to Transit; and M-5.5, Alternative Fuel Vehicle Parking.

These goals are consistent with the PM_{10} Attainment Plan and would not be expected to produce PM_{10} emissions that would contribute to exceedances of the state PM_{10} standard. Therefore, this impact is considered **less than significant**.

Mitigation Measures

None required.

Impact 3.3-2: Implementation of the Eureka 2040 General Plan would violate an air quality standard and would contribute to an existing or projected air quality violation.

Construction

Overall construction emissions would occur intermittently and over the envisioned horizon year of the General Plan. Construction activities would vary from day to day and year to year, as construction activity levels change. Construction-related emissions arise from a variety of activities, including: (1) grading, excavation, road building, and other earth moving activities; (2) travel by construction equipment and employee vehicles, especially on unpaved surfaces; (3) exhaust from construction equipment, trucks, and worker vehicles; (4) architectural coatings; and (5) asphalt paving.

Exhaust from construction equipment, trucks, and worker vehicles includes emissions of ozone precursors (ROG and NO_X), CO, PM_{10}, $PM_{2.5}$, and SO_X. These emissions would largely vary as a function of vehicle trips per day and the type, quantity, intensity, and frequency of heavy-duty, off-road equipment used. The use of off-road construction equipment results in localized exhaust emissions. Typically, a large portion of construction-related ROG emissions also results from the application of asphalt and architectural coatings.

Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. In the absence of mitigation, construction activities could result in significant quantities of dust, and as a result, local visibility and PM_{10} concentrations may be adversely affected on a temporary and intermittent basis. In addition, fugitive dust generated by construction would include not only PM_{10}, but also larger particles, which would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts.

NCUAQMD regulations and policies within the 2040 General Plan would reduce impacts related to construction. Development under the 2040 General Plan would be required to comply with all NCUAQMD rules and regulations regarding fugitive dust, including Regulation 1, Rule 104.D, which would reduce fugitive dust emissions. Proposed General Plan Policy AQ-1.3 would require new discretionary developments to incorporate mitigation measures that utilize best management practices and reduce emissions from both construction and operational activities, consistent with the NCUAQMD requirements and State regulations. Therefore, impacts related to construction under the General Plan would be **less than significant**.

Operation

Implementation of the proposed 2040 General Plan would construct new residential and non-residential land uses. Residents and employees would use vehicles to drive on paved and unpaved roads and fireplaces and woodstoves would be installed that would add additional particulate emissions (PM_{10}) into the atmosphere.

Development allowed under the proposed 2040 General Plan is projected to lead to increases in the number of vehicle trips and vehicle miles traveled (VMT) by City residents. This increase in vehicle trips and VMT would result in increased PM_{10} emissions, for which the NCAB is in non-attainment for State standards. Daily VMT in 2010 for the City of Eureka is 616,007. For the year 2040 *without* the General Plan Update, estimated VMT is 682,257 miles per day; in 2040 *with* the General Plan Update, estimated VMT is 693,961 miles per day. This represents an increase of 11,704 vehicle miles traveled per day (or approximately 1.7 percent) over the without General Plan scenario in 2040.

Estimated emissions for the full build-out of the 2040 General Plan in 2040 in pounds per day and tons per year are provided in **Tables 3.3-8** and **3.3-9**, respectively. These emission estimates also take into account growth that would occur if the 2040 General Plan was not implemented. The majority of area emissions are from woodstoves and fireplaces, which emit relatively high amounts of ROG, CO, PM_{10}, and $PM_{2.5}$. Energy use is the smallest emissions source. Mobile sources present the second-highest source of emissions in 2040 for the 2040 General Plan.

TABLE 3.3-8
2040 GENERAL PLAN (WITH PROJECT) OPERATIONAL EMISSIONS IN 2040, POUNDS PER DAY

Source	ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$
Area	3,000	3,719	58	6	500	500
Energy	1	6	8	< 1	1	1
Mobile	90	1,059	643	5	540	146
Total	**3,091**	**4,784**	**709**	**11**	**1,041**	**647**

NOTES:
1. Operational emissions estimates were made using CalEEMod version 2016.3.2. See Appendix C for model outputs and more detailed assumptions.
2. Emissions estimates take into account growth that would occur if the 2040 General Plan was not implemented.

SOURCE: ESA, 2018.

TABLE 3.3-9
2040 GENERAL PLAN (WITH PROJECT) OPERATIONAL EMISSIONS IN 2040, TONS PER YEAR

Source	ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$
Area	139	160	2	< 1	21	21
Energy	< 1	1	1	< 1	< 1	< 1
Mobile	17	184	116	1	92	25
Total	**155**	**346**	**119**	**1**	**113**	**46**

NOTES:
1. Operational emissions estimates were made using CalEEMod version 2016.3.2. See Appendix C for model outputs and more detailed assumptions.
2. Emissions estimates take into account growth that would occur if the 2040 General Plan was not implemented.

SOURCE: ESA, 2018.

The difference in mobile source emissions in 2040 between the with and without General Plan scenarios is presented in **Table 3.3-10**. Emissions of PM_{10} and ROG would increase by approximately 1 ton per year each, CO would increase by 3 tons per year, NO_X would increase by 2 tons per year, and there would be a negligible difference in emissions (much less than 1 ton) for SO_2 and $PM_{2.5}$ under implementation of the General Plan over non-implementation in 2040.

TABLE 3.3-10
DIFFERENCE BETWEEN WITH AND WITHOUT GENERAL PLAN MOBILE SOURCE EMISSIONS IN 2040, TONS PER YEAR

Scenario	ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$
Without General Plan	16	181	114	1	91	25
With General Plan	17	184	116	1	92	25
Total	**1**	**3**	**2**	**< 1**	**1**	**< 1**

NOTES:
1. Operational emissions estimates were made using CalEEMod version 2016.3.2. See Appendix C for model outputs and more detailed assumptions.
2. Emissions estimates take into account growth that would occur if the 2040 General Plan was not implemented.

SOURCE: ESA, 2018.

The increase in PM_{10} emissions is predominantly attributable to mobile sources (resulting from a net increase in VMT), and use of woodstoves and fireplaces. The net increase in VMT under the 2040 With Project scenario and the 2040 No Project scenario is 1.7 percent, which would result in a one ton per year increase in PM_{10} emissions in 2040 without the General Plan. This increase in PM_{10} emissions could potentially increase the number of violations of the state PM_{10} standard, though the amount of additional PM_{10} emissions attributable to the 2040 General plan would be relatively small. Though the General Plan's contribution to this deficiency would be small, this analysis conservatively concludes that the operation of the Eureka 2040 General Plan would have the potential to contribute to the continuing violations of an air quality standard, specifically, for PM_{10} emissions, and would therefore be a **significant impact**.

Feasible actions to reduce the probability of violating any air quality standard or contribute substantially to an existing or projected air quality violation are included as policies of the proposed General Plan Update. These policies include: LU-1.2, Compact Form; LU-1.3, Beneficial Development; LU-1.19, Pedestrian-oriented Design; LU-2.11, Core Area Specific Plan; LU-3.4, Corridor Plan; LU-5.4, Location; LU-5.6, New Residential Neighborhoods; LU-5.7, Neighborhood Services; LU-6.2, Infill First; LU-6.8, Project Review; E-5.2, Alternative Goods Movement; AQ-1.1, Regional Coordination; AQ-1.3, New Development; AQ-1.4, Off-Street Parking; AQ-1.7, Large Employers; AQ-1.8, Localized Concentrated Air Pollution: AQ-1.9, Transit Funding; AQ-1.10, Non-Motorized Transportation; AQ-1.11, City Employee Incentives; AQ-1.12, City Vehicle Fleet; AQ-1.13, Reducing the City's Operation Emissions; AQ-1.14, Education and Outreach; M-1.1, Complete Streets; M-1.2, Investment in Alternative Modes; M-1.3, Multimodal Options; M-1.4, Public Outreach; M-1.6, Dense Development; M-1.7, Consider all Users of Transportation System, M-2.2, Traffic Management; M-2.3, Level of Service Standard; M-2.4, Vehicle Miles Traveled; M-2.7, Traffic Studies for Development Projects; M-3.1, Bicycle and Pedestrian Master Plan; M-3.2, Extend Facilities; M-3.3, Continuous Networks; M-3.4, Regional Connectivity; M-3.5, Street Design; M-3.6, Maintain Bikeways; M-3.7, Bicycle Signage Infrastructure; M-3.8, Bike Parking; M-3.9, Facilities at New Developments; M-3.10, Enhanced Crossings; M-3.11, Safe Routes to School; M-4.1, Transit Services; M-4.2, Accessible Transit Services; M-4.3, Intermodal Transportation Center; M-4.4, Developer Improvements; M-4.5, Transit Use; M-4.6, Bus Stops; M-4.8, Safe Routes to Transit; and M-5.5, Alternative Fuel Vehicle Parking.

Mitigation Measures

Many of the aforementioned policies of the proposed General Plan Update recognize that VMT is a contributing factor to PM_{10} emissions. Implementation of those policies would provide for modest reductions in VMT. However, no actions or mitigation measures have been identified that could be reasonably expected to result in reducing PM_{10} emissions below levels that would not violate applicable standards and reduce the impact to less than significant.

Impact Significance After Mitigation: NCUAQMD rules and regulations and applying the 2040 General Plan policies and standards would reduce construction and/or operational impacts that might otherwise be greater. However, there are no mitigation measures identified that would reduce those impacts to a less-than-significant level. Therefore, this analysis conservatively concludes that impacts would be **significant and unavoidable**.

Impact 3.3-3: The Eureka 2040 General Plan would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.

As discussed under Impact 3.3-2, the Eureka 2040 General Plan would result in an increase in emissions and thus have the potential to violate an air quality standard or contribute substantially to an existing or projected air quality violation, specifically, for PM_{10} emissions. Therefore, as described under Impact 3.3-2, this analysis conservatively concludes that this increase would be cumulative considerable and would be **significant**.

Feasible actions to reduce the probability of a cumulatively considerable net increase of PM_{10}, for which the project region is non-attainment under the state ambient air quality standard are included as policies of the proposed General Plan. These policies include: LU-1.2, Compact Form; LU-1.3, Beneficial Development; LU-1.19, Pedestrian-oriented Design; LU-2.11, Core Area Specific Plan; LU-3.4, Corridor Plan; LU-5.4, Location; LU-5.6, New Residential Neighborhoods; LU-5.7, Neighborhood Services; LU-6.2, Infill First; LU-6.8, Project Review; E-5.2, Alternative Goods Movement; AQ-1.1, Regional Coordination; AQ-1.3, New Development; AQ-1.4, Off-Street Parking; AQ-1.7, Large Employers; AQ-1.8, Localized Concentrated Air Pollution: AQ-1.9, Transit Funding; AQ-1.10, Non-Motorized Transportation; AQ-1.11, City Employee Incentives; AQ-1.12, City Vehicle Fleet; AQ-1.13, Reducing the City's Operation Emissions; AQ-1.14, Education and Outreach; M-1.1, Complete Streets; M-1.2, Investment in Alternative Modes; M-1.3, Multimodal Options; M-1.4, Public Outreach; M-1.6, Dense Development; M-1.7, Consider all Users of Transportation System, M-2.2, Traffic Management; M-2.3, Level of Service Standard; M-2.4, Vehicle Miles Traveled; M-2.7, Traffic Studies for Development Projects; M-3.1, Bicycle and Pedestrian Master Plan; M-3.2, Extend Facilities; M-3.3, Continuous Networks; M-3.4, Regional Connectivity; M-3.5, Street Design; M-3.6, Maintain Bikeways; M-3.7, Bicycle Signage Infrastructure; M-3.8, Bike Parking; M-3.9, Facilities at New Developments; M-3.10, Enhanced Crossings; M-3.11, Safe Routes to School; M-4.1, Transit Services; M-4.2, Accessible Transit Services; M-4.3, Intermodal Transportation Center; M-4.4, Developer Improvements; M-4.5, Transit Use; M-4.6, Bus Stops; M-4.8, Safe Routes to Transit; and M-5.5, Alternative Fuel Vehicle Parking.

Mitigation Measures

No actions or mitigation measures have been identified that would be reasonably expected to result in reducing PM_{10} emissions below levels that would not be a cumulatively considerable net increase and reduce the impact to less than significant.

Impact Significance After Mitigation: 2040 General Plan policies and standards would reduce impacts that might otherwise be greater; however, the implementation of the proposed 2040 General Plan would result in a cumulatively considerable net increase in PM_{10} emissions. There are no mitigation measures identified that would reduce impacts to a less-than-significant level. Therefore, this analysis conservatively concludes that impacts would be **significant and unavoidable**.

Impact 3.3-4: Implementation of the Eureka 2040 General Plan would not expose sensitive receptors to substantial pollutant concentrations.

CO Hotspots

CO is a localized pollutant of concern. CO concentrations have declined dramatically in California due to existing controls and programs and most areas of the state have no problem meeting the state and federal standards. CO measurements and modeling were important in the early 1980's when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, less emissions from new vehicles, and improvements in fuels.

Policies within the 2040 General Plan would reduce impacts related to CO concentrations. Policy AQ-1.8 strives to reduce the number and generation of localized points of concentrated automobile emissions, or "hot spots," such as by synchronizing traffic signals. Policy M-2.3 would strive to maintain a Level of Service standard that would reduce congestion and CO concentrations.

The Sacramento Metropolitan Air Quality Management District (SMAQMD) has developed a conservative screening criteria for CO hotspots to determine whether vehicle trips will result in the generation of CO emissions that would exceed state or federal standards.[19] Localized CO hotspots would have a less than significant impact if an affected intersection would experience more than 31,600 vehicles per hour, horizontal or vertical mixing of air would not be substantially limited (such as a tunnel or parking garage), and the mix of vehicles at the intersection is not anticipated to be substantially different from the average. As estimated by the traffic consultant, the maximum number of vehicles with the Eureka 2040 General Plan scenario will be 3,738 vehicles per hour at Broadway and Henderson Street, horizontal or vertical mixing of air would not be substantially limited, and the mix of vehicles is expected to be average. Therefore, based on SMAQMD methodology and implementation of policies within the 2040 General Plan, impacts due to CO concentrations at intersections affected by the 2040 General Plan would be **less than significant**.

Toxic Air Contaminants

Long-term operation of land uses in the Study Area could include the development of stationary sources that emit TACs. However, any stationary sources that may emit TACs would be subject to NCUAQMD permitting and Toxics Best Available Control Technology (T-BACT) requirements. NCUAQMD would assess such sources for potential health risk impacts based on their potential to emit TACs. If it is determined that the sources would emit TACs in excess of NCUAQMD's applicable threshold of significance, T-BACT would be implemented to reduce emissions. If the implementation of T-BACT would not reduce the risk below the threshold, then NCUAQMD would deny the required permit. As a result, impacts associated with exposure of

[19] Sacramento Metropolitan Air Quality Management District (SMAQMD). 2016. Operational Criteria Air Pollutant and Precursor Emissions. Available: http://www.airquality.org/LandUseTransportation/Documents/Ch4OperationalFINAL8-2016.pdf. Accessed February 22, 2018.

sensitive receptors to substantial toxic air emissions from stationary source operations would be less than significant.

The 2040 General Plan would include proposed residences, schools, and parks. Development could place residential and other sensitive receptors in proximity to sources of TACs, such as high volume roadways and industrial uses. The *Air Quality and Land Use Handbook: A Community Health Perspective,*[20] which is advisory rather than regulatory, includes the following recommendations that may apply:

- Avoid siting new sensitive land uses within 500 feet of urban roads carrying 100,000 vehicles per day.
- Avoid siting new sensitive land uses within 300 feet of a large gasoline station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gasoline-dispensing facilities.
- Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation using perchloroethylene. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult the local air district. Do not site new sensitive land uses in the same building with dry-cleaning operations that use perchloroethylene.
- Obtain facility-specific information where there are questions about siting a sensitive land use close to an industrial facility, including the amount of pollutant emitted and its toxicity, distance to nearby receptors, and types of emissions controls in place.

TAC emissions from construction activities would be related to diesel particulate emissions associated with heavy equipment operations during grading, excavation, and transportation activities. The use of construction-related off-road heavy-duty diesel equipment would be temporary and transient in nature. Emissions standards adopted by CARB require engine manufacturers to meet exhaust emission standards that are much cleaner than current levels. As a result, construction-related TAC emissions will be less likely to expose sensitive receptors to substantial emissions of TACs as the vehicle fleet is replaced. However, sensitive receptors could be exposed to levels that could exceed applicable standards because of the close proximity between on-site diesel equipment and potential sensitive receptors.

The City's proposed 2040 General Plan includes policies to reduce exposure of sensitive receptors to substantial pollutant concentrations. These policies include AQ-1.3, New Development; AQ-1.5, NCUAQMD Consultation; AQ-1.6, Buffering Land Uses; AQ-1.8, Localized Concentrated Air Pollution; HS-4.5, Buffering; HS-4.6, Disclosure; HS-4.7, Best Management Practices; and HS-4.9, Public Education.

These 2040 General Plan policies and NCUAQMD rules and regulations would avoid or mitigate harmful levels of air emissions to sensitive receptors. Therefore, impacts from exposing sensitive receptors to substantial pollutant concentrations would be **less than significant**.

[20] California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April 2005. p. 4.

Mitigation Measures

None required.

Impact 3.3-5: The Eureka 2040 General Plan would not create objectionable odors affecting a substantial number of people.

In regards to operations, no common sources of substantial nuisance odors, such as wastewater treatment facilities or waste-disposal facilities are proposed as part of the General Plan Update. Sources of objectionable odors can include commercial, industrial, and agricultural land uses near existing or proposed sensitive receptors. However, it is currently unknown the types and locations of odor-generating land uses.

Objectionable odors may be generated from the operation of diesel-powered construction equipment and/or asphalt paving during the construction period of individual projects. However, these odors would be short term in nature and would not result in permanent impacts to surrounding land uses and would not affect a substantial number of people.

Policies within the Eureka 2040 General Plan would avoid or mitigate the effects of objectionable odors affecting a substantial number of people. Specifically, Policy AQ-1.6 would reduce odors impacts by requiring buffering of uses, facilities, and operations that may produce toxic or hazardous air pollutants and/or odors (e.g., commercial and industrial uses, highways, etc.) to provide an adequate distance from sensitive receptors (e.g., housing and schools), consistent with CARB recommendations. Therefore, implementation of the 2040 General Plan and policies would reduce impacts due to objectionable odors to **less than significant**.

Mitigation Measures

None required.

Greenhouse Gases

Impact 3.3-6: The Eureka 2040 General Plan would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Construction

Construction would occur as buildout under the 2040 General Plan proceeds. Specific construction activities as a result of the implementation of the 2040 General Plan are currently unknown and cannot be quantified.

Construction emissions under the implementation of the 2040 General Plan would result in the temporary generation of GHGs. GHG emissions would come from the combustion of fuel in stationary and mobile sources (including construction equipment exhaust and haul truck vehicle exhaust). Much like emissions of criteria air pollutants during construction, emissions largely

vary as a function of vehicle trips per day and the type, quantity, intensity, and frequency of heavy-duty, off-road equipment used.

Development under the proposed 2040 General Plan would be required to comply with policies within the 2040 General Plan. Policies specific to GHG during construction include AQ-1.3, New Development, which requires new discretionary developments to incorporate mitigation measures that utilize best management practices and reduce emissions from both construction and operational activities, consistent with the North Coast Unified Air Quality Management District requirements and State regulations.

These policies would reduce GHG emissions from future development under the proposed 2040 General Plan. While the intensity of future development and construction is unknown at this time, buildout of the proposed General Plan would occur over many years and would be consistent with NCUAQMD and State regulations. Therefore, the impact of construction with regards to GHG emissions is considered **less than significant**.

Operation

The operation of the land uses proposed under the 2040 General Plan would generate direct and indirect GHG emissions. Direct sources of emissions include mobile sources, combustion of natural gas, and landscaping activities. Indirect emissions include electricity consumption, solid waste disposal, and water and wastewater treatment.

Table 3.3-11 presents the estimated GHG emissions for the City of Eureka under the 2040 General Plan in 2040. As shown in the table, for all expected development by 2040 under the 2040 General Plan, area emissions of CO_2e would be approximately 94,478 metric tons of CO_2e per year.

TABLE 3.3-11
ESTIMATED GREENHOUSE GAS EMISSIONS IN 2040, METRIC TONS PER YEAR

Source	CO_2e
Area	2,879
Energy	5,232
Mobile	84,126
Waste	1,368
Water	873
Total	94,478

NOTES:
1. Operational emissions estimates were made using CalEEMod version 2016.3.2. See Appendix C for model outputs and more detailed assumptions.
2. Emissions estimates take into account growth that would occur if the 2040 General Plan was not implemented.

SOURCE: ESA, 2018.

As shown in **Table 3.3-11**, mobile sources constitute the majority of GHG emissions. Using VMT data provided in the transportation analysis, under the proposed 2040 General Plan, CO_2e emissions from mobile sources would be 84,126 metric tons per year in 2040. However, without

the implementation of the 2040 General Plan, CO_2e emissions from mobile sources would be 82,707 metric tons per year. This represents a difference of 1,419 metric tons of CO_2e per year greater under the 2040 General Plan.

The proposed General Plan includes many policies related to densification, walkability, transit, and livable communities, all of which are in line with State recommendations and accepted urban planning practices for reducing GHGs. These policies include: LU-1.2, Compact Form; LU-1.3, Beneficial Development; LU-1.19, Pedestrian-oriented Design; LU-2.11, Core Area Specific Plan; LU-3.4, Corridor Plan; LU-5.4, Location; LU-5.6, New Residential Neighborhoods; LU-5.7, Neighborhood Services; LU-6.2, Infill First; LU-6.8, Project Review; E-5.2, Alternative Goods Movement; AQ-1.1, Regional Coordination; AQ-1.2, GHG Reduction; AQ-1.3, New Development; AQ-1.4, Off-Street Parking; AQ-1.7, Large Employers; AQ-1.9, Transit Funding; AQ-1.10, Non-Motorized Transportation; AQ-1.11, City Employee Incentives; AQ-1.12, City Vehicle Fleet; AQ-1.13, Reducing the City's Operation Emissions; AQ-1.14, Education and Outreach; M-1.1, Complete Streets; M-1.2, Investment in Alternative Modes; M-1.3, Multimodal Options; M-1.4, Public Outreach; M-1.6, Dense Development; M-1.7, Consider all Users of Transportation System; M-2.2, Traffic Management; M-2.3, Level of Service Standard; M-2.4, Vehicle Miles Traveled; M-2.7, Traffic Studies for Development Projects; M-2.9, Multi-modal Access; M-3.1, Bicycle and Pedestrian Master Plan; M-3.2, Extend Facilities; M-3.3, Continuous Networks; M-3.4, Regional Connectivity; M-3.5, Street Design; M-3.6, Maintain Bikeways; M-3.7, Bicycle Signage Infrastructure; M-3.8, Bike Parking; M-3.9, Facilities at New Developments; M-3.10, Enhanced Crossings; M-3.11, Safe Routes to School; M-4.1, Transit Services; M-4.2, Accessible Transit Services; M-4.3, Intermodal Transportation Center; M-4.4, Developer Improvements; M-4.5, Transit Use; M-4.6, Bus Stops; M-4.8, Safe Routes to Transit; M-5.5, Alternative Fuel Vehicle Parking; U-1.6, Green Infrastructure; U-1.7, Water Conservation Programs; U-2.7, Best Management Practices; U-3.12, Minimize Drainage Through Design; U-4.3, Increase Waste Diversion; U-4.4, Composting Programs; U-4.5, Solid Waste Management per State Mandated Diversion Goals; U-4.6, Recycling for Residential Uses; U-4.7, Recycling for Commercial and Industrial Uses; U-4.8, Reduced Materials Consumption; U-4.9, Waste Education; U-5.1, Energy Conservation; U-5.2, Energy Conserving Land Use Practices; U-5.3, Design Process; U-5.4, Building Orientations; U-5.5, Renewable Energy; U-5.6, Community Energy Efficiency; U-5.8, City Energy Efficiency; U-5.9, Green Buildings and Businesses; and U-5.11, Energy Education and Outreach.

These aforementioned General Plan policies would reduce GHG emissions. The degree to which these emissions would be reduced compared to 2040 conditions without the General Plan is not known, but it is reasonable to assume that reductions from the non-transportation sector would further reduce GHG emissions resulting from implementation of the Plan. Ultimately, implementation of the 2040 General Plan would reduce GHG emissions on a per-capita basis over non-implementation. Furthermore, the Climate Action Plan has not yet been adopted and would potentially include further GHG reduction measures. Therefore, this impact would be **less than significant**.

Mitigation Measures

None required.

Impact 3.3-7: The Eureka 2040 General Plan would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The 2040 General Plan includes numerous policies to reduce GHG emissions from construction and operation. These policies are consistent with statewide goals to increase renewable energy production, reduce building energy consumption, and improve energy efficiency.

As described under 2040 General Plan Policy AQ-1.2, the City will partner with RCEA to prepare a Climate Action Plan consistent with State goals, when they have been established. CARB's 2017 Scoping Plan Update was published December 2017, and the implementation program for this policy may be more clearly developed to be consistent with State reduction targets and regulations. In lieu of a Climate Action Plan, this analysis looks at consistency with CARB's 2017 Scoping Plan Update.

Policies within the 2040 General Plan would encourage public transit and carpooling, secure funding for non-motorized transportation facilities, incentives for employees to use alternative modes of transportation, and the City to purchase low-emission or zero-emissions vehicles, purchase only clean fuel sources for trucks and heavy equipment, promote strategies to lower the City's operation emissions, and provide education and outreach (listed under Impact 3.3-6). These policies are consistent with CARB's 2017 Scoping Plan and would reduce VMT and energy usage and therefore reduce GHG emissions. Additional reductions may be achieved by the City's draft GHG reduction measures and proposed Climate Action Plan.

Specific information regarding the construction of projects to be developed under the 2040 General Plan is unknown at this time. However, as described above, implementation of the 2040 General Plan would be consistent with CARB's 2017 Scoping Plan. Furthermore, the anticipated Climate Action Plan would include measures to reduce GHG emissions to meet State reduction targets and regulations. Therefore, this impact would be **less than significant**.

Mitigation Measures

None required.

Energy

Energy resources would be used during construction projects as the 2040 General Plan is implemented. Energy would also be consumed to provide lighting, heating, and cooling for future development.

Equipment during construction would use diesel and gasoline fuel. Construction of individual projects under the 2040 General Plan would occur intermittently. Furthermore, as construction fleets age and are replaced with newer, more fuel-efficient equipment, fuel use would be reduced.

Operational energy for the land uses proposed under the proposed project would use approximately 26,888 megawatts of electricity and 31,004 million British thermal units (BTU) of natural gas per year. Mobile sources during operation would use an estimated 81,481 gallons of diesel fuel and 9,189,237 gallons of gasoline per year. These values include growth that would occur even if the 2040 General Plan was not adopted.

According to data from the California Energy Commission, Humboldt County had retail sales of approximately 14,000,000 gallons of diesel and approximately 61,000,000 gallons of gasoline in 2016.[21] The electric utility provider in the Study Area is Pacific Gas & Electric (PG&E). Based on 2016 electricity consumption data for PG&E's planning area, average electricity consumption per day was 103,486,887 megawatts.[22] The natural gas provider in the Study Area is also PG&E. Based on 2016 natural gas consumption data for PG&E's planning area, average natural gas consumption per day was 458,678 cubic feet.[23]

The 2040 General Plan includes policies that would encourage increasing energy-efficiency beyond the minimum requirements, reducing indoor and outdoor water demand, and installing energy-efficient appliances and equipment. The 2040 General Plan would also incorporate characteristics that would reduce transportation-related GHG emissions by locating residential uses near mass transit, thereby encouraging alternative forms of transportation and pedestrian activity. The development of a CAP and GHG reduction measures for the City would be expected to increase energy efficiency and achieve reductions in GHG emissions consistent with State regulations.

The following previously-identified policies for air quality and GHGs also concern energy resources: U-5.1, Energy Conservation; U-5.2, Energy Conserving Land Use Practices; U-5.3, Design Process; U-5.4, Building Orientations; U-5.5, Renewable Energy; U-5.6, Community Energy Efficiency; U-5.8, City Energy Efficiency; U-5.9, Green Buildings and Businesses; and U-5.11, Energy Education and Outreach. An additional Policy, HS-5.8, *Alternative Energy Sources*, seeks to identify alternative sources of energy (i.e., electricity, natural gas) for use in the event that energy supplies are interrupted as a result of an emergency.

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21 California Energy Commission (CEC). 2017. 2016 California Retail Fuel Outlet Annual Reporting (CEC-A15) Results. Available: http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed February 22, 2018.

22 California Energy Commission (CEC). 2018. California Energy Consumption Database. Electricity Consumption by Planning Area for Pacific Gas & Electric in 2016. Available: http://ecdms.energy.ca.gov/. Accessed February 22, 2018.

23 California Energy Commission (CEC). 2018. California Energy Consumption Database. Natural Gas Consumption by Planning Area for Pacific Gas & Electric in 2016. Available: http://ecdms.energy.ca.gov/. Accessed February 22, 2018.

According to proposed revisions to the CEQA Guidelines, the proposed General Plan would result in a significant impact on energy resources if it would:[24]

a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation; or

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Policies within the 2040 General Plan would promote reductions in energy use. These policies would ensure development would not result in the wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation. Furthermore, the 2040 General Plan would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency; therefore, this impact is **less than significant**.

Mitigation Measures

None required.

[24] Governor's Office of Planning and Research. 2017. Proposed Updates to the CEQA Guidelines. Available: http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf. Accessed February 23, 2018.

3.4 Biological Resources

This section addresses biological resources, setting, applicable regulations, impacts and mitigation for the City of Eureka 2040 General Plan. The analysis included in this section was developed based on the *Draft Eureka 2040 General Plan*[1] and the *Eureka General Plan Community Background Report*,[2] as well as additional searches which were conducted using the California Natural Diversity Data Base,[3] the California Native Plant Society (CNPS) online inventory,[4] the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC),[5] and the National Marine Fisheries Service (NMFS) website.[6]

During the Notice of Preparation (NOP) comment period, no comments were provided in direct relation to Biological Resources.

3.4.1 Environmental Setting

The City of Eureka is surrounded by a broad range of habitats including marine and intertidal areas, beaches, wetlands and tidal sloughs, dunes, grasslands, coastal scrub, and mature forest. Much of the City limits have been developed, but a diverse array of intact native habitats border the urban center on all sides.

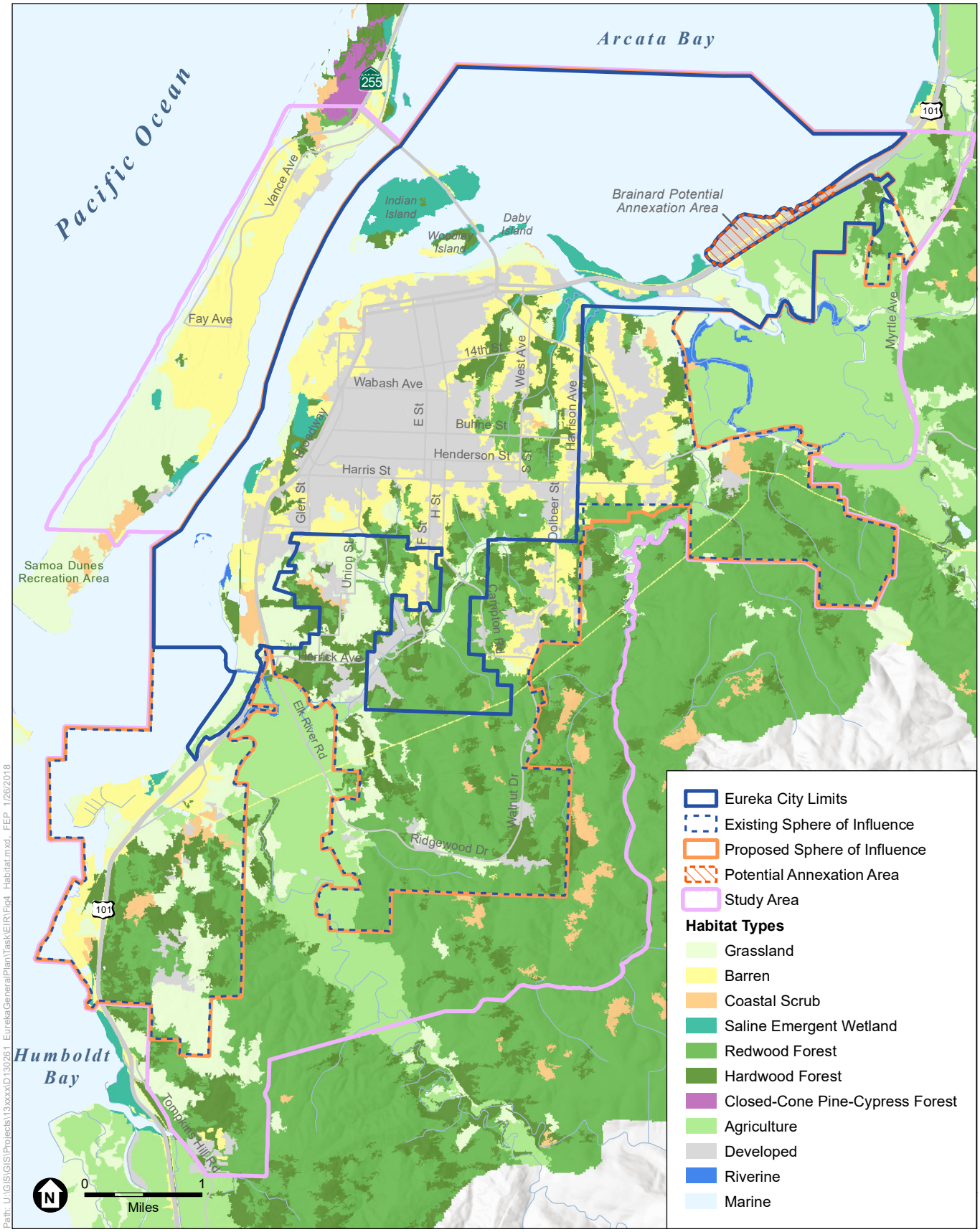
This section discusses habitat types within the City of Eureka and the larger Study Area (shown in **Figure 3.4-1**). The Study Area includes the City of Eureka, its Sphere of Influence (SOI), and peripheral areas that could be influenced by the City's planning activities. For biological resources, portions of the larger Study Area provide a buffer around the City that includes undeveloped lands to the south and east, as well as water areas of Humboldt Bay to the north and the west. These lands contain plants and wildlife that migrate through the Study Area along streams, creeks, gulches and greenways to reach habitat areas along the coast and shoreline. The contiguity of these migratory corridors maintains habitat for the unique species of the region.

Habitat Areas

Open Water (Humboldt Bay)

Humboldt Bay is the largest open water body within the Study Area. It is separated from the Pacific Ocean by a narrow peninsula, and consists of three sub-bays, North Bay (Arcata Bay), Central Bay (Entrance Bay) and South Bay (described in greater detail in Section 3.8 of this Draft EIR, *Hydrology and Water Quality*.) Cool, wet winters and cool summers with frequent fog and wind characterize the coastal climate of the Bay. Natural communities occurring along

1 City of Eureka. 2017. *Draft Eureka 2040 General Plan*.
2 City of Eureka. 2015. *Eureka General Plan Community Background Report*.
3 California Department of Fish and Wildlife (CDFW). 2018. Wildlife Habitat and Data Analysis Branch, California Natural Diversity Database.
4 California Native Plant Society (CNPS). 2018. Inventory of Rare and Endangered Plants. Sacramento, CA. http://www.rareplants.cnps.org/.
5 U.S. Fish and Wildlife Service (USFWS). 2018. Species List. iPAC Environmental Conservation Online System.
6 National Marine Fisheries Service (NMFS). 2018. http://www.westcoast.fisheries.noaa.gov/protected_species/species_list/species_lists.html.



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SOURCE: Esri, 2017; City of Eureka, 2018; USFS, 2007; ESA, 2018

Eureka General Plan Update and EIR

Figure 3.4-1

Vegetation Types

Humboldt Bay include beach, coastal prairie, marine and estuarine wetlands, and coniferous forests. Several rivers and creeks, such as Salmon Creek, Elk River, Jacoby Creek and Freshwater Creek, flow into Humboldt Bay and are subject to daily tidal fluctuations. Intertidal mudflat and salt marsh wetlands occur along the shore of Humboldt Bay and provide habitat for over 100 species of birds associated with marine and estuarine wetlands. Great blue heron (*Ardea herodias*), willet (*Tringa semipalmata*), marbled godwit (*Limosa fedoa*), and American herring gull (*Larus smithsonianus*) are dominant and common predators in estuarine tidal flats. The narrow and rocky shoreline provides limited shorebird feeding opportunities. The bay serves as a migration corridor for commonly occurring surfperch and flatfish as well as adult and juvenile salmonids.

Wetlands

Wetlands are abundant within the Study Area, although the wetlands and deepwater areas may be classified in several ways. The most commonly used classification system is the National Wetland Inventory (NWI) developed by Cowardin et al. (1979).[7,8] The Study Area includes several wetland types defined under the NWI that are described in further detail below. Wildlife is abundant in wetlands that provide foraging, cover, breeding and nesting habitat for a variety of common and special-status fish, amphibians, birds, and mammals.

Estuarine and Marine Deepwater

The estuarine wetlands are periodically or permanently flooded substrates and open water portions of semi-enclosed coastal waters where tidal seawater is diluted by flowing freshwater. Marine deepwater habitats are permanently flooded lands that exist below the deepwater boundary of wetlands. Plants of this subtidal community are dominated by brown, red, or green algae which form kelp “forests” along the California coast. The intertidal community hosts plants occurring in thicker bottom substrate such as seagrasses including surfgrass (*Phyllospadix* spp.), ditch grass (*Ruppia maritima*), eelgrass (*Zostera marina*).[9] Wetlands of this type are present within the North Bay Channel, the Elk River, deepwater channels of Arcata Bay, Eureka Slough, Fay Slough, and the deeper channels of Dead Mouse Marsh in the northeast portion of the planning area.

Estuarine and Marine Wetland

Estuarine and marine wetlands lack the permanently flooded, deepwater features of the former system. Marine wetlands are exposed to waves and currents of the open ocean and the water regimes of these wetlands are subject to the ebb and flow of oceanic tides. The estuarine features are the same here as stated above, and include periodically flooded substrates and open water exposed to coastal waters, tidal influence, and freshwater features.[10] Seagrasses occur here as

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7 Cowardin, L.M., V. Carter V., F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31.Washington, D.C.

8 The Cowardin et al. 1979. classification system defines wetlands as having one or more of the following three attributes: (1) at least periodically, the land predominantly supports hydrophytes; (2) the substrate is predominantly undrained hydric soil; or (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin, Lewis M., et al., The Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service Office of Biological Services, Washington, DC.).

9 Holland, V.L., and D.J. Keil. 1995. California Vegetation. Kendall/Hunt Publishing Co., Dubuque, IA.

10 Cowardin, 1979.

well as more saline tolerant species of salt marshes which commonly include saltgrass (*Distichlis spicata*), California cordgrass (*Spartina foliosa*), pickleweed (*Salicornia* spp.), and fleshy jaumea (*Jaumea carnosa*).[11] Wetlands of this type are present along the eastern border of the North Bay Channel, in Eureka Slough, around the terminus of the Elk River, in King Salmon Slough, and are the dominant wetlands of both the Arcata Bay and the South Bay.

Freshwater Emergent Wetland

Emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes,[12] excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants such as bulrushes (*Schoenoplectus* spp. and *Bolboschoenus* spp.), sedges (*Carex* spp.), or cattails (*Typha* spp.).[13] Wetlands of this type are present in Fay Slough and Dead Mouse Marsh within the northeast portion of the Study Area, portions of the Samoa Peninsula, surrounding the Elk River and Swain Slough.

Freshwater Forested/Shrub Wetland

Forested wetlands include areas dominated by woody vegetation that is six meters or taller. Shrub wetlands include areas of woody vegetation that is 6 meters tall or less such as true shrubs, young trees, or trees and shrubs such as willows (*Salix* spp.) and dogwoods (*Cornus* spp.) that are smaller or stunted because of environmental conditions.[14] Wetlands of this type occur in the gulches within the north portion of the Study Area, in portions of the Samoa Peninsula, and in Fields Landing.

Coastal Dune

Coastal dunes occur on sandy shorelines and undeveloped peninsulas within the Study Area and largely dominate the Samoa Peninsula, the Elk River Spit, the west side of King Salmon Slough, and the Eureka side of the Elk River. Vegetation communities within this larger category include the generally sparse beach strand attracting shorebirds like the least sandpiper (*Calidris minutilla*), spotted sandpiper (*Actitis macularius*), black-bellied plover (*Pluvialis squatarola*), semipalmated plover (*Charadrius semipalmatus*), western willet (*Tringa semipalmata inornata*), whimbrel (*Numenius phaeopus*) and the western snowy plover (*Charadrius nivosus nivosus*), a federal threatened species and California species of special concern. Beyond the beach is the foredune area where a mosaic of woody and herbaceous low growing matted plants such as yellow sand verbena (*Abronia latifolia*), beach saltbush (*Atriplex leucophylla*), and sea rocket (*Cakile maritima*) occur. The foredune could also host special-status plant species Menzies' wallflower (*Erysimum menziesii*), beach layia (*Layia carnosa*), and pink sand verbena (*Abronia umbellata* var. *breviflora*). Nonnative ice plant (*Carpobrotus edulis*) has also naturalized to this community and persists along the Pacific coast.[15]

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11 Holland and Keil, 1995.
12 Any plant adapted to grow wholly or partly submerged in water or wet habitats, i.e. an aquatic or wetland plant.
13 Cowardin, 1979.
14 Cowardin, 1979.
15 Holland and Keil, 1995.

Dune and Coastal Scrub

Farther inland from the coastal dunes, dune scrub hosts a greater diversity of species due to the more stable and nutrient rich soil in which this community thrives. Species common to dune scrub include California sagebrush (*Artemisia californica*), coyote bush (*Baccharis pilularis*), mock heather (*Ericameria ericoides*), coastal buckwheat (*Eriogonum parvifolium*), deerweed (*Acmispon glaber*), yellow bush lupine (*Lupinus arboreus*), coastal silver lupine (*Lupinus chamissonis*), and black sage (*Salvia mellifera*). This community is contiguous with coastal dune while the coastal scrub vegetation community is patchy throughout the Study Area. Coastal scrub is dominated by coyote bush and yellow bush lupine, with an understory of common yarrow (*Achillea millefolium*), sagewort (*Artemisia suksdorfii*), figwort (*Scrophularia californica*), sword fern (*Polystichum munitum*), and bracken fern (*Pteridium aquilinum*). Coastal scrub occurs on the Samoa Peninsula, in the gulches of northeast Eureka, upland of the Elk River terminus and within the Humboldt Bay National Wildlife Refuge and Table Bluff County Park in the undeveloped southern portion of the Study Area.[16]

Wildlife is abundant in these scrub communities which provide valuable habitat for reptiles, birds, and small mammals. Dune scrub and coastal scrub within the Study Area likely supports western fence lizard (*Sceloporus occidentalis*) and Pacific gopher snake (*Pituophis catenifer catenifer*); white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*), white-throated sparrow (*Zonotrichia albicollis*), Bewick's wren (*Thryomanes bewickii*), wrentit (*Chamaea fasciata*), bushtit (*Psaltriparus minimus*), western scrub-jay (*Aphelocoma californica*), and California towhee (*Melozone crissalis*); and small rodents such as deer mouse (*Peromyscus maniculatus*), vagrant shrew (*Sorex vagrans*), and California vole (*Microtus californicus*).

Annual Grassland

Nonnative grassland is generally found in open areas in valleys and foothills throughout coastal and interior California. Nonnative grasses and weedy annual and perennial forbs, primarily of Eurasian or Mediterranean origin, dominate this vegetation type. Velvet grass (*Holcus lanatus*), vernal grass (*Anthoxanthum odoratum*), fescue or ryegrass (*Festuca* spp.), and orchardgrass (*Dactylis glomerata*) are common in this vegetation community. Herbaceous broad-leafed forbs also commonly occur with these grasses, including false dandelion (*Hypochaeris* sp.), English plantain (*Plantago lanceolata*), and a variety of lotus (*Acmispon* spp.). Scattered native grass and wildflower species, representing remnants of the original vegetation, may also sometimes be common. The variety of forb species that occur in grasslands is considerable and dependent on wetness of the local community. In wet pastures, silverweed (*Potentilla anserina*) and creeping buttercup (*Ranunculus repens*) are common in mowed or grazed areas. Most pastures in the Study Area at nearly all elevations have several species of rushes (*Juncus* spp.), with the most common being soft rush (*J. effusus*). Spike-rush (*Eleocharis* spp.) and sedges (*Carex* spp.) are also common here. The pastures typically are colonized by low-growing woody vines and shrubs. California blackberry (*Rubus ursinus*) is ubiquitous and Himalayan blackberry (*Rubus armeniacus*) favors disturbed areas.

[16] Holland and Keil, 1995.

Grassland habitats, both native and nonnative, support reptiles and amphibians such as alligator lizard (*Elgaria* spp.), western fence lizard (*Sceloporus occidentalis*), and California slender salamander (*Batrachoseps attenuatus*), which feed on invertebrates found in this vegetation community, as well as gopher snake and garter snake (*Thamnophis* spp.). Lesser goldfinch (*Spinus psaltria*), mourning dove (*Zenaida macroura*), and western meadowlark (*Sturnella neglecta*) are a few granivores that typically nest and forage in grasslands. Insectivores such as barn swallow (*Hirundo rustica*), and black phoebe (*Sayornis nigricans*) also forage over grasslands. Small grassland rodents attract raptors such as great horned owl (*Bubo virginianus*), which hunt at night, as well as day-hunting raptors such as red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), and white-tailed kite (*Elanus leucurus*).

Agriculture

Agricultural fields within the Study Area are concentrated near the former tideland areas south and northeast of the Eureka terrace, and are primarily used for grazing cattle. Small commercial orchards are located in the Mitchell Heights and Upper Elk Valley areas. Use of agricultural chemicals, high levels of human disturbance, and low plant diversity combine to provide generally low quality wildlife habitat in agricultural areas. Agricultural lands generally support nonnative annual grassland species, described above, and ruderal species, such as wild mustard (*Hirschfeldia incana*), yellow star thistle (*Centaurea solstitialis*), and ripgut brome (*Bromus diandrus*). Agricultural fields often provide habitat and foraging opportunities for small rodents such as Botta's pocket gopher (*Thomomys bottae*) and western harvest mouse (*Reithrodontomys megalotis*), as well as foraging habitat for species such as red-tailed hawk and white-tailed kite.

Coastal Redwood Forest and North Coast Coniferous Forest

Mature forest dominated by California redwood (*Sequoia sempervirens*) occurs in the northeastern and southern portion of the Study Area including Cooper Gulch Park, Sequoia Park, and areas north and south of the Elk River and its associated wetlands. Among the redwoods, other evergreen tree species include Douglas fir (*Pseudotsuga menziesii*), Sitka spruce (*Picea sitchensis*), and grand fir (*Abies grandis*) with western red cedar (*Thuja plicata*) and western hemlock (*Tsuga heterophylla*) in wetter locations. These forests also host hardwood species such as vine maple (*Acer circinatum*), black cottonwood (*Populus balsamifera*), red alder (*Alnus rubra*), madrone (*Arbutus menziesii*), and tanoak (*Lithocarpus densiflorus*). Coastal redwood forests support a dense tree canopy which allows little sunlight through to the forest floor, and thus creating a sparse understory of shade-tolerant herbaceous plants. Some of these species include redwood sorrel (*Oxalis oregana*), spikenard (*Aralia californica*), wild ginger (*Asarum caudatum*), and a variety of ferns. Special-status plants which may be found in this community include ghost pipe (*Monotropa uniflora*), running pipe (*Lycopodium clavatum*), maple-leaved checkerbloom (*Sidalcea malachroides*) and coast checkerbloom (*Sidalcea oregana* ssp. *eximia*) (Holland and Keil, 1995).

The moist, shaded environment of coastal forests provides habitat for select species such as the California giant salamander (*Dicamptodon ensatus*), banana slug (*Ariolimax columbiana*), Steller's jay (*Cyanocitta stelleri*), brown creeper (*Certhia americana*), winter wren (*Troglodytes troglodytes*), great horned owl (*Bubo virginianus*), black-tailed deer (*Odocoileus hemionus columbianus*), and bobcat (*Lynx rufus*). Special-status species which may be found in this

community include the Pacific tailed frog (*Ascaphus truei*), southern torrent salamander (*Rhyacotriton variegatus*), marbled murrelet (*Brachyramphus marmoratus*), northern spotted owl (*Strix occidentalis*), and Sonoma tree vole (*Arborimus pomo*).

Urban/Developed

A large part of the Study Area provides habitat in which the previously occurring habitat values have been reduced or replaced by residential, commercial, and industrial land uses. These areas are not entirely lacking habitat values, but the values provided are often more favorable for weedy and nonnative plants and animals than for native species. Urban development generally results in the introduction of exotic vegetation for landscaping, which may become established in more natural areas. Examples include pampas grass (*Cortaderia jubata*), periwinkle (*Vinca major*), holly (*Ilex aquifolium*), cotoneaster (*Cotoneaster* spp.), and English ivy (*Hedera helix*).

Urban wildlife common in developed areas include house cats (*Felis catus*), striped skunk (*Mephitis mephitis*), Norway rat (*Rattus norvegicus*), Virginia opossum (*Didelphis virginiana*), gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), and raccoon (*Procyon lotor*).

Critical Habitat and Sensitive Natural Communities

These areas are those with unique, rare, or sensitive biological characteristics and/or possess special legal status.

Critical Habitat

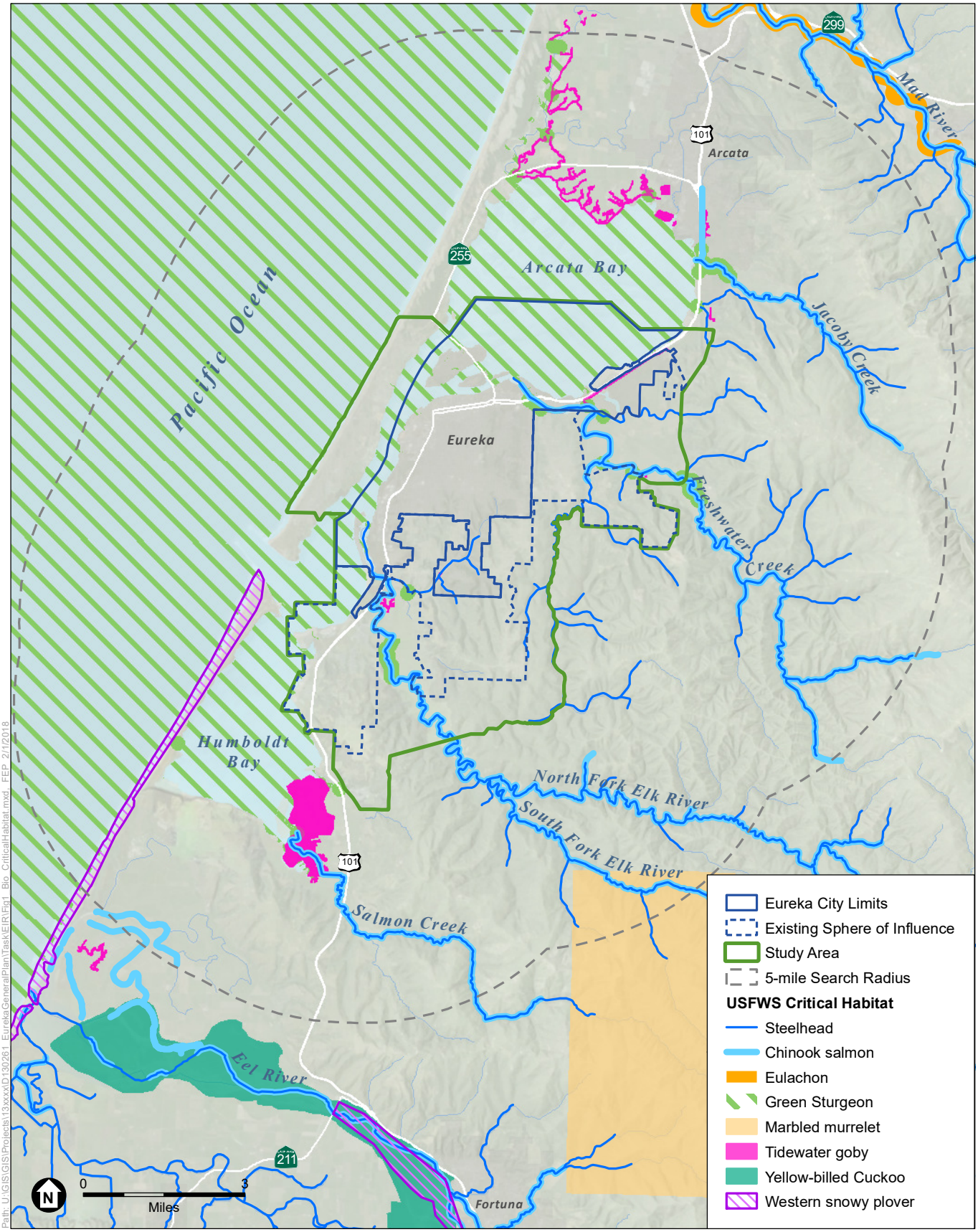
Critical habitat areas are designated by the USFWS for species listed under the federal Endangered Species Act (ESA). These areas contain features that are essential for the conservation of the species and may require special management and protection outside that which is already provided by the ESA. Critical habitat for tidewater goby (*Eucyclogobius newberryi*), steelhead (*Oncorhynchus mykiss irideus*), green sturgeon (*Acipenser medirostris*) and chinook (*Oncorhynchus tshawytscha*) is designated within the Study Area as shown in **Figure 3.4-2**. Critical habitat for western snowy plover, yellow-billed cuckoo, eulachon, and marbled murrelet are also shown on Figure 3.4-2; however, these areas are located outside of the Study Area.

Green sturgeon

Critical habitat for green sturgeon was designated October 9, 2009 by NMFS (74 FR 52300). All of Humboldt Bay including Arcata Bay and nearshore waters within the City of Eureka are included in critical habitat for this species.

Tidewater goby

Critical habitat for the tidewater goby was revised by the USFWS on February 6, 2013 (78 FR 8745). Several brackish water habitats around Humboldt Bay are within the Study Area and include Fay Slough, Dead Mouse Marsh, Swain Slough and portions of the Elk River, and portions of the Humboldt Bay National Wildlife Refuge (Unit HUM-3, 839 acres). Critical habitat is also designated north and south of the Eel River (Unit HUM-4, 39 acres) and within five miles of the Study Area. Each of these critical habitat areas is currently occupied by this species.



SOURCE: Esri, 2017; City of Eureka, 2018; USFWS, 2016; ESA, 2018

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Figure 3.4-2

Critical Habitat

Steelhead and Chinook Salmon

Critical habitat for the steelhead Northern California DPS and California Coastal Chinook salmon is located in Jacoby Creek, Freshwater Creek and the Elk River within the Study Area. For both species, critical habitat was designated September 2, 2005. For Chinook, critical habitat includes the mainstem creeks (70 FR 37160); while for steelhead, the feeder streams are also included within critical habitat (70 FR 52488) (see Figure 3.4-2).

Western snowy plover

Critical habitat for the Pacific Coast distinct population segment (DPS) of the western snowy plover was designated June 19, 2012 (77 FR 36727). The closest critical habitat area is designated within a mile of the Study Area on the Humboldt Bay South Spit Beach (Unit CA-5A, 572 acres). Other designated critical habitat areas within close proximity include the Eel River North Spit and Beach (Unit CA-5B, 464 acres), Eel River South Spit and Beach (Unit CA-5c, 336 acres), and the Eel River Gravel Bars (Unit CA-6, 1,349 acres). Each of these critical habitat areas contains successful nesting areas.[17]

Eulachon

Critical habitat for eulachon Southern DPS was designated by NMFS on October 20, 2011 (76 FR 65324). The Mad River unit, the southernmost unit of critical habitat for this species, is located approximately four miles north of the Study Area

Marbled murrelet

Critical habitat for marbled murrelet was designated October 4, 2011 (61 FR 26256). The closest unit (Unit CA-03a) is located 3 miles southeast of the Study Area on the south fork of the Elk River and in the dense forest habitat to the east and south.

Yellow-billed cuckoo

Critical habitat for the western DPS of the yellow-billed cuckoo was finally designated on December 2, 2014 (79 FR 71373). Unit CA 1 is located 4.5 miles south of the Study Area on the Eel River.

Sensitive Natural Communities

Natural communities within the Study Area are shown in Figure 3.4-1, Vegetation Types.

Northern Coastal Salt Marsh

Northern coastal salt marsh is a rare natural community and is protected by the California Department of Fish and Wildlife (CDFW). Coastal salt marshes are restricted to the upper intertidal zone of protected shallow bays, estuaries, and coastal lagoons. Physical conditions of these marshes are determined by the tides and reflected in shoreline and marsh topography and soil and vegetation composition. Historically, California's salt marshes were much more extensive throughout the state; however, conversion of these areas into salt ponds, agricultural

[17] USFWS, 2014. Western Snowy Plover, Humboldt Bay National Wildlife Refuge. http://www.fws.gov/refuge/Humboldt_Bay/wildlife_and_habitat/WesternSnowyPlover.html.

fields, and urban development has significantly diminished their distribution. By 1973, salt marsh habitat within Humboldt Bay was reduced from 28 square kilometers in 1897 to less than 2.4 square kilometers.[18] Northern coastal salt marsh within the Study Area is found at the confluence of the Elk River and Swain Slough, along the eastern shore of the North Bay channel, and surrounding the Eureka Slough.

Salt marsh vegetation varies with elevation and the frequency and inundation of tidal flows resulting in low, mid, and high marsh transitional composition. Within the Humboldt Bay system, vegetation of the lower marsh is largely comprised of Virginia glasswort (*Salicornia depressa*) that extends in patches throughout the entire marsh plain; the middle marsh of Pacific cordgrass (*Spartina foliosa*); and the high marsh of saltgrass (*Distichlis spicata*) and marsh jaumea (*Jaumea carnosa*). Other species found within this vegetation community include Point Reyes bird's beak (*Cordylanthus maritimum* ssp. *palustre*), salt marsh dodder (*Cuscuta salina*), California sea lavender (*Limonium californicum*), common mouse tail (*Myosurus minimus*) and seaside arrowgrass (*Triglochin maritima*). Often bordering the high marsh, fat hen (*Atriplex patula*), coastal gumweed (*Grindelia stricta*), dune rush (*Juncus lesueurii*), and silverweed (*Potentilla pacifica*) can also occur.

Northern coastal salt marshes within the Study Area are known to support several special-status plant species including: marsh pea (*Lathyrus palustris*), seaside pea (*L. japonicas*), Lyngbye's sedge (*Carex lyngbyei*), coast sidalcea (*Sidalcea oregano ssp. eximia*), Humboldt Bay owl's clover (*Genus species*); and special-status fish species including coast cutthroat trout (*Oncorhynchus clarkii clarkii*) and tidewater goby (*Eucyclogobius newberryi*). This environment provides unique habitat for birds to forage, roost and nest. Endemic avian subspecies include the Ridgway's rail (*Rallus obsoletus obsoletus*), California black rail (*Laterallus jamaicensis*), and saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*); however, only the Ridgway's rail has a historical presence within the Study Area and has not been documented as breeding in the Humboldt Bay area since 1932 (CDFW, 2014). Other common birds which may use this community include herons, egrets, ducks, hawks, Virginia rail (*Rallus limicola*), American coot (*Fulica americana*), shorebirds, swallows, and marsh wren (*Cistothorus palustris*).[19]

Special-Status Species

Several species known to occur in the vicinity of the Study Area are accorded "special-status" because of their recognized rarity or vulnerability to various causes of habitat loss or population decline. Some of these receive specific protections defined by federal or state endangered species legislation (see *Regulatory Overview*, below). Others have been designated as "sensitive" based on adopted policies and expertise of state resource agencies or organizations or policies adopted by local governmental agencies to meet local conservation objectives. The latter category is recognized by Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines. The CEQA Guidelines section provides a definition of rare, endangered or threatened species that is broader than that included in federal and state endangered species regulations. These species

[18] Barbour, Michael G., and Jack Major. Terrestrial Vegetation of California. California Native Plant Society, University of California Davis, 1988.

[19] Mayer, K.E. and W.F. Laundenslayer, eds., A Guide to Wildlife Habitats of California, California Department of Fish and Wildlife, Sacramento, CA, 1988.

are referred to collectively as "special-status" in this document, following a convention that has been developed in practice but has no official sanction. The various categories encompassed by the term, and the legal status of each, are discussed in the *Regulatory Overview* component of this section below. For the purpose of this report, special-status species include:

- Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 CFR 17.12 [listed plants], 17.11 [listed animals], and various notices in the Federal Register [FR] [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under the federal Endangered Species Act (61 FR 40, February 28, 1996);
- Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 Cal. Code Regs. 670.5);
- Species formerly designated by the USFWS as species of concern or species designated by the CDFW as species of special concern;[20]
- Species designated as "special animals" by the state;[21]
- Species designated as "fully protected" by the state (there are about 35, most of which are also listed as either endangered or threatened);[22]
- Raptors (birds of prey), which are specifically protected by California Fish and Game Code Section 3503.5, thus prohibiting the take, possession, or killing of raptors and owls, their nests, and their eggs;[23]
- Species protected by the federal Migratory Bird Treaty Act (16 U.S.C. 703-711);
- Bald and golden eagles protected by the federal Bald Eagle Protection Act (16 U.S.C. 668);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.);
- Species that meet the definitions of rare and endangered under CEQA. CEQA Section 15380 provides that a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists (CEQA Guidelines, Section 15380); and
- Plants considered by the CDFW to be "rare, threatened or endangered in California" under the California Rare Plant Ranking system (CRPR) include Rank 1A, 1B, 2A, and 2B plant species.

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20 A California species of special concern is one that: has been extirpated from the state; meets the state definition of threatened or endangered but has not been formally listed; is undergoing or has experienced serious population declines or range restrictions that put it at risk of becoming threatened or endangered; and/or has naturally small populations susceptible to high risk from any factor that could lead to declines that would qualify it for threatened or endangered status.

21 Species listed on the current CDFW "special animals" list (March 2015), which includes 899 species. This list includes species that CDFW considers "those of greatest conservation need." (CDFW, 2015a)

22 The "fully protected" classification was California's initial effort in the 1960s to identify and provide additional protection to those animals that were rare or faced possible extinction. The designation can be found in the Fish and Game Code.

23 The inclusion of birds protected by Fish and Game Code Section 3503.5 is in recognition of the fact that these birds are substantially less common in California than most other birds, having lost much of their habitat to development, and that the populations of these species are therefore substantially more vulnerable to further loss of habitat and to interference with nesting and breeding than most other birds. It is noted that a number of raptors and owls are already specifically listed as threatened or endangered by State and federal wildlife authorities.

The California Natural Diversity Database (CNDDB) and USFWS list of Federal Endangered and Threatened Species were queried for special-status plant and animal species that occur within the Eureka, Fields Landing, Arcata North, Arcata South, Cannibal Island, Tyee City, and McWhinney Creek U.S. Geological Survey (USGS) 7.5 minute topographical quadrangles, which surround the Study Area. **Figures 3.4-3** and **3.4-4** show record of special-status species occurrences throughout the Study Area as documented in the CNDDB.

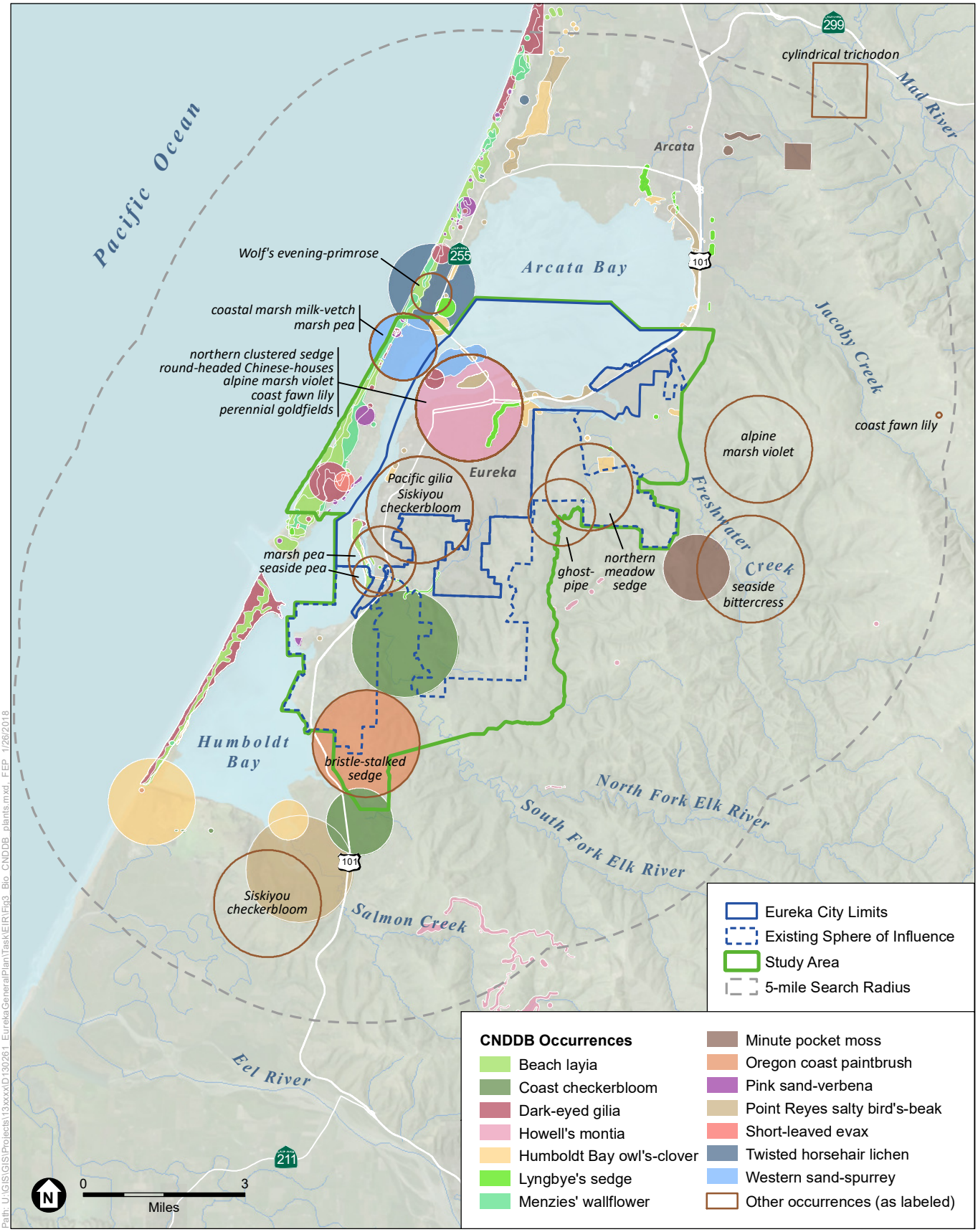
Special-status plant and animal species results of the CNDDB and USFWS list query were the evaluated on their potential to occur in the Study Area based on occurrence records documented in the CNDDB, review of the biological literature of the region, information presented in previous environmental documentation, and an evaluation of the habitat conditions of the Study Area. The species-specific information below is from CNDDB except where noted.

A species was designated as "absent" if: (1) the species' specific habitat requirements (e.g., serpentine grasslands, as opposed to grasslands occurring on other soils) are not present, or (2) the species is presumed, based on the best scientific information available, to be extirpated from the Study Area or region. A species was designated as having a "low potential" for occurrence if: (1) its known current distribution or range is outside of the Study Area or (2) only limited or marginally suitable habitat is present within the Study Area. A species was designated as having a "moderate potential" for occurrence if: (1) there is low to moderate quality habitat present within the Study Area or immediately adjacent areas or (2) the Study Area is within the known range of the species, even though the species was not observed during biological surveys. A species was designated as having a "high potential" for occurrence if: (1) moderate to high quality habitat is present within the Study Area, and (2) the Study Area is within the known range of the species. Many of the species included in the database and list query results have only a low potential for occurrence or are absent from the Study Area and were therefore eliminated from further evaluation, primarily because the Study Area does not provide suitable habitat for them.

Special-Status Plant Species

The following special-status plant species were determined to have moderate or higher potential to occur in the Study Area:

- Pink sand-verbena
- Coastal marsh milk-vetch
- Bristle-stalked sedge
- Northern clustered sedge
- Lyngbye's sedge
- Humboldt Bay owl's-clover
- Oregon coast paintbrush
- Point Reyes bird's- beak
- Menzies' wallflower
- Pacific gilia
- Dark-eyed gilia
- Short-leaved evax
- Seaside pea
- Marsh pea
- Beach layia
- Western lily
- Ghost-pipe
- Howell's montia
- Maple-leaved checkerbloom
- Siskiyou checkerbloom
- Coast sidalcea
- Western sand-spurrey
- Alpine marsh violet



SOURCE: Esri, 2017; City of Eureka, 2018; CDFW, 2017; ESA, 2018

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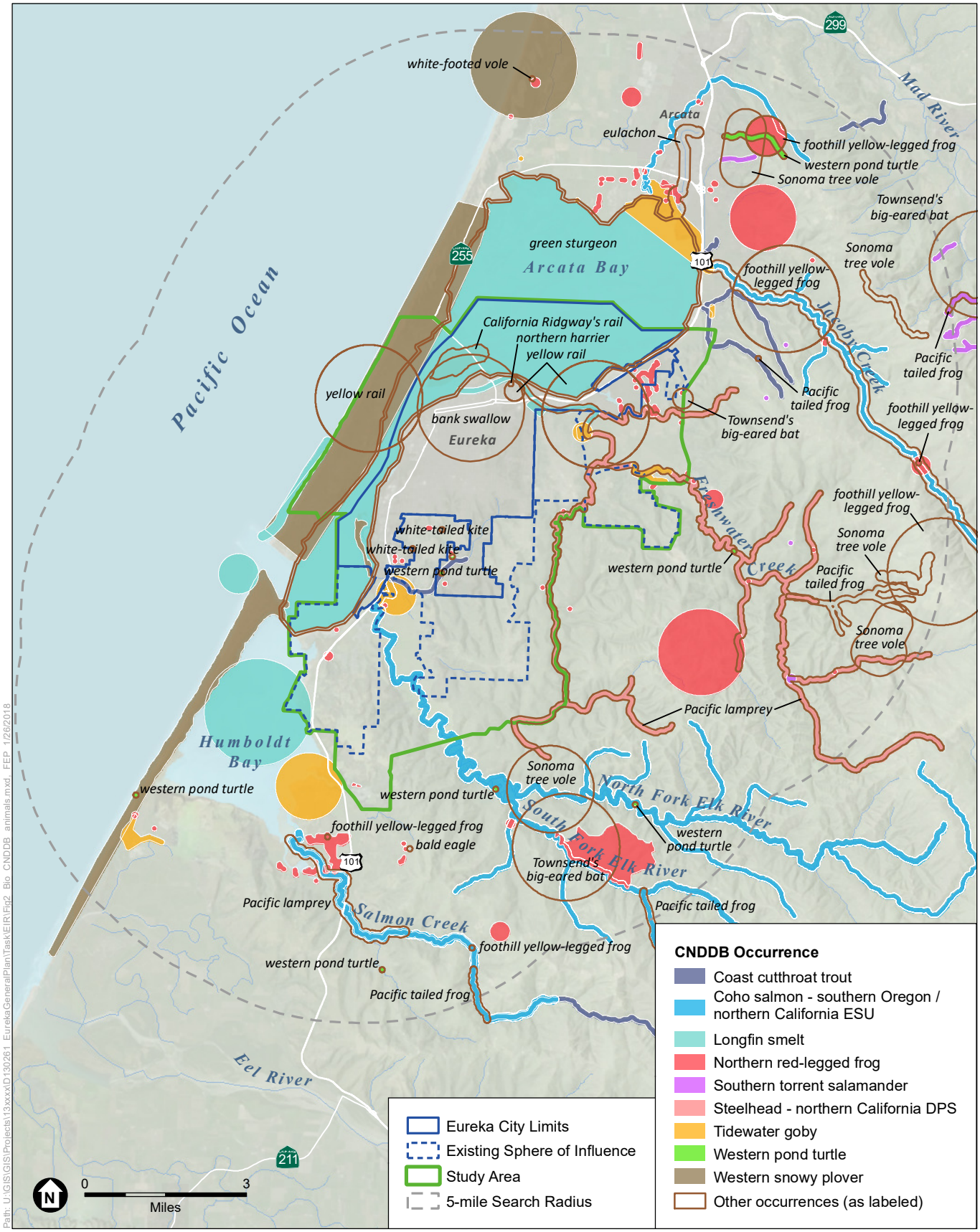
Figure 3.4-3

CNDDB Occurrences - Plants



SOURCE: Esri, 2017; City of Eureka, 2018; CDFW, 2017; ESA, 2018

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Figure 3.4-4

CNDDB Occurrences - Animals

Pink sand-verbena. Pink sand verbena (*Abronia umbellate* var. *breviflora*) is a CRPR list 1B.1 plant that occurs in coastal dunes and flowers year round. An extant population occurs within the dunes of the Samoa Peninsula and on Buhne Point.

Coastal marsh milk-vetch. Coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*) is a CRPR list 1B.2 plant that occurs in coastal dunes, marshes, swamps, and wetlands. Coastal marsh milk-vetch flowers between April and October. An extant population occurs within the dunes of the Samoa Peninsula where suitable habitat is present.

Seaside bittercress. Seaside bittercress (*Cardamine angulata*) is a CRPR list 2B.1 plant that occurs in wetlands and moist redwood forest environments and flowers between April and June. An historical occurrence is documented within half a mile east of the Study Area in the redwood forest near the community of Freshwater. Suitable habitat for this species is found in wetlands and redwood forests of the Study Area.

Northern clustered sedge. Northern clustered sedge (*Carex arcta*) is a CRPR list 2B.2 plant that occurs in wetlands and flowers between June and September. A single historical occurrence is documented in the northwest portion of the City; however, development has since occurred at this location. Suitable habitat for this species is found within wetlands of the Study Area.

Bristle-stalked sedge. Bristle-stalked sedge (*Carex leptalea*) is a CRPR list 2B.2 plant that occurs in freshwater marshes, wetlands, and meadows and flowers between Marsh and July. An historical occurrence is documented in wetlands of the southern portion of the Study Area and Humboldt Hill where suitable habitat persists.

Lyngbye's sedge. Lyngbye's sedge (*Carex lyngbyei*) is a CRPR list 2B.2 plant that occurs in coastal salt marshes and wetlands and flowers between April and August. Extant populations occur in Fay Slough, Freshwater Slough, Martin Slough, Swain Slough, the Samoa Peninsula, and the estuary leading to Cooper Gulch.

Humboldt Bay owl's-clover. Humboldt Bay owl's-clover (*Castilleja ambigua* var. *humboldtiensis*) is a CRPR list 1B.2 plant that occurs in coastal salt marshes, swamps, and wetlands and flowers between April and August. This species has been documented in salt marshes of the Elk River, Swain Slough, Fay Slough, Eureka Slough, Freshwater Slough, Woodley Island, Indian Island, and the Samoa Peninsula.

Oregon coast paintbrush. Oregon coast paintbrush (*Castilleja litoralis*) is a CRPR list 2B.2 plant that occurs in coastal bluff scrub and coastal dunes. Oregon coast paintbrush flowers in June. Historical occurrence is documented in the northwest dunes of Eureka; however, development has since occurred at this location. An extant population is documented in the southern portion of the Study Area east of Fields Landing near Humboldt Hill.

Point Reyes bird's-beak. Point Reyes bird's-beak (*Chloropyron maritimum* ssp. *palustre*) is a CRPR list 1B.2 plant that occurs in coastal salt marshes and swamps and flowers between June and October. Extant populations occur in salt marsh communities within Eureka Slough,

Woodley Island, Indian Island, Palco Marsh, Elk River Spit and near King Salmon Slough, north of Fields Landing.

Menzies' wallflower. Menzies' wallflower (*Erysimum menziesii*) is a federal and state endangered species and included on the CRPR list 1B.1. Menzies' wallflower occurs in coastal dunes and flowers between March and April. An established population is known to the sand dunes of the Samoa Peninsula and is also found on the Elk River Spit.

Coast fawn lily. Coast fawn lily (*Erythronium revolutum*) is a CRPR list 2B.2 plant that occurs in redwood and evergreen forests and wetland riparian areas. This species flowers between March and July. An historical occurrence is documented in northwest Eureka within the Study Area however development has since occurred at this location. Suitable habitat for this species is found in wetlands and redwood forests of the Study Area.

Pacific gilia. Pacific gilia (*Gilia capitata* ssp. *pacifica*) is a CRPR list 1B.2 plant that occurs in coastal bluff scrub, coastal prairie, and foothill grasslands. Pacific gilia flowers between April and August. An historical occurrence is documented in the southern portion of the Study Area near Bucksport; however, development has since occurred at this location.

Dark-eyed gilia. Dark-eyed gilia (*Gilia millefoliata*) is a CRPR list 1B.2 plant that occurs in coastal dunes and flower between April and July. Extant populations are documented on the Samoa Peninsula and the Elk River Spit within the Study Area.

Short-leaved evax. Short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*) is a CRPR list 1B.2 plant that occurs in coastal dune and coastal scrub communities and flowers between March and June. Extant populations are documented on the Samoa Peninsula dunes and the Elk River Spit within the Study Area.

Seaside pea. Seaside pea (*Lathyrus japonicus*) is a CRPR list 2B.2 plant that occurs in coastal dunes and flowers between May and August. An historical occurrence is documented at the mouth of the Elk River where suitable habitat for this species persists.

Marsh pea. Marsh pea (*Lathyrus palustris*) is a CRPR list 2B.2 plant that occurs in freshwater marshes, coastal prairies, coastal scrub, and montane conifer forests. Marsh pea flowers between March and August. An historical occurrence is documented on the Samoa Peninsula. This species is more recently documented near the mouth of the Elk River and Martin Slough.

Beach layia. Beach layia (*Layia carnosa*) is a federal and state endangered species and included on the CRPR list 1B.1. This plant grows on semi-stabilized coastal dunes in Humboldt, Marin and Monterey Counties and occurred in San Francisco and Santa Barbara Counties at one time. The plant produces white or fading pink flowers from May to July.[24] Extant populations are documented on the Samoa Peninsula, and dunes at the mouth of the Elk River.

[24] Skinner, M. & B. Pavlik, Inventory of rare and endangered vascular plants of California. California Native Plant Society, Sacramento, 1994.

Western lily. Western lily (*Lilium occidentale*) is a federal and state endangered species and included on the CRPR list 1B.1. This plant occurs in freshwater marshes, coastal bluff scrub, coastal prairies, and wetlands. Western lily flowers between June and July. Historical presence of this species is documented in Fay Slough and wetlands of Fields Landing; however, this species may be extirpated from the Study Area and larger geographical region due to development of supportive vegetation communities.

Ghost-pipe. Ghost-pipe (*Monotropa uniflora*) is a CRPR list 2B.2 plant that occurs in broadleafed upland forests and redwood forests between June and August. A single occurrence is documented in Redwood Acres fairgrounds in eastern Eureka; known populations occur east of the Study Area in wet, forested areas. Suitable habitat for this species is located in forested areas of the eastern portion of the Study Area.

Howell's montia. Howell's montia (*Montia howellii*) is a CRPR list 2B.2 plant that occurs in meadows, seeps, vernal pools, and wetlands. Howell's montia flowers between March and May. Historical occurrences are documented in wetlands of northwest Eureka; however, development has since occurred at this location. Recent records document populations in Guptil Gulch, northeast of Pine Hills and east of the Study Area.

Maple-leaved checkerbloom. Maple-leaved checkerbloom (*Sidalcea malachroides*) is a CRPR list 4.2 plant that occurs in coastal prairies, coastal scrub, and redwood forests and flowers between April and August. Historical occurrences are documented in northwest Eureka; however, development has since occurred at this location. A more recent occurrence is documented in the vicinity of Bob Hill Gulch within the Study Area.

Siskiyou checkerbloom. Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*) is a CRPR list 1B.2 plant that occurs in coastal prairies and flowers between May and August. An historical occurrence is documented on the bluffs of Bucksport within the Study Area.

Coast sidalcea. Coast sidalcea (*Sidalcea oregana* ssp. *eximia*) is a CRPR list 1B.2 plant that occurs in meadows and montane coniferous forests. Coast sidalcea flowers between June and August. Historically, this species is documented within the Elk River valley prairie and on Still Ranch, south of Fields Landing.

Western sand-spurrey. Western sand-spurrey (*Spergularia canadensis* var. *occidentalis*) is a CRPR list 2B.1 plant that occurs in coastal salt marshes and wetlands and flowers between June and August. Historical occurrences are documented on the Samoa Peninsula and Indian Island. Suitable habitat for this species is found in wetlands and salt marshes of the Study Area.

Alpine marsh violet. Alpine marsh violet (*Viola palustris*) is a CRPR list 2B.2 plant that occurs in coastal scrub, wetlands, and bogs. Alpine marsh violet flowers between March and August. An historical occurrence is documented in the wetlands of northwest Eureka however development has since occurred at this location. Suitable habitat for this species is found in wetlands and area of coastal scrub within the Study Area.

Special-Status Wildlife Species

The following special-status wildlife species were determined to have at least a moderate potential to occur in the Study Area:

- Tidewater goby
- Coast cutthroat trout
- Green sturgeon
- Longfin smelt
- Salmonid species
- Northern red-legged frog
- Foothill yellow-legged frog
- Pacific tailed frog
- Southern torrent salamander
- Western pond turtle
- Marine sea turtles
- Double-crested cormorant
- California brown pelican
- Heron and egret rookery
- Sharp-shinned hawk
- Bald eagle
- Osprey
- American peregrine falcon
- Western snowy plover
- Marbled murrelet
- Northern spotted owl
- Bank swallow
- Townsend's big-eared bat
- Sonoma tree vole

Tidewater goby. The tidewater goby (*Eucyclogobius newberryi*) is a federally listed endangered fish and a California species of special concern. The species is found in brackish water habitats along the California Coast from Agua Hedionda Lagoon in San Diego County north to the mouth of the Smith River in Del Norte County. Tidewater goby individuals are found in shallow lagoons and lower stream reaches, with habitat requirements that include fairly still but not stagnant water and high oxygen levels. They are known to occur in the northern portion of Humboldt Bay near the mouth of Mad River Slough and the mouth of Jacoby Creek, in the vicinity of Freshwater Slough and Wood Creek, and in the vicinity of Swain Slough and the Elk River. Critical habitat for the tidewater goby within the Study Area include Fay Slough, Dead Mouse Marsh, Swain Slough and portions of the Elk River, and portions of the Humboldt Bay National Wildlife Refuge.

Coast cutthroat trout. Coast cutthroat trout (*Oncorhynchus clarkii clarkii*) is not listed by the state or federal governments but is considered a California species of special concern. This anadromous fish species inhabits small coastal streams from the Eel River to the Oregon border. The preferred habitat is small, low gradient coastal streams and estuaries. The species requirements include shaded streams with water temperatures less than 18°C, and small gravels for spawning. In the Humboldt Bay area, the species is known to occur within the Elk River and its tributaries (36 miles of occupied or accessible habitat), Freshwater Creek and its tributaries (15 river miles of stream habitat), Martin Slough and Ryan Creek.

Green sturgeon. The southern Distinct Population Segment (sDPS) of green sturgeon *(Acipenser medirostris)* is a federal threatened species and a California species of special concern. This anadromous fish is the most widely distributed member of the sturgeon family and the most marine-oriented sturgeon species. Green sturgeons range in the nearshore waters from Mexico to the Bering Sea and are common occupants of bays and estuaries along the western coast of the United States.[25] Sturgeon populations from San Pablo Bay and the Sacramento River tagged with

[25] Moyle, P.B., R.M. Yoshiyama, J.E. Williams, and E.D. Wikramanayake. Fish Species of Special Concern in California. Second edition. Final report to California Department of Fish and Game, contract 2128IF. 1995.

acoustic transmitters were documented in Arcata Bay in 2006 and 2007 between April and October.

Longfin smelt. The longfin smelt (*Spirinchus thaleichthys*) is a state-listed endangered species and a candidate for listing as endangered or threatened by the USFWS. The longfin smelt is a small fish found in several Pacific coast estuaries from Prince William Sound, Alaska, to San Francisco Bay. The longfin smelt is a euryhaline species with a two-year life cycle. Peak spawning occurs from February to April, although spawning may take place as early as November and extend into June. Upon hatching, the larvae move up into surface waters and are transported downstream into brackish-water nursery areas. Longfin smelt are found in the nearshore coastal waters and open waters of Humboldt Bay and the Eel River estuary.[26,27]

Salmonids. The federally-listed threatened and California species of special concern Northern California DPS steelhead (*Oncorhynchus mykiss irideus*), federal and state-listed threatened southern Oregon/northern California ESU coho salmon (*Oncorhynchus kisutch*), and federal threatened California coastal chinook salmon (*Oncorhynchus tshawytscha*) are historically present in Humboldt Bay and its freshwater tributaries. These species begin their lives in freshwater streams with connectivity to ocean waters where they travel to mature. Adults return to these freshwater environments to spawn. Restoration of the Hookton Slough and Salmon Creek watershed, located in the Humboldt Bay National Wildlife Refuge south of the Study Area, have focused on restoring habitat within this historic passage. Fish surveys conducted by CDFW 2011 and 2012 in the Salmon Creek restoration area have documented presence, and presence of these species is assumed in Humboldt Bay waters of the Study Area.[28]

Northern red-legged frog. The northern red-legged frog (*Rana aurora*) is a California species of special concern that inhabits a variety of communities with adequate vegetative cover including humid forests, woodlands, grasslands, and riparian areas near water in the Pacific Northwest. Multiple adults and one juvenile were observed in drainage ditches and canals of the Humboldt Bay Power Plant in 2006 in north Fields Landing within the Study Area. This species has also been found in the Freshwater and Ryan Creek drainages, Martin Slough channel downstream of the Eureka Municipal Golf Course, and south fork of the Elk River, south and east of the Study Area.[29]

Foothill yellow-legged frog. The foothill yellow-legged frog (*Rana boylii*) is a California Candidate species for listing as threatened that inhabits areas in or near rocky streams from sea level to 6,000 from the Coast Ranges and west side of the Sierra Nevada northward through the central Cascades. Permanent streams are necessary to meet this species' foraging, cover, and reproductive requirements. The American bullfrog (*Lithobates* catesbeianus) has out-competed this species for habitat in many lowland streams and pools. The foothill yellow-legged frog is

26 Meng, Lesa. Status Report on Sacramento splittail and longfin smelt. Draft submitted to Fish and Wildlife Service. University of California, Davis, CA, 1993.

27 Moyle, P.B., P.J. Foley, and R.M. Yoshiyama. 1992. Status of green sturgeon, *Acipenser medirostris*, in California. Final Report submitted to National Marine Fisheries Service. 11 p. University of California, Davis, CA 95616.

28 USFWS, 2014. Salmon Creek Restoration, Humboldt Bay National Wildlife Refuge. http://www.fws.gov/refuge/Humboldt_Bay/wildlife_and_habitat/SalmonCreekRestoration.html.

29 Mad River Biologists. 2002. Impact Assessment and Mitigation plan for the City of Eureka. Martin Slough Inceptor Project, Humboldt County, California.

known to occur in Black Dog Creek, and tributaries of Jacoby Creek and Jolly Giant Creek east of the Study Area. Suitable habitat is present in the eastern portion of the Study Area.

Pacific (coastal) tailed frog. The pacific (coastal) tailed frog (*Ascaphus truei*) is a California species of special concern that inhabits fast moving, clear, cold streams of Pacific Northwest montane coniferous forests. This species is documented in the Mad River drainage, the north fork of the Elk River, Graham Gulch, a tributary of Freshwater Creek, and along Salmon Creek east and south of the Study Area. Suitable habitat is present in the eastern portion of the Study Area.

Southern torrent salamander. The southern torrent salamander (*Rhyacotriton variegatus*) is a California species of special concern that inhabits shallow, cold, clear and well-shaded streams in nature old growth redwood forests of the Pacific Northwest. This species is documented in Arcata Community Forest, north of the Study Area; in Black Dog Creek, tributaries of Dry Creek, Puter Creek, and in McCready Gulch and Cloney Gulch, northeast of Freshwater Creek, east of the Study Area. Suitable habitat for this species is present within the Study Area.

Western pond turtle. The western pond turtle (*Actinemys marmorata*) is a California species of special concern. It inhabits rivers, streams, natural and artificial ponds, and lakes. Adjacent terrestrial habitat is also critical for egg laying, winter refuge, and dispersal. This species is found within the Freshwater Creek watershed and in the south fork of the Elk River.

Marine sea turtles. Four marine sea turtles have a range which extends along the California coast and into Humboldt Bay, and the Study Area. These species include the federal threatened loggerhead turtle (*Caretta caretta*), green turtle (*Chelonia mydas*), olive (Pacific) ridley sea turtle (*Lepidochelys olivacea*) and federal endangered leatherback turtle (*Dermochelys coriacea*). Marine turtles are generally pelagic, open water, animals but can forage in coastal waters and bays. Most marine turtles are migratory and will travel great distances to mate near their nesting beaches which are located in tropical waters of lower latitudes than the Study Area.[30] These turtles may forage in Humboldt Bay within the Study Area.

Double-crested cormorant (*Phalacrocorax auritus*). The double-crested cormorant is a former California species of special concern and its nesting colonies are still considered a resource of conservation concern by CDFW. A yearlong resident along the entire coast of California, the species is fairly common to locally very common along the coast and in estuaries and salt ponds. The species forages mainly on fish, crustaceans, and amphibians. It sometimes feeds cooperatively in flocks of up to 600, often with pelicans, and nests in colonies of a few to hundreds of pairs.[31] Suitable habitat is abundant within Humboldt Bay and a principal breeding colony in California is located on the Old Arcata Wharf.

[30] National Oceanographic and Atmospheric Administration (NOAA), Fisheries Office of Protected Resources, Sea Turtles. http://www.nmfs.noaa.gov/pr/species/turtles/.

[31] Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, (eds.). California's Wildlife: Volume II: Birds. California Statewide Wildlife Habitat Relationship System. State of California, the Resources Agency, CDFG. Sacramento, CA, 1990.

California brown pelican. The California brown pelican (*Pelecanus occidentalis californicus*) is a state Fully Protected species, which was removed from the federal and State lists of threatened and endangered species in 2009 due to recovery. They are found in estuarine, marine subtidal, and marine pelagic waters throughout coastal California.[32] Important habitat for pelicans during the nonbreeding season includes roosting and resting areas, such as offshore rocks, islands, sandbars, breakwaters, and pilings that occur within the Study Area.

Heron and egret rookeries. Heron and egret nesting colonies are a resource of conservation concern by the CDFW even though species nesting in the colony may not have individual federal or state special-status. According to the CNDDB, Indian Island hosts a rookery in Humboldt Bay that accommodate five common species of nesting herons and egrets: great blue heron (*Ardea herodias*); great egret (*Ardea alba*); snowy egret (*Egretta thula*); black-crowned night-heron (*Nycticorax nycticorax*); and cattle egret (*Bubulcus ibis*). The Indian Island rookery is located within a grove of Monterey cypress and eucalyptus planted as ornamentals at the former Gunther Mansion which was destroyed in 1958. The number of active nests varies from year to year, but has totaled as many as 233 great egret nests in 1980, 87 great blue heron nests in 1972, ten snowy egret nests in 1980, and 74 black-crowned night-heron nests in 1993. A pond area bordered by cypress trees on nearby Woodley Island is used by the herons and egrets primarily for roosting but may also host nesting pairs.

Bald eagle. The bald eagle (*Haliaeetus leucocephalus*), a formerly federal and state endangered species, is now a state Fully Protected species. This species utilizes most of California's lakes, reservoirs, river systems, and coastal wetlands. They forage on large bodies of water or free flowing rivers with abundant fish. Although fish are the primary food source, bald eagles will also opportunistically hunt sick or wounded ducks across water, and will often feed on carrion. Bald eagles build large, conspicuous nests in a large tree or rocky outcrop with a wide view and located near water. Nest sites are usually reused annually. Suitable foraging and nesting habitat is present in the Study Area around Humboldt Bay.

Osprey. The osprey (*Pandion haliaetus*) is a former California species of special concern and nesting osprey are currently on the CDFW Watchlist. These large fish-eating raptors can be found around nearly any water body, including salt marshes, rivers, ponds, reservoirs, estuaries, and oceans. Historically, ospreys nested throughout much of California but by the 1960’s much of the osprey population declined in central and southern California area. This decline was attributed to human persecution, habitat alteration, and DDT use. The osprey prefers to nest within sight of permanent water and readily builds its nest on manmade structures, such as telephone poles, channel markers, duck blinds, and nest platforms designed especially for it. Nest sites are documented within Martin Slough and the Elk River Slough in the Study Area.

American peregrine falcon. The American peregrine falcon (*Falco peregrinus*) was recently delisted as an endangered species under the federal Endangered Species Act, but continues to be listed as endangered by the State of California. These falcons nest along the coast north of Santa Barbara, in the Sierra Nevada, and in mountains of northern California. They most often breed in woodland, forest and coastal habitats. The species inhabits open wetlands near cliffs and canyons,

[32] Zeiner et al., 1990.

and also occurs in some cities where these falcons are known to nest on buildings and bridges. American peregrine falcons are known to winter in the general vicinity of Humboldt Bay. Significant foraging area for this species is also present in the numerous surrounding marshes, mudflats and open water habitats within the greater Humboldt Bay area.

Western snowy plover. The western snowy plover (*Charadrius alexandrinus nivosus*) Pacific coastal population is a federal threatened species and a California species of special concern. It is present in California in fall and winter, common on sandy marine and estuarine shores. In the spring, individuals of this species leave their wintering sites for the areas where they will nest from April through August. The species has a historical nesting presence on the Samoa Peninsula and Elk River spit within the Study Area and critical habitat for this species is designated on the South Humboldt Bay Spit. The species needs sandy, gravelly or friable soils for nesting. Major threats to the species are habitat loss and human disturbance at nest sites.

Marbled murrelet. The marbled murrelet (*Brachyramphus marmoratus*) is a federal threatened and state endangered species which inhabit Pacific coastal coniferous forests, up to 20 miles inland. This secretive species fishes in ocean waters and nests in tall evergreen trees on a horizontal branch near the trunk. Nests are made of a thick pad of moss consolidated with a ring of droppings around a hollow where a single egg is laid between April and early July. Logging and development of mature forests along the coast is the greatest threat to this species whose range extends from southern California into Alaska. Suitable habitat for this species occurs in the mature redwood forests in the south and east portions of the Study Area.

Northern spotted owl. The northern spotted owl (*Strix occidentalis*) is a federal threatened species. This species inhabits conifer forests, typically old-growth, and forested canyons where they nest in a natural tree cavity, or broken treetop. Breeding season begins in early April and ends in early June. This species has been documented in Fields Landing, Henderson Gulch of the Ryan Creek basin, and the Freshwater Creek basin within the eastern portion of the Study Area where this habitat is present.

Bank swallow. The bank swallow (*Riparia riparia*) is a California threatened species that nests in compact colonies along rivers, lakes, and major streams, typically adjacent to open grasslands. This species requires vertical cliffs and banks with fine-textured or sandy soils for construction of nesting holes. Nest holes are lined with plant material and measure one to two inches in width and up to 54 inches in depth. The bank swallow arrives in California in April through May, breeds from May through July (peak in mid-May to mid-June), and departs by mid-September. This species is known to desert its colony if there is too much human disturbance. An historical occurrence of nesting bank swallows is documented in northwest Eureka on the banks of Arcata Bay.

Townsend's big-eared bat. Townsend's big-eared bat (*Corynorhinus townsendii*) is a California species of special concern. It roosts in caves, mines, buildings or other human-made structures throughout California, and forages for insects over open lowland areas. It may be found in a wide variety of habitat types, more commonly in wetter areas. This species has been observed in forested areas to the north and east of the Study Area, as well as a sighting in suburban Eureka (CDFW, 2017).

Sonoma tree vole. The Sonoma tree vole (*Arborimus pomo*) is a California species of special concern that inhabits mature coniferous forests in the Pacific northwest where this small arboreal mammal feeds almost entirely on Douglas-fir needles.[33] This species is documented in the forests surrounding the Elk River and Freshwater Creek east of the Study Area.

Gulches and Greenways

The Study Area contains several gulches and greenways that are associated with existing watercourses, all of which eventually flow into Humboldt Bay. These landscape and topographic features are unique in that they represent a distinct scenic asset to the community, offer areas of moderate flood control and direct rainfall runoff away from developed infrastructure, and also support biological resources by providing habitat and migration corridors for fish and wildlife. There are six coastal gulches present in Eureka, with some containing smaller sets of tributaries and waterways. These six coastal gulches include:

- **Cooper Gulch, Second Gulch, and Myrtletown Gulch.** These three small gulches are located on the northern edge of the City and all drain northward directly into Eureka Slough.
- **The Gulches of Martin Slough**. The largest gulch system within the City limits, the Martin Slough complex, is located generally south of Harris Street and to the west and east of the F and H Street corridors. Martin Slough drains toward the southwest and is a tributary to the Elk River.
- **The Gulches of Elk River**. The Elk River is a large greenway located south of the City limits, but within the Study Area.
- **The Gulches of Ryan Creek**. The Ryan Creek watershed borders the eastern City limits and is located within the east and northeast portions of the Study Area. Ryan Creek is a relatively large watershed with many tributaries. The eastern boundary of the Study Area is the Ryan Creek channel from about the Cummings Creek confluence south.

The gulches and greenways are relatively undeveloped and support typical North Coast vegetation communities and, depending on location, may support sensitive vegetation communities and sensitive or listed plants and animals, previously described in *Special-Status Species*. Tidewater gobies are restricted to the tidally influenced portions of the gulches so only occur in close proximity to Humboldt Bay.

The gulches and greenways are characterized as generally steeper slopes in the upper ends of their watersheds where topographic relief is greater. As the gulches near the coast, the relief is less and the gulches are more open and slopes not as steep. Vegetation communities range from North Coastal Coniferous Forest, North Coast Riparian Scrub, Redwood Forest and Douglas Fir Mixed Hardwood Forest in the deeper canyons, to annual grasslands and ruderal lands in the more open portions of the gulches. Freshwater wetlands may occur along these gulches and northern coastal saltmarsh may be found where the gulches are near tidally active waters from Humboldt Bay.

[33] Chinnici, Sal J., David Bigger, Eric Johnson, Sonoma Tree Vole Habitat on Managed Redwood and Douglas-fir Forestlands in North Coastal California. Sonoma Tree Vole Summary Report, Humboldt Redwood Company, February 1, 2013.

Redwood forest and freshwater forested/shrub wetland are found in most of the gulches. Redwood forest, as described in *Plant Communities and Wildlife Habitats*, is dominated by California redwood which creates a dense tree canopy with a mix of other conifers such Douglas fir and an understory of shade-tolerant herbaceous plants. Forested wetlands include areas typically dominated by red alder greater than six meters tall. Shrub wetlands include areas of shrubs and small trees less than 6 meters tall such as willow (*Salix* spp.) and dogwood (*Cornus* spp.).[34]

As examples, Redwood forest is found in Sequoia Park in the Upper Martin Creek watershed, the Gulches of Ryan Creek, and the three Gulches that drain into Eureka Slough. Cooper Gulch, which is dominated by freshwater forested/shrub wetland, is potential habitat for several special-status species of plants including: northern clustered sedge, alpine marsh violet, Oregon coast paintbrush, Howell's montia, and the bank swallow.

Anadromous fish may also use the larger systems (i.e., Elk Creek, Martin Slough, and Ryan Creek). Two federally listed (threatened) salmonids, the Northern California Coast steelhead and southern Oregon/northern California coho salmon, potentially use these water courses for migration, spawning and juvenile rearing. Coho salmon north of Punta Gorda are also listed as threatened by the State. It is unlikely that these species would occur in the three small gulches (i.e., Cooper, Second, and Myrtletown gulches) in the northern part of the City.

Two other CDFW species of concern have been documented in the gulches. Northern red-legged frog was found in the Martin Slough channel downstream of the Eureka Municipal Golf Course (Mad River Biologists, 2002) and could potentially occur in other canyon systems. Several osprey (*Pandion haliaetus*) nests have also been documented in Martin Slough.[35]

3.4.2 Regulatory Overview

Federal, state, and local governments have developed laws and regulations designed to protect significant biological resources that may be affected by actions they undertake or regulate. These regulations are discussed below.

Federal

Federal Endangered Species Act

The federal Endangered Species Act ((ESA); 7 USC §136, 16 USC §1531 et seq.) protects the fish and wildlife species and their habitats that the USFWS or NMFS has identified as threatened or endangered. The USFWS has jurisdiction over plants, wildlife, and most freshwater fish, and NMFS has jurisdiction over anadromous fish, marine fish, and mammals, and these two agencies administer the ESA. The term endangered refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range. The term threatened refers to species, subspecies, or distinct population segments that are likely to

[34] Cowardin, 1979.
[35] Mad River Biologists, 2002.

become endangered in the near future. "Take"[36] of listed species can be authorized through either the Section 7 consultation process (for actions by federal agencies) or the Section 10 permit process (for actions by non-federal agencies). Federal agency actions include activities on federal land or that are conducted by, funded by, or authorized by a federal agency (including issuance of federal permits and licenses).

Under Section 7 of the ESA, the federal agency conducting, funding, or permitting an action (known as the federal lead agency) must consult with the USFWS and NMFS, as appropriate to ensure that their actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. A federal agency is required to consult with USFWS and NMFS if it determines that the construction or operation of the proposed project "may affect" federally listed species or designated critical habitat.

Under Section 9 of the ESA, the "take" prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the removal, possession, damage, or destruction of any endangered plant from federal land. Section 9 also prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed or under petition for listing receive no protection under Section 9 of the ESA.

Section 10 of the ESA requires the issuance of an "incidental take" permit before any public or private action that would potentially harm, harass, injure, kill, capture, collect, or otherwise hurt (i.e., take) any individual of an endangered or threatened species. To offset the take of individuals that may occur incidental to implementation of the project, the permit requires preparation and implementation of a habitat conservation plan (HCP) that provides for the overall preservation of the affected species through specific mitigation measures.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Section 703, Supplement I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. As authorized by the Migratory Bird Treaty Act, the USFWS may issue permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, educational, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal.

Magnuson-Stevens Fishery Conservation and Management Act and Federal Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) of 1976 applies to fisheries resources and fishing activities in federal waters that extend to 200 miles offshore. Conservation and management of U.S. fisheries, development of domestic fisheries, and phasing out of foreign fishing activities are the main objectives of the legislation. When the MSFCMA

[36] The ESA defines the term "take" as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC §1532(19)).

was amended in 1996 to include habitat conservation issues, the designation of "Essential Fish Habitat" (EFH) was created. EFH is broadly defined by the MSFCMA as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity."

The Sustainable Fisheries Act of 1996 (Public Law 104-297) amended the MSFCMA to establish new requirements for EFH descriptions in federal Fisheries Management Plans (FMPs), and to require federal agencies to consult with NMFS on activities that may adversely affect EFH. The Magnuson-Stevens Act requires all fishery management councils to amend their FMPs to describe and identify EFH for each managed fishery. The act also requires consultation for all federal agency actions that may adversely affect EFH, including direct and indirect effects; it does not distinguish between actions in EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside of EFH, such as upstream and upslope activities that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by federal agencies undertaking, permitting, or funding activities that may adversely affect EFH, regardless of the activity's location. Under section 305(b)(4) of the MSFCMA, NMFS is required to provide EFH conservation and enhancement recommendations to federal and state agencies for actions that adversely affect EFH. However, state agencies and private parties are not required to consult with NMFS unless state or private actions require a federal permit or receive federal funding. Although the concept of EFH is similar to that of critical habitat under the ESA, measures recommended to protect EFH by NMFS are advisory, not proscriptive.

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA), Section 307 (16 USC §1456(c)) mandates that federal agency activities be "consistent to the maximum extent practicable with the enforceable policies of approved state management programs," and that this consistency be documented and coordinated with the state. A federal agency ensures consistency of its proposed actions with state management programs by submitting a consistency determination to the relevant state agency. After receipt of the consistency determination, the state agency informs the federal agency of its concurrence with, or objection to, the federal agency's consistency determination.

The California Coastal Commission (CCC) is the state agency charged with administering the federal CZMA within the California coastal zone. Within the CCC's areas of concern, the coastal zone consists of all areas located within the CCC's jurisdiction which extends 3 miles seaward and inland 1,000 yards from the mean high tide line. Any federal activity that affects any natural resources (including wetlands and other waterbodies), land uses, or water uses within CCC's area of concern will be subject to the consistency requirement. Obligations under the CZMA must be met through the federal consistency determination process that is outlined in the CZMA Federal Consistency Regulations, 71 Federal Regulation 787-831 at 15 CFR 930. The CCC and the California Coastal Act are discussed in the *State* regulatory section below.

Clean Water Act

Two definitions of "wetland" are considered for purpose of this report, one administered by the U.S. Army Corps of Engineers (Corps) under the federal Clean Water Act and the other

administered by the North Coast Regional Water Quality Control Board (RWQCB) under the Porter-Cologne Water Quality Control Act and the California Coastal Commission (CCC) under the California Coastal Act. The federal definition is presented below; the state definition and regulatory framework is discussed in the *State* regulatory section below.

Federal Wetland Definition. Wetlands are a subset of waters of the United States and receive protection under Section 404 of the Clean Water Act. The term "waters of the United States,"[37] as defined in the Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]), includes:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
2. All interstate waters including interstate wetlands. (Wetlands are defined by the federal government [CFR, Section 328.3(b)] as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.)
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters which are or could be used by interstate or foreign travelers for recreational or other purposes; or from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or which are used or could be used for industrial purposes by industries in interstate commerce.
4. All impoundments of waters otherwise defined as waters of the United States under the definition.
5. Tributaries of waters identified in paragraphs (1) through (4).
6. Territorial seas.
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6).
8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the U.S. Environmental Protection Agency.

Federal Regulation of Activities in Wetlands. The regulations and policies of various federal agencies, such as the Corps, U.S. Environmental Protection Agency (USEPA), USFWS, and

[37] Based on the Supreme Court ruling in *Solid Waste Agency for Northern Cook County v. U.S. Army Corps of Engineers* related to federal jurisdiction over isolated waters (January 9, 2001), non-navigable, isolated, intrastate waters are no longer defined as waters of the United States based solely on their use by migratory birds. Jurisdiction over non-navigable, isolated, intrastate waters may be exercised if their use, degradation, or destruction could affect other waters of the Unites States or interstate or foreign commerce. According to this ruling, jurisdiction over such other waters must be analyzed on a case-by-case basis, as should impoundments of waters, tributaries of waters, and wetlands adjacent to waters. The Supreme Court's recent decisions (e.g., *Rapanos* and *Carabel*) have yet to be interpreted in Corps regulations or definitions.

NMFS, mandate that filling wetlands be avoided unless it can be demonstrated that no practicable alternatives exist. The Corps has primary federal responsibility for administering regulations that concern waters and wetlands. In this regard, the Corps acts under two statutory authorities: The Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters," and the Clean Water Act (Section 404), which governs the fill of waters of the United States, including wetlands. The Corps requires that a permit be obtained if a project proposes to place fill in navigable waters and/or to alter waters of the United States below the ordinary high-water mark in non-tidal waters. The USEPA, USFWS, NMFS, and several other agencies may comment on Corps permit applications. The USEPA provides the primary criteria for evaluating the biological impacts of Corps permit actions in wetlands.

State

California Endangered Species Act

Under the California Endangered Species Act (CESA), CDFW has the responsibility for maintaining a list of threatened and endangered species (California Fish and Game Code Section 2070). CDFW also maintains a list of "candidate species," which are species formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. Candidate species receive full protection under CESA, similar to that afforded to threatened and endangered species. In addition, CDFW maintains lists of "species of special concern," which serve as "watch lists."

The CESA prohibits the take of plant and animal species that the California Fish and Game Commission has designated as either threatened or endangered in California. "Take" in the context of the CESA means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill a listed species (California Fish and Game Code §86). The take prohibitions also apply to candidates for listing under the CESA. However, Section 2081 of the CESA allows the CDFW to authorize exceptions to the state's take prohibition for educational, scientific, or management purposes.

In accordance with the requirements of the CESA, an agency reviewing a project within its jurisdiction must determine if any state-listed endangered or threatened species could be present in the project area. The agency also must determine if the project could have a potentially significant impact on such species.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed CDFW to carry out the legislature's intent to "preserve, protect, and enhance endangered plants in this state." The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. The California Endangered Species Act expanded upon the original NPPA and enhanced legal protection for plants. The CESA established threatened and endangered species categories, and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, there are three listing categories for plants in California: rare, threatened, and endangered.

Special-Status Natural Communities

Sensitive natural communities are designated as such by various resource agencies, such as the CDFW, or in local policies and regulations, and are generally considered to have important functions or values for wildlife and/or are recognized as declining in extent or distribution, and are considered threatened enough to warrant some sort of protection. For example, many local agencies in California consider protection of oak woodlands important, and federal, state, and most local agencies also consider wetlands and riparian habitat as sensitive communities. CDFW tracks communities it believes to be of conservation concern through its List of California Terrestrial Communities and the California Natural Diversity Database (CNDDB), and these communities are typically considered special-status for the purposes of CEQA analysis. Northern coastal salt marsh is the special-status community located within the Study Area.

California Fish and Game Code

Fully Protected Species. Certain species are considered *fully protected*, meaning that the code explicitly prohibits all take of individuals of these species except for take permitted for scientific research. Section 5050 lists fully protected amphibians and reptiles, Section 5515 lists fully protected fish, Section 3511 lists fully protected birds, and Section 4700 lists fully protected mammals.

It is possible for a species to be protected under the California Fish and Game Code, but not fully protected. For instance, mountain lion (*Puma concolor*) is protected under Section 4800 et seq., but is not a fully protected species.

Protection of Birds and Their Nests. Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 of the code prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs. Migratory non-game birds are protected under Section 3800, while other specified birds are protected under Section 3505.

Stream and Lake Protection. CDFW has jurisdictional authority over streams and lakes and the wetland resources associated with these aquatic systems under California Fish and Game Code Sections 1600 et seq. through administration of Lake or Streambed Alteration Agreements. Such agreements are not a permit, but rather a mutual accord between CDFW and the project proponent. California Fish and Game Code Sections 1600-1616 authorize CDFW to regulate work that will “substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river lake or stream.” Because CDFW includes under its jurisdiction streamside habitats that may not qualify as waters or wetlands under the federal Clean Water Act definition, CDFW jurisdiction may be broader than Corps jurisdiction.

CDFW enters into a Streambed Alteration Agreement with the project proponent and can impose conditions in the agreement to minimize and mitigate impacts to fish and wildlife resources. A project proponent must submit a notification of streambed alteration to CDFW before

construction. The notification requires an application fee for Streambed Alteration Agreements, with a specific fee schedule to be determined by CDFW. CDFW can also enter into programmatic agreements that cover recurring operation and maintenance activities and regional plans. These agreements are sometimes referred to as Master Streambed Alteration Agreements (MSAAs).

Under Fish and Game Code Section 1602 (Streambed Alteration Agreements), the CDFW takes jurisdiction over the stream zone which is defined top of bank or outside extent of riparian vegetation, whichever is the greatest. Within the stream zone, waters of the State of California are typically delineated to include the streambed to the top of the bank and adjacent areas that would meet any one of the three wetland parameters in the Corps definition (vegetation, hydrology, and/or soils). Whereas federal jurisdiction requires meeting all three parameters, in practice meeting one parameter, or even the presence (rather than dominance) of wetland plants in an area associated with a jurisdictional streambed would qualify an area as waters of the State of California. CDFW jurisdiction is not limited to navigable waters or tributaries to navigable waters; however, isolated wetlands and wetlands not associated with a lake shoreline or streambed are not typically subject to CDFW jurisdiction.

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) (together “Boards”) are the principal state agencies with primary responsibility for the coordination and control of water quality. In the Porter-Cologne Water Quality Control Act (Porter-Cologne), the California Legislature declared that the “state must be prepared to exercise its full power and jurisdiction to protect the quality of the waters in the state from degradation...” (California Water Code §13000). Porter-Cologne grants the Boards the authority to implement and enforce the water quality laws, regulations, policies, and plans to protect the groundwater and surface waters of the state. Impacts to waters of the state determined to be jurisdictional would require a project proponent to obtain waste discharge permitting (for non-federally-jurisdictional waters) and/or a Clean Water Act Section 401 certification (for federally jurisdictional waters, as in the case of the required Corps permit). The enforcement of the state's water quality requirements is not solely the purview of the Boards and their staff. Other agencies (e.g., the CDFW) have the ability to enforce certain water quality provisions in state law.

California Coastal Commission

Within the California Coastal Zone, the CCC has authority to regulate development that would conflict with the provisions of the California Coastal Act. The coastal zone generally extends three miles seaward and about 1,000 yards inland from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards.

To carry out the policies of the Coastal Act, each of the 73 cities and counties in the coastal zone is required to prepare a local coastal program (LCP) for the portion of its jurisdiction within the coastal zone, and to submit the program to the CCC for certification. The CCC manages protection of biological resources through a permitting process for all projects in the coastal zone.

Once the CCC certifies a LCP, the local government gains authority to issue most coastal development permits (CDP). The CCC generally retains permit authority over certain specified lands (such as public trust lands or tidelands). Only the CCC can grant a coastal development permit for development in areas of its retained jurisdiction. The CCC has unusually broad authority to regulate development in the coastal zone, and a permit is required for any project that might change the type or intensity of land use in the coastal zone. For example, a project that would require only a building or grading permit from a city or county would also require a CDP in many cases. Other projects, such as major vegetation clearing or subdividing, may also require a CDP. The local government or the CCC reviews applications to determine whether the proposed development would substantially impact any existing biological resources, including wetlands, and to consider the net effects of the project on rare and endangered species. The City's LCP is discussed further below in the *Local Plans and Policies* subsection.

California Wetland Definition

As legal protection of and scientific attention to wetlands have increased, so have the number of wetland definitions contained in State and federal law. Most of these definitions vary slightly but share common terms and concepts. In general, California agencies have adopted the Cowardin et al. (1979) classification system to define wetlands. According to this classification system, wetlands must have one or more of the following three attributes: (1) at least periodically, the land predominantly supports hydrophytes;[38] (2) the substrate is predominantly undrained hydric soil; or (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.[39]

Under normal circumstances, the federal definition of wetlands requires all three wetland identification parameters to be met, whereas the Cowardin definition requires the presence of at least one of these parameters. Jurisdictional wetlands and other Waters of the United States and Waters of the State occur within the Study Area.

The CDFW, in their review of Lake and Streambed Alteration Agreements under Section 1600 of the California Fish and Game Code, generally relies upon the Cowardin system and the presence of at least one parameter in considering an area a wetland and therefore subject to Fish and Game Code regulation.

The SWRCB is currently considering adoption of the Preliminary Draft Water Quality Control Policy for Wetland Area Protection and Dredged or fill Permitting to clarify its authority over wetlands. This preliminary draft provides the following definition for wetlands:[40]

> An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper

38 The USFWS has developed the following definition for hydrophytic vegetation: "plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content" (Cowardin et al., 1979).
39 Cowardin et al., 1979.
40 State Water Resources Control Board (SWRCB), 2013. Preliminary Draft Water Quality Control Policy for Wetland Area Protection and Dredged or fill Permitting. January. http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/wrapp/policy_draft.pdf.

> substrate; and (3) the area either lacks vegetation or the vegetation is dominated by hydrophytes.

The CCC broadly defines wetlands under the Coastal Act (Cal. Pub. Res. Code §30121) as follows:

> Wetland means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens.

The CCC Administrative Regulations (Cal. Code Regs. §13577(b)) provide a more explicit definition:

> Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats.

Although the exact procedures for delineating wetlands subject to CCC jurisdiction have varied somewhat in the past, the CDFW wetland definition and classification system is the delineation methodology generally followed by the CCC. For projects requiring federal (Corps) review, a CCC permit applicant may, in some cases, need to obtain two delineations, one for the coastal development permit, and another for the Corps Section 404 permit.

California Regulation of Activities in Wetlands

The State's authority to regulate activities in wetlands and waters in the Study Area resides primarily with the RWQCB, which regulates fill in and discharges to Waters of the United States under Section 401 of the Clean Water Act and to Waters of the State of California, including activities in wetlands, under the Porter-Cologne Water Quality Control Act. The CDFW provides comment on Corps permit actions under the Fish and Wildlife Coordination Act. Moreover, under Sections 1600–1616 of the California Fish and Game Code, the CDFW regulates activities that would substantially divert, obstruct the natural flow of, or change rivers, streams, and lakes. The jurisdictional limits of the CDFW are defined in Section 1602 of the California Fish and Game Code as the bed, channel, or bank of any river, stream, or lake. The CDFW regulates activities that would result in the deposit or disposal of debris, waste, or other materials into any river, stream, or lake, and requires preparation of a streambed alteration agreement for activities that are proposed within or near a river, stream, or lake. Lastly, the CCC (or designated local government), in their review of a Coastal Development Permit (CDP) application and a project's consistency with the CZMA, makes a determination as to whether the proposed project would substantially change any existing biological resources, including wetlands.

Local

City of Eureka 1997 General Plan

The City's 1997 General Plan contains policies and implementation measures relevant to biological resources. Specifically, the 1997 General Plan includes policies that identify, protect, and enhance biological resources in the planning area. Upon approval of the proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded. The applicable elements of the 1997 General Plan are:

1997 General Plan and Local Coastal Program Goals and Policies

The 1997 General Plan and adopted Local Coastal Program together formalize a long-term vision for the physical evolution of Eureka, and outline the policies, standards, and programs that guide day-to-day decisions concerning Eureka's development. The 1997 General Plan includes the following goals and policies regarding biological resources in the Study Area including those located in the coastal zone:

Aquatic Resources and Marine, Wetland, and Riparian Habitat

Goal 6.A: To protect and enhance the natural qualities of the Eureka area's aquatic resources and to preserve the area's valuable marine, wetland, and riparian habitat.

Policy

6.A.1: The City shall maintain, enhance, and, where feasible, restore valuable aquatic resources, with special protection given to areas and species of special biological or economic significance. The City shall require that uses of the marine environment are carried out in the manor that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

6.A.2: The City shall establish a comprehensive wetland management program that includes all of Eureka's restored and natural wetland areas.

6.A.3: The City shall maintain and, where feasible, restore biological productivity and the quality of coastal waters, streams, wetlands, and estuaries appropriate to maintain optimum populations of aquatic organisms and for the protection of human health through, among other means, minimizing adverse effects of wastewater and storm water discharges and entrainment, controlling the quantity and quality of runoff, preventing depletion of groundwater supplies and substantial interference with surface water flow, encouraging wastewater reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

6.A.4: The City shall require that channelizations or other substantial alterations that could significantly disrupt the habitat values of rivers and streams incorporate the best mitigation measures feasible. Such channelizations and alterations shall be limited to the following:

a. Flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development.

b. Developments where the primary function is the improvement of fish and wildlife habitat.

6.A.5: The City shall permit revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes only when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion.

6.A.6: The City declares the following to be environmentally sensitive habitat areas within the Coastal Zone:

a. Rivers, creeks, sloughs, gulches, and associated riparian habitats, including but not limited to Eureka Slough, Fay Slough, Cut-Off Slough, Freshwater Slough, Cooper Slough, Second Slough, Third Slough, Martin Slough, Ryan Slough, Swain Slough, and Elk River.

b. Wetlands and estuaries, including that portion of Humboldt Bay within the City's jurisdiction, riparian areas, and vegetated dunes.

c. Indian Island, Daby Island, and the Woodly Island wildlife area.

d. Other unique habitat areas, such as waterbird rookeries, and habitat for all rare or endangered species on state and federal lists.

e. Grazed or farmed wetlands (i.e., diked former tidelands).

The areas are shown on 1:500 scale maps that are available for review at the City of Eureka Community Development Department. These maps are incorporated by reference into this Revised General Plan and are a formal part of it. However, all environmentally sensitive habitat areas may not be shown on these maps and shall, if they exist, be identified as part of any project application.

6.A.7: Within the Coastal Zone, the City shall ensure that the environmentally sensitive habitat areas are protected against any significant disruption of habitat values, and that only uses dependent on such resources shall be allowed within such areas. The City shall require that development in areas adjacent to environmentally sensitive habitat areas be sites and designed to prevent impacts which would significantly degrade such areas, and be compatible with the continuance of such habitat areas.

6.A.8: Within the Coastal Zone, prior to the approval of a development, the City shall require that all development on lots or parcels designated NR (Natural Resources) on the Land Use Diagram, or within 250 feet of such designation, or development potentially affecting an environmentally sensitive habitat area, shall be found to be in conformity with the applicable habitat protection policies of the General Plan. All development plans, drainage plans, and grading plans submitted as part of an application shall show the precise location of the habitat(s) potentially affected by the proposed project and the manner in which they will be protected, enhanced, or restored.

6.A.9: The City shall permit the diking, filling, or dredging or open coastal waters, wetlands, or estuaries only under the following conditions:

a. The diking, filing or dredging is for a permitted use in that resources area;

b. there is no feasible, less environmentally damaging alternative;

c. Feasible mitigation measures have been provided to minimize adverse environmental effects;

d. The functional capacity of the resource area is maintained or enhanced.

6.A.10: The City shall support dredging and spoils disposal to avoid significant disruption to aquatic and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable longshore current systems.

6.A.11: The City shall require that diking, filling or dredging of a wetland or estuary maintain or enhance the functional capacity of these resources. Functional capacity means the ability of the wetland or estuary to be self-sustaining and to maintain natural species diversity. In order to establish that the functional capacity is being maintained, all of the following must be demonstrated.

a. Presently-occurring plant and animal populations in the ecosystem will not be altered in a manner that would impair long-term stability of the ecosystem, i.e., natural species diversity, abundance and composition are essentially unchanged as a result of the project;

b. A species that is rare, threatened, or endangered will not be significantly adversely affected; and

c. Consumptive (e.g., fishing, aquaculture and hunting) or nonconsumptive (e.g., water quality and research opportunity) values of the wetland or estuary ecosystem will not be significantly reduced.

6.A.12: The City shall require that dredging, when consistent with the provisions of this General Plan or other adopted City regulations and where necessary for the maintenance of the tidal flow and continued viability of the wetland habitat or for flood control purposes, shall be subject to the following conditions:

a. Dredging shall be prohibited in breeding and nursery areas and during periods of fish migration and spawning;

b. Dredging shall be limited to the smallest feasible.

c. Designs for dredging and excavation projects shall include protective measures such as silt curtains, weirs, etc., to protect water quality in adjacent areas during construction by preventing the discharge of refuse, petroleum spills, and unnecessary dispersal of silt materials.

6.A.13: The City shall require that diking or filling of a wetland that is otherwise in accordance with the policies of this General Plan, shall, at a minimum, require the following mitigation measures:

a. A detailed restoration plan shall be required as part of the project application for each specific restoration site. The restoration plan shall include provisions for purchase, if required, and restoration of an equivalent area of equal or greater biological productivity, and dedication of the land to a public agency or other method which permanently restricts the use of the site to habitat and open space purposes. The restoration site shall be purchased or otherwise made available prior to any permitted diking or filling;

b. Areas adequate to maintain functional capacity shall be opened to tidal action or other sources of surface water shall be provided. This provision shall apply to diked or filled areas which themselves are not environmentally sensitive habitat areas, but would become so if, as part of a restoration program, they are opened to tidal action or are provided with other sources of surface water. All of the provision for restoration, purchase (if necessary), and dedication described under action a. of this policy shall apply to any program or activity performed pursuant to this policy.

c. Mitigation shall, to the maximum extent feasible, be of the same type as the wetland to be filled (i.e., freshwater marsh for freshwater marsh, saltwater marsh for saltwater marsh, etc.).

d. Where no suitable private or public restoration or enhancement sites are available, an in-lieu fee may be required to be paid to an appropriate public agency for use in the restoration or enhancement of an area of equivalent productive value or surface area.

6.A.14: Consistent with all other applicable policies of this General Plan, the City shall limit development or uses within wetlands that are neither farmed nor grazed, or within estuaries, to the following:

a. Port facilities.

b. Energy facilities.

c. Coastal-dependent industrial facilities, including commercial fishing facilities.

d. Maintenance of existing or restoration of previously dredged depths in navigation channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

e. Incidental public service purposes which temporarily impact the resources of the area, such as burying cables or pipes, inspection of piers, and maintenance of existing intake and outfall lines.

f. Restoration projects.

g. Nature study, aquaculture, or similar resource-dependent activities.

h. New or expanded boating facilities in estuaries, consistent with the demand for such facilities.

i. Placement of structural piling for public recreational piers that provide public access and recreational opportunities.

6.A.15: The City shall limit uses and development in grazed or farmland wetlands to the following:

a. Agricultural operations limited to accessory structures, apiaries, field and truck crops, livestock raising, greenhouses (provided that are not located on slab foundations and crops are grown in the existing soil on site), and orchards;

b. Farm-related structures, including barns, sheds, and framer-occupied housing, necessary for the performance of agricultural operations. Such structures may be located on an existing grazed or farmed wetland parcel only if no alternative upland location is available for such purpose and the structures are sited and designed to

minimize adverse environmental effects on the farmed wetland. No more than one permanent residential structure per parcel shall be allowed.

c. Restoration projects, including the PALCO on-site restoration and enhancement program.

d. Nature study, aquaculture, and similar resource-dependent activities; and

e. Incidental public service purposes which may temporarily impact the resources of the area, such as burying cables or pipes.

6.A.16: Consistent with all other applicable policies of this General Plan, the City shall limit uses within open coastal waters to the following:

a. Port facilities.

b. Energy facilities.

c. Coastal-dependent industrial facilities, including commercial fishing facilities.

d. Maintenance of existing or restoration of previously dredged depths in navigation channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

e. Incidental public service purposes which temporarily impact the resources of the area, such as burying cables or pipes, inspection of piers, and maintenance of existing intake and outfall lines.

f. Restoration projects.

g. Nature study, aquaculture, or similar resource-dependent activities.

h. New or expanded boating facilities.

i. Placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

6.A.17: The City shall require that any uses that involve substantial alterations of streams and rivers incorporate the best mitigation measures feasible and shall be limited to the following:

a. Flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect development.

b. Developments where the primary function is the improvement of fish and wildlife habitat.

6.A.18: The City may permit new fill or repair and maintenance purposes on lands adjacent to the previously filled northern waterfront provided that is consistent with other General Plan policies and where all of the following apply:

a. Fill will be placed in previously filled areas which have been subject to erosion;

b. Fill will not be placed beyond the existing bulkhead line;

c. Fill is necessary to protect existing development, coastal-dependent uses, or redeveloped areas from erosion;

d. Fill will not interfere with commercial fishing activities and facilities; and

e. Placement of the fill is consistent with the coastal public access policies of the General Plan.

6.A.19: The City shall require establishment of a buffer for permitted development adjacent to all environmentally sensitive areas. The minimum width of a buffer shall be 100 feet, unless the applicant for the development demonstrates on the basis of site specific information, the type and size of the proposed development, and/or proposed mitigation (such as planting of vegetation) that will achieve the purpose(s) of the buffer, that a smaller buffer will protect the resources of the habitat area. As necessary to protect the environmentally sensitive area, the City may require a buffer greater than 100 feet. The buffer shall be measured horizontally from the edge of the environmentally sensitive area nearest the proposed development to the edge of the development nearest to the environmentally sensitive area. Maps and supplemental information submitted as part of the application shall be used to specifically define these boundaries.

6.A.20: To protect urban wetlands against physical intrusion, the City shall require that wetland buffer areas incorporate attractively designed and strategically located barriers and informational signs.

6.A.21: The City shall require that all land use activities adjacent to gulch greenways be carried out in a manner that avoids vegetative removal below the break in slope (usually those areas with a slope of 30 percent or greater) and that does not alter natural land forms and drainage patterns.

6.A.22: The City shall maintain Indian Island as a site for habitat, scientific research and education. Existing uses may be maintained but shall not be expanded, except the reburial of Native American remains shall be permitted as part of the mitigation for coastal-dependent industrial development elsewhere in the Study Area.

6.A.23: The City, in consultation with the Department of Fish and Game, Coastal Conservancy, Coastal Commission, Humboldt Bay Harbor, Recreation, and Conservation District, affected landowners, and other interested parties shall prepare a detailed, implementable wetlands management, restoration and enhancement program consistent with the provisions of this General Plan. The objectives of the program shall be to enhance the biological productivity of wetlands; to minimize or eliminate conflicts between wetlands and adjacent urban uses; to provide stable boundaries and buffers between urban and habitat areas; to provide restoration areas, including the City-owned lands on the Elk River Spit that may benefit from restoration and enhancement, to serve as mitigation in conjunction with future projects that may include wetland areas. Upon completion, the wetlands management and restoration program created by this policy shall be submitted to the Coastal Commission for review and approval.

6.A.24: Within the Coastal Zone, where there is a question regarding the boundary, buffer requirements, location, or current status of an environmentally sensitive area identified pursuant to the policies of this General Plan, the City shall require the applicant to provide the City with the following:

a. Base map delineating topographic lines, adjacent roads, location of dikes, levees, of flood control channels and tide gates, as applicable;

b. Vegetation map, including identification of species that may indicate the existence or non-existence of the sensitive environmental habitat area;

c. Soils map delineating hydric and non-hydric soils; and

d. Census of animal species that may indicate the existence or non-existence of the sensitive environmental habitat area.

The City shall transmit the information provided by the applicant pursuant to this policy to the Department of Fish and Game for review and comment. Any comments and recommendations provided by the Department shall be immediately sent to the applicant for his or her response. The City shall make its decision concerning the boundary, location, or current status of the environmentally sensitive habitat area in question based on the substantial evidence in the record and shall adopt findings to support its actions.

Conservation of Open Space

Goal 6.C: To support the continued protection of valuable open space resources in and around Eureka.

Policies

6.C.1: The City shall preserve vital portions of open-space areas around and within the city in their natural state in order to insure their maintenance as wildlife and fish habitat areas, natural drainage areas, agricultural areas, and areas of passive recreation and outdoor education.

6.C.2: The City shall protect critical habitat areas and preserve the ecosystem of existing natural areas within the city.

6.C.3: The City shall retain open-space needed to provide community and neighborhood identity, efficiency, and amenities; insulate conflicting land uses; and act as a noise barrier between noise-sensitive and excessive noise-generating uses.

6.C.4: The City shall coordinate its open space planning, acquisition, and development efforts with those of Humboldt County and regional and state agencies.

6.C.5: The City shall prepare and adopt Gulch Greenway Preservation/Management Guidelines that identifies and protects the vegetation and habitat in and the hydrologic capacity of Eureka's gulch greenways. These guidelines shall include provisions for defining the boundaries of gulch greenways, identifying the boundaries of all affected parcels lying wholly or partly within the gulch greenways, ensuring new development is compatible with the environmental and public safety values of the gulch greenways, and restoring gulch vegetation and habitat as appropriate.

6.C.6: The City shall permit private property owners adjacent to gulch areas to develop, where appropriate, by utilizing Planned Unit Development (PUD) concepts while ensuring that gulch slopes and bottoms are retained in their natural state and that development does not occur in areas subject to flooding or where slopes exceed 30 percent.

6.C.7: The City shall require that areas of unique historic and scenic quality and areas containing identified critical habitats preserved.

6.C.8: The City shall encourage multiple use of open-space resources consistent with other policies and standards of this General Plan.

3.4.3 Analysis, Impacts, and Mitigation

Significance Criteria

Consistent with CEQA Guidelines Appendix G (Environmental Checklist), implementation of the 2040 Eureka General Plan would have a significant impact on biological resources if it would:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Methodology and Assumptions

The threshold for significance for special-status plants would be any measurable decrease in special-status plant populations. For endangered or threatened status wildlife, including fully protected species, loss of an individual animal would be a significant impact. For habitat modification, a significant impact is any measurable alteration of the habitat that would result in a drop in the population of a special-status species, for example, due to changes in food supply, reduction in elements needed for breeding habitat, or changes that limit opportunities for cover and movement.

The threshold for significance for natural communities would be any reduction in the extent of the community compared with baseline, or a change that could threaten the long-term existence of the community itself. The threshold of significance for wetlands is no-net-loss of extent. The threshold of significance for local ordinances is violation of such ordinances.

Approach to Analysis

The biological resources analysis consider locations where the proposed 2040 General Plan could allow potential development activity to occur in known habitat types or in locations where species have been recorded to occur, and assesses the potential for impacts from permitted activities on species' persistence or activities (foraging, nesting, estivating, or movement), or impacts to their habitats.

Types of Impacts

Direct impacts to natural communities include removal of these communities and replacement with other land uses. Direct impacts on plant and wildlife species are assumed from loss of habitat in these communities. Site excavation, grading, filling, infrastructure construction, or other changes to habitat can result in death or injury or disturbance to wildlife, to the extent that the species cannot continue inhabiting or foraging in the area. Direct impacts may be temporary, if they disturb a habitat that is subsequently restored or displace individuals of a given species that later return to the site.

Indirect impacts on species may occur when remaining fragments of undeveloped habitat are isolated from larger areas of contiguous habitat, and species can no longer subsist in these smaller fragments. Indirect impacts can also occur due to degraded water quality; changes in hydrology; noise or dust, disturbance from human activities and domestic animals; increased predation or competition; invasive species spread; and other factors.

Issues Not Discussed in Impacts

The proposed General Plan was determined to have no impact on significance criterion f), above:

> ***Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other adopted local, regional, or state habitat conservation plan.*** No Habitat Conservation Plans or Natural Community Conservation Plans apply to any part of the City or the Study Area. Thus, the General Plan would have no conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are relevant to biological resources within the Study Area.

Natural Resources

Water Resources and Water Quality

> **Goal NR-1: Protection, enhancement and restoration of surface water resources, and their associated riparian habitats, and groundwater, as well as improvement of water quality.**
>
> ***Policies***
>
> ***NR-1.3: Natural Open Space Areas.*** Preserve undeveloped non-urban areas that provide important groundwater recharge, stormwater management, and water quality benefits, such as undeveloped open spaces, gulches, natural habitat, riparian corridors, wetlands, and other drainage areas.
>
> ***NR-1.8: Biological Productivity.*** Maintain and, where feasible, restore the biological productivity and quality of rivers, streams, and wetlands to maintain optimum populations of aquatic organisms and protect human health.

Biological Resources

Goal NR-2: Protection of sensitive biological resources on a sustainable basis to generate long-term public, economic, and environmental benefits.

Policies

NR-2.1: Development in Gulches and Greenways. Allow limited development within Eureka's gulches and greenways and permit private property owners adjacent to gulch and greenway areas to develop, provided sensitive species habitat, fish and wildlife corridors, and the hydrologic capacity of the resource are protected and vegetation removal does not occur below the high water mark (usually a change in slope of 20 percent or greater) or in areas subject to flooding, consistent with local, State, and federal regulations.

NR-2.2: Gulch Greenway Preservation and Management Guidelines. Prepare and adopt Gulch Greenway Preservation / Management Guidelines that identify and protect sensitive species habitat and the hydrologic capacity of Eureka's gulches and greenways. These guidelines shall include provisions for defining the boundaries of gulches and greenways, as generally indicated in Figure NR-1, identifying the boundaries of all affected parcels lying wholly or partly within the gulches and greenways, ensuring new development is compatible with the environmental and public safety values of the gulches and greenways, and restoring gulch vegetation, wetlands, and sensitive species habitat as appropriate.

NR-2.3: Trails in Gulches and Greenways. Work with private landowners and Humboldt County to establish a publicly-accessible trail network in and along Eureka's gulches and greenways that would not adversely impact sensitive species habitats.

NR-2.4: Wetlands Require appropriate public and private preservation and restoration of wetlands, and/or rehabilitation through compensatory mitigation in the development process for unavoidable impacts to wetlands, consistent with State and federal permitting requirements.

NR-2.5 Sensitive Species Habitat. Require development in or adjacent to sensitive species habitats that may contain special-status species to be compatible with the long-term sustainability of the habitat, and be conditioned to prevent significant habitat degradation or harm to rare, threatened, or endangered species.

NR-2.6: Buffers. Require the provision and maintenance of reasonably-sized buffers between sensitive habitat and adjacent urban uses to minimize disturbance of the resources, as appropriate. Buffers should be determined by recommendation from a qualified professional ecologist, consistent with local, State, and federal requirements.

NR-2.7: Tree and Native Vegetation Preservation and Use. Encourage preservation of existing healthy trees and native vegetation through site planning and maintenance, promote the use of low-maintenance, low water-use native plants and trees, prohibit the use of highly invasive plants, and discourage the use of invasive species in landscaping.

NR-2.8: Non-native Invasive Species on Public Lands. Maintain a program to identify, evaluate, and eradicate non-native invasive species on public lands where they are displacing native species.

NR-2.9: Regional Coordination. Maintain an active relationship with adjacent communities and government agencies to encourage cooperative management of natural resources and ecosystems in the Eureka Study Area.

Open Space

Goal NR-3: Protection and enhancement of valuable open space resources in and around Eureka. (Modified 1997 General Plan Goal 6.C)

Policies

NR-3.1: Preserve Open Space. Preserve unique and valuable areas within and around the city that provide visual and physical relief to the cityscape, as well as sensitive habitat, natural drainage, farming opportunities, timber extraction, passive recreation or outdoor education in their natural state to define and enhance the city's distinct character and heritage.

NR-3.2: Wildlife Movement. Preserve, enhance, and create interconnected open space and natural areas along sloughs, rivers, creeks, gulches and greenways, and other naturalized areas to provide for wildlife movement and protect biodiversity.

NR-3.5: Recreational Use and Nature Study. Within Open Space areas, develop compatible recreational uses and opportunities for nature study, such as trails, canopy walks, interpretive centers, viewing platforms, and other compatible uses, especially when such uses provide enhanced opportunities for acquisition, management, and enhancement of the City's public recreation and nature-study opportunities.

Agriculture and Timberland

Agriculture and Timberland Preservation

Goal AG-1: Preservation of agricultural and timber lands and aquaculture and fishing operations within and surrounding Eureka, enhanced forest ecosystems, reduced land use conflicts, and a sustained yield of forest, agricultural, and fisheries products.

Policies

AG-1.2: Aquaculture and Fishing Operations as Contributors to Local Economy. Recognize aquaculture and commercial fishing operations and on-shore support facilities in Eureka as important contributors to the local and regional economy.

AG-1.3: Limit Aquaculture Impacts. Ensure that aquaculture does not adversely impact natural ecological processes or native wildlife or fisheries or their habitat in Humboldt Bay. Require applicants for new aquaculture uses to demonstrate that adequate precautions will be taken to prevent new adverse impacts to natural ecological processes.

AG-1.4: Fishing Operations. Promote development or rehabilitation of on-shore facilities that support the commercial fishing industry.

AG-1.6: Productive Use of Timberlands. Continue to work with Humboldt County and the California Department of Forestry and Fire Protection (CDF) to encourage the sustained productive use of timberland as a means of providing open space, conserving other natural resources, and preventing urban conversions.

AG-1.9: Setbacks. Set back development adjacent to the McKay Tract Community Forest boundary to a sufficient distance to prevent exposure to potential hazards and to maintain forest integrity.

AG-1.10 Timber Harvest Plans. Request review of all Timber Harvest Plans (THP) within Eureka's sphere of influence in cooperation with California Department of

Forestry. THPs should be reviewed for measures that protect water quality, control erosion and flooding, and preserve the forested character surrounding the City of Eureka.

Parks and Recreation

Goal PR-1: A well-maintained park and recreation system that includes sufficient facilities to effectively serve the diverse needs and interests of all members of Eureka's population, while protecting environmentally sensitive resources.

PR-1.13: Resource Areas. Where possible, improve public lands and work with private landowners to provide additional accessibility and views within the gulches and greenways system, forests, coastline and Eureka's other distinct visual and natural resource areas.

Impacts and Mitigation Measures

Impact 3.4-1: The Eureka 2040 General Plan would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Terrestrial Species

Special-status amphibians including northern red-legged frog and southern torrent salamander, and special-status reptiles and mammals are found in the Study Area and have suitable habitat in undeveloped areas within the City, such as the gulches and greenways. During construction of individual projects under the proposed 2040 General Plan, construction activities such as vegetation removal, grubbing, grading, or other ground disturbance activities in wooded or brushy habitats could result in direct impacts to northern red-legged frog, southern torrent salamander, and other species. Direct impacts during construction could include mortality of adults or young, as well as loss of habitat for cover and forage.

Indirect impacts to special-status terrestrial species could also occur during operation of General Plan developments, from increased predation caused by expanding the range or increasing the population of urban-adapted predators, such as raccoon and coyote and domestic cats. Additional development would also introduce new sources of operation-related night-lighting and noise sources.

The 2040 General Plan contains policies (NR-2.5 and NR-2.6) that promote avoidance of sensitive habitat areas and provision of buffers around such areas to maintain sensitive species habitat. In addition, development in sensitive habitat areas would require consultation with NMFS, USFWS, and/or CDFW. Adherence to these agencies' requirements would reduce impacts on terrestrial special-status species from construction and operation of General Plan developments to a **less-than-significant** level.

Salmonids

Northern California steelhead, Coho and Chinook salmon use streams such as Freshwater Creek, and nearshore waters in Humboldt Bay within the City, and additional streams within the adjoining Study Area. The City of Eureka could authorize development along Freshwater Creek

or along the shoreline that would impact migratory or juvenile fish. Because proposed construction of infrastructure, as well as ongoing habitat improvement and conservation projects could adversely affect salmonids by rendering habitat less hospitable in the short term due to increases in sediment loading and disturbance, construction activities would have a potentially significant impact on salmonids.

However, the 2040 General Plan includes policies to protect waterways (NR-1.3), including salmonid streams. In implementing these policies, civic agencies would be required to obtain permits and approvals from federal and state agencies including NMFS and CDFW to perform work in creeks that support salmonids. Adherence to these agency's guidelines would serve to protect salmonids from construction and operational activities under the 2040 General Plan and reduce impacts to a **less-than-significant** level.

Migratory Birds and Bats

In addition, habitats in the City have the potential to support roosting bat species, including special-status species such as long-eared myotis bat (*Myotis evotis*) and Townsend's big-eared bat. Habitat for nesting migratory birds is also present throughout the City. Raptors protected under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code could nest in oaks and other large trees, and on buildings. In addition to raptors, many other bird species protected under the MBTA nest in trees, shrubs, dunes and grasslands within the City.

During construction of individual projects under the proposed 2040 General Plan, activities such as building demolition, tree and shrub removal, grading, and new building construction could directly impact roosting special-status bats, and elevated sound levels from heavy construction equipment could cause adult bats to abandon maternity roosts. Construction could directly impact nesting birds by damaging or destroying nests, causing adults to abandon nests, or directly killing or injuring nesting birds. Additionally, construction disturbance, such as elevated sound levels and vibrations from heavy construction equipment, could cause adult birds to abandon nests, especially larger bird species or birds that are accustomed to relatively low ambient noise levels. Construction activities associated with development could result in potentially significant impacts to bats and migratory birds, including special-status species.

Indirect effects to birds or bats during operation of development under the 2040 General Plan would be unlikely because birds nesting in or near existing buildings would be acclimated to the lights, noise and activity associated with human activity. Consequently, operational impacts on bats and nesting birds would be **less than significant**.

The 2040 General Plan contains policies (NR-2.5 and NR-2.6) that promote avoidance of sensitive habitat areas and provision of buffers around such areas in order to maintain sensitive species habitat. In addition, development in sensitive habitat areas would require consultation with NMFS, USFWS, and/or CDFW. Adherence to these agencies' requirements would reduce impacts on migratory birds and bats to a **less-than-significant** level.

Plants

City lands, especially coastal dunes and riparian areas, contain potentially suitable habitat for rare, threatened or endangered plant species. During construction of individual projects under the proposed 2040 General Plan, construction activities such as grading and ground-disturbing activity in these locations could result in loss of rare, threatened or endangered plant species. Project construction activities under the proposed 2040 General Plan could result in potentially significant impacts to special-status plant species. The 2040 General Plan contains policies (NR-2.5 and NR-2.6) that promote avoidance of sensitive habitat areas and provision of buffers around such areas in order to maintain sensitive species habitat. In addition, the 2040 General Plan includes policies to protect open space, waterways, gulches and greenways and wetland areas (NR-1.3, 2.1, 2.2, and 2.4). These policies would restrict development in sensitive natural communities and would require consultation with state and federal agencies, and adherence to requirements of any applicable permits. Compliance with these policies and with applicable permit requirements would reduce impacts on rare plants to a **less-than-significant** level.

Mitigation Measure

None required.

Impact 3.4-2: The Eureka 2040 General Plan would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.

Construction of infrastructure, habitat improvement and development projects could occur within riparian habitat in the City. Although the City of Eureka intends to focus development in in-fill areas within the urban and suburban centers, potential construction activity within gulches and greenways could nevertheless result in a significant impact to riparian habitat (see Figure 3.4-2). However, the 2040 General Plan includes policies to protect open space, waterways, gulches and greenways, wetland areas, and corridors (NR-1.3, 2.1, 2.2, 2.4 and 3.2). These policies would restrict development in sensitive natural communities and would require consultation with state and federal agencies and adherence to requirements of any applicable permits. Compliance with these policies and with permit requirements would reduce impacts on sensitive natural communities to a **less-than-significant** level.

Mitigation Measure

None required.

Impact 3.4-3: The Eureka 2040 General Plan would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Construction of new buildings and infrastructure under the proposed 2040 General Plan could necessitate filling or altering waters and wetlands that qualify as "waters of the United States" and fall under federal jurisdiction pursuant to the Clean Water Act, as well as other waters under state authority pursuant to the California Water Code. Alteration of wetlands may occur through filling, or through sediment delivery, discharge of contaminants, or interruption of hydrological flow. General Plan construction activities could therefore result in potentially significant impacts to jurisdictional waters and wetlands. However, the General Plan includes Policy NR-2.4 to avoid impacts to wetlands and waters, and to consult with state and federal agencies with authority over wetland development and to adhere to all applicable permit requirements to protect wetland areas. With implementation of this measure, impacts of the 2040 General Plan on wetlands would be reduced to a **less-than-significant** level.

Mitigation Measure

None required.

Impact 3.4-4: The Eureka 2040 General Plan would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Grassland, forest, riparian woodland and creeks, seasonal wetlands, and perennial standing water in the City provide movement corridors and nursery sites for fish and wildlife. While construction activities could temporarily impede wildlife movement, such improvements would not result in substantial long-term interference. Development under the proposed 2040 General Plan could interfere with wildlife corridors if it occurred in sensitive habitat areas. However, the General Plan includes policies (NR-2.1, 2.2, 2.5, 2.6 and 3.2) to avoid sensitive habitat areas to provide a buffer between development and habitat areas, to avoid development in gulches and greenways without suitable measures to protect sensitive species and natural areas, and to preserve wildlife corridors. With implementation of these measures, impacts to wildlife corridors and nursery sites would be reduced to a **less-than-significant** level.

Mitigation Measure

None required.

Impact 3.4-5: The Eureka 2040 General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The City and larger Study Area are home to lush forests of coast redwood, Douglas fir, and other conifers, as well as deciduous and riparian woodlands in the gulches and greenways, and urban and suburban trees. Development under the proposed General Plan may require removal of trees to allow for construction of structures, utilities, roads or other improvements. To maintain trees, the General Plan includes a provision (NR-2.7) to encourage preservation of existing healthy trees through site planning and maintenance. In addition, the City building permit or other applicable permit would require site developers to minimize loss of trees and to replant following construction. In combination, these measures would protect local trees and avoid conflict with local ordinances. The impact would be **less than significant**.

Mitigation Measure

None required.

Cumulative Impacts

Impact 3.4-6: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not have a substantial adverse effect on biological resources.

The geographic context for cumulative impacts to biological resources includes the City of Eureka, it's SOI, and parts of the Study Area with connectivity to the City; for example, the gulches, creek and streams, and associated riparian and wetland habitat. Within the unincorporated Humboldt County lands east and south of the City limits within the City's SOI, there is potential for additional development that may impact special-status species, sensitive natural communities, or corridors. If new development within these areas occurs in sensitive habitat areas and does not observe reasonable measures to avoid impacts to biological resources, adverse effects to these resources could occur. Because there is a potential for future cumulative development outside of City limits to adversely affect biological resources within the surrounding area, this cumulative impact is considered potentially significant.

As discussed above, new development under the proposed General Plan would not be expected to result in significant impacts to sensitive species, natural communities, greenways or wildlife corridors. In addition, the proposed 2040 General Plan includes policies that are designed to protect and enhance sensitive biological resources within the City. Moreover, development under the proposed General Plan would be subject to consultation and permitting processes with applicable state and federal agencies. Adherence to permitting requirements and General Plan policies would ensure that the contribution of the proposed 2040 General Plan to the cumulative impacts on biological resources would be less than considerable, and this impact would be **less than significant**.

3.5 Cultural and Historic Resources

This section addresses potential adverse impacts on cultural and historic resources that could result from implementation of the proposed Eureka 2040 General Plan. Proposed general plan policies and implementation measures and existing laws and regulations are evaluated for their effect of mitigating or avoiding any potentially significant effects to cultural resources and historic resources. For the purposes of this section, cultural and historic resources are defined as physical evidence or a place of past human activity, including sites, objects, landscapes, or structures of significance to a group of people traditionally associated with it. Cultural resources also include tribal cultural resources, which include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe.

Given the regional nature of the topics that are analyzed in this section, much of the analysis considers the General Plan's Study Area as the principal area of investigation, and that term is used frequently in the discussion that follows. As described in Chapter 2, *Project Description*, the Study Area is defined as the City of Eureka's City limits, its sphere-of-influence (SOI), and peripheral areas of unincorporated Humboldt County that could be influenced by the City's planning activities. Figure 2-2 in the *Project Description* shows these various boundaries.

During the Notice of Preparation (NOP) comment period, no comments were provided in direct relation to Cultural and Historic Resources.

Potential impacts on paleontological resources are addressed in Section 3.6, *Geology, Soils, Mineral Resources, and Paleontological Resources*.

3.5.1 Environmental Setting

Ethnographic Setting

Before settlement of the Eureka area by European Americans in the 1850s, what is now the City of Eureka and much of the surrounding area was within the territory of the Wiyot Indians. The Wiyot occupied the coastal strip from Little River on the north to the Bear River Mountains on the south. The eastern boundary of Wiyot territory follows the crest of the first mountain range behind the coastal plain. At the time of Euro-American contact, the Wiyot were divided into three principal groups, speaking a mutually intelligible language which differed markedly from the Athabascan languages to the east and south and the Yurok language to the north. Although Yurok and Wiyot are both considered by linguists to be Algonquin languages, they are not closely related; a speaker of Wiyot cannot understand the speech of a Yurok. The three subdivisions of the Wiyot were: (1) the Patawat, who lived in the villages on the lower Mad River; (2) the Wiki on Humboldt Bay; and (3) the Wiyot along the lower Eel River. It is the name of the Eel River division which is now used exclusively in accounts pertaining to the entire group.

With a population numbering somewhere between a low estimate of 1,000 and a high estimate of 3,300, the Wiyot lived almost exclusively in villages along the protected shores of Humboldt Bay and near the mouths of the Eel and Mad Rivers. The Wiyot used the ocean very little for either

food or travel. Almost all of their major settlements were located on still water where redwood dugout canoes could be used.

One of the more important aspects of Wiyot material culture was the redwood dugout canoe. It was made from a log hollowed by fire, and generally measured approximately 18 feet long by 4 feet wide. The redwood canoe provided access to aquatic food sources and was a preferred method of travel between Wiyot villages on Humboldt Bay.

Villages consisted of dwellings which were rectangular in plan and made from split redwood planks. The planks were made by splitting fallen redwood trees with elk horn wedges. The manufactured planks were from 10 to 16 feet long and 2 to 5 feet wide. The dwelling's sides were constructed by standing the redwood planks on edge and stacking them to eave height. Holes were burnt in the planks which were then tied together. The roof was supported by 3 to 4 beams and the door was a round hole, approximately 18 inches in diameter, located near a corner.

Most Wiyot villages included a sweathouse that was used by Wiyot men for sleeping, gambling, and ceremony. The sweathouse was semi-subterranean, about the same size as a house, and had its entry near the southwest corner.

With these villages as their base, the Wiyot were able to hunt and gather a wide variety of plant and animal resources within their territory. Mollusks, sea lions, and stranded whales were among the ocean resources utilized by the Wiyot; deer, elk, and acorns constituted the more important land resources. Perhaps the most important protein source for the Wiyot was the yearly anadromous fish runs on the Eel, Elk, and Mad Rivers and the major creeks. During these salmon and steelhead runs, the Wiyot were able to smoke and store enough fish to last through the winters when other food resources were not as abundant.

Wiyot fishing technology was elaborate and included the use of fishing weirs, single pointed harpoons, basketry traps, acute-angle hooks, double-toggle harpoons, fixed nets, lifting nets, scoop nets, lures, and torches. Because of this technology, the Wiyot were able to maximize the aquatic resources available and maintain one of the highest population densities in prehistoric northern California.

Other aspects of Wiyot material culture included twined basketry and woven tule mats. Men wore deerskin moccasins and hip-length leggings and, in cold weather, a fur robe about the shoulders. Women wore deerskin skirts with a fringed apron, and frequently wore a basketry hat. The Wiyot utilized an extensive flaked and ground-stone technology. Arrowheads, knives, and scrapers were made from chert and obsidian. Stone grinding implements were used to process grass seed, acorns, and other vegetable foods. Steatite was used for bowls and smoking pipes. Elk antler was used for spoons, shell money purses, basketry awls, and wood working wedges.

The Wiyot had established trade routes with a number of their neighboring groups. They provided dugout canoes and various foods to the Mattole to the south, who in turn traded tobacco, Haliotis shells, and other foodstuffs. In trade with the Yurok, the Wiyot supplied white deerskins and received iris fiber rope.

Wiyot contacts with Euro-American explorers and fur trappers prior to the California gold rush led to decimation and displacement of the Wiyot. From 1850 to 1865, the territory of the Wiyot became the center for the largest concentration of Euro-Americans in California north of San Francisco. This was caused by the use of Humboldt Bay as a shipping point to the gold mines, the establishment of a redwood timber industry, and the homesteading of the Eel River and Arcata Bottoms for ranching and farming. Soon after the first Euro-American settlements were established on Humboldt Bay, the Wiyot population was subjected to violence and introduced diseases. Those who did not die from these causes were displaced from their villages and driven to distant reservations or marginal lands within the Humboldt Bay region.

Archaeological Setting

A records search for the General Plan Study Area[1] was conducted at the Northwest Information Center of the California Historical Resources Information System, located at Sonoma State University on January 17, 2014 (File No. 13-1079). Relevant archaeological base maps, archaeological reports, ethnographic and historic materials, and current state and federal listings of registered historic properties were reviewed. The records search revealed that 52 archaeological sites had been recorded within the Study Area. The locations of these archaeological sites and the record forms describing them are considered sensitive documents and are not available to the general public.

Most of the archaeological sites on record at the Northwest Information Center had been listed initially by Llewellyn Loud in his *Ethnogeography and Archaeology of Wiyot Territory*, published in 1918. Using Wiyot and Euro-American pioneer informants and field surveys, Loud documented 172 sites within Wiyot territory. Loud also conducted an archaeological excavation within the Wiyot village of Dulawo't (CA-HUM-67), located within the City on the eastern end of Indian Island. This excavation revealed the presence of fire hearths, house floors, numerous artifacts, and human burials. This was the first scientific archaeological excavation within Humboldt County. Subsequent excavations at CA-HUM-67 were undertaken by H.H. Stuart of Eureka, followed later by Thomas Hannah of Eureka's Clarke Museum, and by other unidentified persons. Robert Heizer and Albert Elsasser of the University of California at Berkeley also did some limited work at the site in the late 1940s. Radiocarbon dates of A.D. 900 and A.D. 880 from the base of the archaeological deposit imply continuous use by the Wiyot, dating from at least 1,000 years ago.

The ethnographic significance of CA-HUM-67 is as a major village site and as the scene of important religious dances. In 1860, Euro-Americans massacred the Wiyot living at Dulawo't. Although similar to numerous other massacres of the same period, this event was distinguished by being reported in several national newspapers. Because of the prehistoric and historic significance of CA-HUM-67, the site was designated a State Historic Landmark. A bronze plaque briefly describing the site was placed on Woodley Island overlooking Indian Island.

[1] The General Plan Study Area covers approximately 27,735 acres, or about 43.3 square miles, and includes the City of Eureka, its Sphere of Influence, and additional areas that could be influenced by the City's planning activities. The General Plan Study Area is depicted on Figure 2-2 in Chapter 2, Project Description, of this Draft EIR.

While a number of recent archaeological surveys have been conducted in the Humboldt Bay region in response to cultural resource protection laws, very little archaeological work has been done in the Eureka area since the pioneering study by Loud. Although Loud did a remarkably detailed survey in the short time he was in Humboldt County, and he had the advantage of working with members of the Wiyot tribes who could remember what the cultural landscape was like before the Euro-Americans came, there are several prehistoric sites that have been recorded in Wiyot territory which Loud did not mention, and there are undoubtedly many more which are as yet unrecorded. The most likely locations for unrecorded sites lie in the vicinities of recorded sites, within a region along the edge of Humboldt Bay, but it is possible that significant resources could occur anywhere in the City.

Many significant prehistoric and historic archaeological sites have been disturbed or destroyed by construction work associated with the development of Eureka and neighboring communities. Several Wiyot village sites and cemeteries have been destroyed during the construction of public and private developments within the City.

Historic Overview

The Humboldt Bay region was settled late in the period of westward expansion in the United States, approximately 230 years after the Massachusetts colonists landed at Plymouth and nearly a half century after the Lewis and Clark overland expedition reached the Pacific coast. Exploration of the northern California coastline by the Spanish resulted in a landing by Bruno Hecata and Juan Francisco de Bodega y Cuadra at Trinidad in 1775, followed in 1793 by Captain George Vancouver, a British officer of the Royal Navy who explored and charted North America's northwestern Pacific Coast regions. Discovery of Humboldt Bay is credited to Jonathan Winship, an American employed by the Russian-American Company, which commissioned Winship in 1806 to undertake a sea otter expedition along the Northern California coast. However, it was another 44 years following Winship's discovery before Euro-Americans arrived in the Humboldt Bay region to establish permanent settlements. In early November 1849, a party of seven men, led by Dr. Josiah Gregg, and including Lewis Keysor Wood, left the mining district on the Trinity River near Weaverville for an overland journey in search of Trinidad Bay, which they mistakenly thought was the outlet of the Trinity River. Gregg's intent was to locate a coastal port for supplying the needs of the interior mining camps, which relied on difficult land connections with the Sacramento Valley. After a journey of 99 days, the party reached the coast near Little River and eventually the shores of Humboldt Bay, where they spent Christmas 1849, encamped two hundred yards from what is now the Arcata Plaza. Following the Indian trail around the edge of the bay (the Old Arcata Road corridor), the party camped on the bluff above the bay (Bucksport). Near the mouth of Van Duzen River, they separated into two groups. In time, the Wood party reached Sonoma and the Gregg party (minus Dr. Gregg, who died near Clear Lake) arrived in the Sacramento Valley.

In April 1850, the first Euro-American settlements were established at Humboldt City (Buhne's Point), Bucksport, Eureka, and Union (Arcata). By the end of 1850, Eureka counted a population of 23 people in 10 houses and tents. Union quickly took the lead as the supply center for the interior mining districts on the Klamath, Trinity, and Salmon rivers; Bucksport's viability resided

in Fort Humboldt, which was established on the bluff over Bucksport in 1853. Eureka forged an unanticipated identity as a lumber town with seven mills processing timber into marketable lumber by 1854.

The region's early economy was sustained by a diversity of natural resources. Logging, milling, shipbuilding, farming, fishing, packing and freighting, and the attendant commercial enterprises resulted in the establishment of tailored communities-logging and mill camps, farming communities, stage stops, shipbuilding villages.

Eureka's growth continued unabated throughout the latter nineteenth and early twentieth centuries, fueled by the timber industry, and by the 1920s it had a population of 14,000, with an area of about 12 square miles. At that time, however, the most densely developed areas covered only a square mile, running back from the bay shore a mile and a half, inclusive of today's Old Town and Downtown districts. By this time, downtown Eureka had paved streets, gas and electric lights, an electric car service, and a municipal water system. The area also boasted a ferry system to the Peninsula, a bustling harbor, and rail connections to the outside world.

The Depression slowed construction of residences, but building of commercial uses continued throughout the 1930s up to the World War II years. Little construction occurred during the war years, but immediately following the war, Eureka experienced a building boom which added many new buildings to downtown Eureka, while Old Town remained essentially unchanged as post-war development shifted to the residential areas to in the south and east.

Historic Resources

The City includes more than 600 historic resources that are listed on or eligible for listing on the National Register of Historic Resources (NRHP), the California Register of Historical Resources (CRHR), and/or the City's Local Register of Historic Places (LRHP). This includes more than 40 resources in the Old Town Historic District (listed on the NRHP) and more than 30 resources in the Clark District (not an adopted historic district). In some City neighborhoods exceptional architecture is interspersed among more modest building types. In other neighborhoods, streets are lined with rows of outstanding examples of architectural periods and styles. Housing tracts that developed after World War II also contribute to Eureka's architectural heritage.

Old Town Historic District

The site chosen by the founders of Eureka in May 1850 was a piece of open land above the marsh and below the timber, between what would become B and F Streets and between the waterfront and 3rd Street. This initial grid of streets, now a portion of Eureka's Old Town, experienced tremendous growth in residential and commercial buildings which ran apace with the growth in the lumber industry. Prosperity and expansion not only meant growth in the building stock but also the construction of more substantial homes and businesses. Vernacular housing and classically-styled settlement houses came first, followed by a Victorian period that produced numerous outstanding examples for which Eureka is well renown, such as the Carson Mansion, which is widely considered to be the most exemplary Victorian home in America.

Clark Addition

The Clark Addition was platted by Dr. Jonathan Clark in 1866 and was the first of several residential subdivisions created by Dr. Clark, who was a prominent local physician and landowner. Clark's First Addition included 26 blocks and was developed primarily between 1870 and 1930.

The Clark Addition was enlarged with the addition of 42 blocks and a second expansion was planned prior to Dr. Clark's death in 1884. The additions platted by Clark and then his son, William Clark, after Dr. Clark's death, eventually comprised 142 acres of land in the City and included the areas bounded by Washington Street on the north, C Street on the east, Broadway and Fairfield Street on the west, and two different boundaries – Buhne and Henderson Streets – on the south. With the exception of the Jefferson School lot and one block on Albee Street, most of the 25 blocks in this area consist entirely of historic structures. The range of architecture includes settlement and folk vernacular, Victorian cottages and high styles, turn-of-the-century Neoclassical, and Craftsman-period bungalows and shingle-style houses.

The enlarged area of Clark's Addition represented an integration of styles, periods, and socio-economic conditions. That integration is still evident today, not only in the built environment, but also socially and ethnically. These neighborhoods, although lacking many 'high-style' structures, are valuable for both their social and architectural history.

Other Historic Neighborhoods and Resources in the City

While Old Town and the Clark Additions contain the greatest concentration of historic resources, the City includes numerous historically significant neighborhoods, districts, and individual resources. A summary of these resources is provided below.

The Eddy Tract, located roughly between O and Y Streets and between 4th and 1st Streets, filed in 1876, was the first intensively-developed housing in Eureka. A second map enlarging the original area was filed in 1885. Currently there are numerous examples of early settlement-period houses and nineteenth century vernacular houses, interspersed with light industrial uses, two mobile home parks, and several new apartment complexes in the area. Many of these earliest homes are good examples of early architectural styles, and the information that they can yield on construction materials and methods contribute to Eureka's historic and architectural heritage.

The area encompassed by C Street on the west, 6th and 8th Streets on the north, M and J Streets on the east, and Harris on the south contains a rich diversity of housing, excellent examples of particular styles, and intact neighborhoods. The housing within these boundaries includes a wide range of periods and styles in exceptional condition. Settlement-period folk housing is expressed in classic front-gables, hall-and-parlors, "I" houses, and pyramidal one- and two-story houses. Victorian housing includes small cottages and the high-style. Turn-of-the-century styles and Craftsman-period bungalows are also present, along with 1930s-era and post-war housing. In total, this area provides nearly a century of architectural styles. Many individual structures in this area retain a high level of integrity, as do the neighborhoods on a collective basis.

The one-way couplets, H and I Streets, cross Eureka from the bay to Harris Street. These two corridors express Eureka's diversity of styles, including folk, Victorian, Craftsman, and pre- and post-World War II houses.

Another distinctive neighborhood is the area bounded by Del Norte, D, G, and Long and Carson Streets. Part of the Prairie Addition, these streets are lined with relatively large houses on spacious lots. Built in the twenties and late thirties, these houses include stucco cottages, Craftsman bungalows, Mediterranean types, and revival styles. Although Eureka is known primarily for its Victorian architecture, its Craftsman-period houses are also well represented. The city's bungalows are found in a variety of sizes, forms, and degrees of elaborateness, but their totality creates intact neighborhoods with high degrees of integrity.

The area south of Harris Street and extending roughly between E and Harrison Streets and north of a line through Manzanita is a mixture of styles, but with only a few nineteenth century examples. Twenties and thirties houses with some early and late forties styles are found in these blocks. Craftsman bungalows and the minimal traditional style are found throughout this area, with a scarce few Victorian examples.

Post-war housing, constructed in the late 1940s and throughout the 1950s, occurs as both infill and in tracts. Infill housing may be single houses on a street of older houses, but is also found as rows along one side of a block or both sides. Tracts, however, cover from several to many blocks and are recognized by similar style, age, although there may be an occasional older house in the tract which could be a remnant from the earlier farmstead that occupied the land.

Several post-war tracts were identified as significant in Eureka's architectural heritage. These tracts retain their architectural integrity within a unified setting and were developed by Blakeslee-Spiering Construction Company and Ernest Pierson Homes.

Redwood Gardens, developed by Chester Spiering in 1947-48, is located between Carson and Buhne Street on Summer, Pine, California, and Union Streets. By July 1948, he had completed more than 60 houses in this tract. These houses are mostly in the minimal traditional style, popular during the thirties and forties. In 1948-49, the Eastwood Slopes between 17th and 18th Streets and R and S Streets were developed, completing 28 out of 50 houses by the summer of 1948. The Eastwood tract, built from 1949, extends the Eastwood Slopes area on P and R Streets and 16th and 17th Streets. Spiering continued to build minimal traditional houses, although the area now includes fifties and sixties housing. It also has a few isolated examples from the 19th and early 20th centuries, including bungalows.

Ernest Pierson developed a number of tracts, along with infill and short rows, and was responsible for building hundreds of Eureka houses. Several early post-war tracts were identified as retaining integrity of both architecture and setting. Pierson's development on Hillside Drive off McFarlan Street was built in the mid-1950s and contains good examples of this Pierson period. Many of Pierson's homes developed on O Street and Eastwood Drive are among the most exemplary examples in Eureka from this period.

Custom built homes on spacious lots between N and P Streets and Buhne Street and Eastwood Drive, are among the most prestigious in Eureka. Built by several contractors, including Pierson, the houses were constructed over a twenty-year period, beginning in 1940 and after the war interruption, resuming in 1946 and continuing into the 1960s.

To the south of Buhne Street and east of M Street is an area generally dominated by 1960s-era residential architecture, including ranch styles. These neighborhoods are intact architecturally and the integrity of setting is excellent.

A small warehouse district, outside the National Register District, is located between 2nd and 4th Streets and between A Street and Broadway. It contains several good examples, including the 1920 California Central Creameries building on A Street and a row on 3rd Street. Commercial and industrial architecture is concentrated in the waterfront and Broadway areas, the Old Town and downtown cores, and in such areas as Henderson Center, and along Wabash Avenue, Harris Street, Myrtle Avenue, and Harrison Street.

Historic-age neighborhood markets, some still housed in their original buildings are located in numerous locations in the City. Notable examples include Pat's Market at 11th and M Streets; C&V Market at Randall and F Streets; Comer's California Grocery at California and Hawthorne Streets; Bonomini's Market at Allard Avenue and Little Fairfield Street, and the former Park Store at Hodgson and T Streets. Also of note is the Asian Oriental Food Market at Albee and Buhne Streets, built in 1936, because it identifies an enterprise which is providing the same "corner market" service to its Asian neighbors.

Located at various places throughout the City are structures of both architectural and historic interest. These include such buildings as old fire stations, fraternal halls, the Eureka Woman's Club, churches, banks, residential water towers, early twentieth century garages, sheds, neighborhood storefronts, and schools.

3.5.2 Regulatory Overview

Federal, state, and local governments have developed laws and regulations designed to protect significant cultural and historic resources that may be affected by actions they undertake or regulate. The National Historic Preservation Act of 1966 (NHPA) and CEQA are the basic federal and state laws governing the preservation of historic and archaeological resources of national, regional, state, and/or local significance.

Federal

National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966, as amended, requires that a federal agency with direct or indirect jurisdiction over a proposed federal or federally assisted undertaking, or issuing licenses or permits, consider the effect of the proposed undertaking on historic properties. A historic property may include a prehistoric or historic-era building, structure, object, site or district included in, or eligible for inclusion in, the NRHP maintained by

the U.S. Secretary of the Interior. Federal agencies must also allow the Advisory Council on Historic Preservation (ACHP) to comment on the proposed undertaking and its potential effects on historic properties.

The implementing regulations for Section 106 of the NHPA (36 CFR 800) require consultation with the State Historic Preservation Officer (SHPO), the ACHP, federally recognized Indian tribes and other Native Americans, and interested members of the public throughout the compliance process. The four principal steps are:

- Initiate the Section 106 process (36 CFR 800.3);
- Identify historic properties, i.e., resources eligible for inclusion in the NRHP (36 CFR 800.4);
- Assess the effects of the undertaking on historic properties within the area of potential effect (36 CFR 800.5); and
- Resolve adverse effects (36 CFR 800.6).

Adverse effects on historic properties are often resolved through preparation of a Memorandum of Agreement or Programmatic Agreement developed in consultation between the federal agency, the SHPO, Indian tribes, and interested members of the public. The ACHP is also invited to participate. The agreement describes stipulations to mitigate adverse effects on historic properties listed in or eligible for the NRHP (36 CFR 60).

National Register of Historic Places

The National Historic Preservation Act established the NRHP as “an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (36 CFR Section 60.2). The NRHP recognizes both historic-era and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Buildings, structures, objects, sites or districts of potential significance must meet one or more of the following four established criteria (NPS, 1990):

A) Are associated with events that have made a significant contribution to the broad patterns of our history;

B) Are associated with the lives of persons significant in our past;

C) Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D) Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for NRHP listing.

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance." [2] The NRHP recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

Although the NRHP standards for historic integrity are high, the NRHP accepts that a property "must also be judged with reference to the particular criteria under which a resource is proposed for eligibility." Most archaeological properties are evaluated under Criterion D; the most applicable qualities of integrity under this criterion are those of location, materials, and association.

Integrity also defines the research potential of a resource. To possess research potential, archaeological data must have integrity in the form of what has been called "focus." Focus in this context means the accuracy with which the archaeological remains represent a situation or condition. When focus is absent or inadequate because of disturbance, a resource does not retain integrity. Remains that represent several activities or have materials that cannot be separated from one another into discrete contexts may also lack focus and therefore integrity.[3]

State

Office of Historic Preservation

The State of California implements the National Historic Preservation Act through its statewide comprehensive cultural resources surveys and preservation programs. The Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the National Historic Preservation Act on a statewide level. The OHP also maintains the California Historical Resources Inventory. The SHPO is an appointed official who implements historic preservation programs within the state's jurisdictions.

California Register of Historical Resources

The CRHR is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for CRHR eligibility are based on NRHP criteria (PRC Section 5024.1[b]; California Code of Regulations [CCR], Title 14, Section 4850 et seq.). Certain resources are determined by the statute to be automatically included in the CRHR, including California properties formally determined eligible for, or listed in, the NRHP.

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2 U.S. Department of the Interior. *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (1995), 44.

3 U.S. Department of the Interior. *National Register Bulletin 36: Guidelines for Evaluating and Registering Archeological Properties* (2000), 31.

To be eligible for the CRHR, a prehistoric or historic-era property must be significant at the local, state, and/or federal level under one or more of the following four criteria. The resource:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2) Is associated with the lives of persons important in our past;
3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4) Has yielded, or may be likely to yield, information important in prehistory or history.

An eligible resource for the CRHR must meet one of the criteria of significance described above and retain enough of its historical character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance.

Additionally, the CRHR consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The CRHR automatically includes the following:

- California properties listed in the NRHP and those formally determined eligible for the NRHP;
- California Registered Historical Landmarks from No. 770 onward; and
- California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the CRHR.

Resources that may be nominated to the CRHR include:

- Historical resources with a significance rating of Category 3 through 5 (properties identified as eligible for listing in the NRHP, the CRHR, and/or a local register);
- Individual historical resources;
- Historical resources contributing to historic districts; and
- Historical resources designated or listed as local landmarks or designated under any local ordinance, such as a historic preservation overlay zone.

California Environmental Quality Act

CEQA (PRC Section 21000 et seq.; 14 CCR Section 15000 et seq.) is the principal state law governing environmental review and approval of discretionary projects proposed in the state. CEQA requires lead agencies to determine, prior to approval, if a project would have a significant adverse effect on historical or unique archaeological resources.

The CEQA Guidelines generally recognize that a historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (PRC Section 5024.1); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource

survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the whole record (14 CCR Section 15064.5[a]).

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 of CEQA and CEQA Guidelines Section 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated as a "unique" archaeological resource in accordance with the provisions of PRC Section 21083. As defined in Section 21083.2, a unique archaeological resource is an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

A non-unique archaeological resource is an archaeological artifact, object, or site that does not meet the criteria in PRC Section 21083.2(g) and need not be given further consideration, other than the simple recording of its existence by the lead agency if it so elects (PRC Section 21083.2[h]). The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment (14 CCR Section 15064.5[c][4]).

PRC Section 5024.1(f) requires a lead agency to make provisions for handling the accidental discovery of historical or unique archaeological resources during construction. Provisions include an immediate evaluation of the find by a qualified archaeologist. Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place.

In the event that human remains are discovered in any location other than a dedicated cemetery, PRC Section 5024.1(e) requires all work to stop until the county coroner in which the remains are discovered is contacted. If the coroner determines the remains to be Native American, the coroner must contact the Native American Heritage Commission within 24 hours. The Commission would then identify any person or persons it believes to be the most likely descended from the deceased individual.

Local

City of Eureka 1997 General Plan

The City's 1997 General Plan contains policies and implementation measures relevant to cultural and historic resources. Specifically, the 1997 General Plan includes policies that identify, protect, and enhance cultural and historic resources that are unique to the area. Upon approval of the proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded.

View Corridors

Goal 1.H: To maintain and expand views of the waterfront, inner harbor, and landmark buildings from public streets and other public spaces.

Policies

1.H.3: The City shall maintain unobstructed views of the Carson Mansion along the entire length of 2nd Street through street tree pruning or removal as necessary.

Architectural/Landscape Character

Goal 1.I: To maintain the distinctive architecture, historic character, and landscape quality within the Core Area.

Policies

1.I.1: The City shall ensure that structures of historic and architectural interest area preserved and, wherever feasible, rehabilitated to protect the variety and quality of older buildings in the Core Area. In cases where such structures might be used to better advantage in new surroundings, the City shall encourage relocation.

1.I.3: The City shall enhance the historic quality of major traffic thoroughfares, particularly F, 4th, 5th, 6th, and 7th Streets, by encouraging property owners to remove "slip-cover" (i.e., contemporary/remodeled) facades that have been placed over intact historic façades.

1.I.4: The City shall encourage property owners to maintain, enhance, and protect the existing character of historic buildings, with a particular emphasis on retaining or restoring original style, consistent with the Secretary of the Interior's standards.

1.I.8: The City shall maintain the historic pattern of building siting in the Core Area by requiring that buildings be built to the street property and side lines, and by retaining the building scale and cadence created by historic parcel dimensions, even where lot consolidation is necessary to create economically viable development.

1.I.11: The City shall upgrade the visual and pedestrian amenity quality of 2nd Street through repair and renovation of existing street furniture, street lights, street signs and sidewalks; pruning of street trees, and where necessary, removal of street trees that are blocking views of the Carson Mansion; replacements of missing or damaged street trees; re-landscaping of planters and other planting areas; and other improvements within the public way.

Historic Preservation

Goal 5.E: To preserve and enhance the historical features of the Eureka area.

Policies

5.E.1: The City shall designate historic districts for the restoration and preservation of those areas, building, and site in Eureka that are of historic, cultural, and/or architectural significance.

5.E.2: The City shall support the registration of cultural resource in appropriate landmark designations (i.e., National Register of Historic Places, California Historical Landmarks, Points of Historical Interest, or Local Landmark).

5.E.3: The City shall give highest restoration priority to those buildings and open space areas identified as having historic, cultural, or architectural significance that are in imminent danger of decay or demolition and vulnerable to earthquake damage (e.g., unreinforced masonry buildings).

5.E.4: The City shall encourage federal and state government s as well as financial institutions and private citizens to provide loans for refurbishing historical building and restoring artifacts and memorabilia.

5.E.5: The City shall sponsor and support legislation to provide incentives for maintaining and enhancing structural stability and aesthetic value of significant structures.

5.E.6: The City shall encourage local citizens to cooperate in a campaign to identify and publicize the significance of historical sites and buildings.

5.E.7: The City shall prepare and adopt design review guidelines that provide for architectural review of new developments and of exterior alterations to existing structure in designated historical areas.

5.E.8: The City shall review all building or demolition permits for buildings either designated historic or within historical districts ensure, where feasible, the preservation of these historic facilities.

5.E.9: The City shall protect and enhance the integrity of the historical atmosphere by supporting the restoration, renovation, and quality replication of historic buildings.

5.E.10: The City shall promote re-use of historic buildings for both public and private uses.

Archeological Resources

Goal 5.F: To maintain the distinctive architecture, historic character, and landscape quality within the Core Area.

Policies

5.F.1: The City shall solicit the cooperation of the owners of cultural resources, encourage those owners to treat these resources as assets rather than liabilities, and encourage the support of the general public for the preservation and enhancement of these resources.

5.F.2: The City shall solicit the views of the Native American Heritage Commission and/or the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

5.F.3: The City shall coordinate with Humboldt County to promote the preservation and maintenance of archaeological resources in the Planning Area.

5.F.4: The City shall use, where feasible, incentive programs to assist private property owners in preserving and enhancing cultural resources.

5.F.5: The City shall require that discretionary development projects identify and protect from damage, destruction, and abuse, important historical, archaeological, and cultural sites and their contributing environment. Such assessments shall be incorporated into a citywide cultural resource data base.

5.F.6: The City shall require that discretionary development projects are designed to avoid potential impacts to significant cultural resources whenever feasible. Unavoidable impacts, whenever feasible, shall be reduced to a less than significant level and/or shall be mitigated by extracting maximum recoverable data. Determinations of impacts, significance, and mitigation shall be made by qualified archaeological or historical consultants, depending on the type of resource in question.

5.F.7: The City shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.

5.F.8: Resources that are not suitable for private development. Organizations that could provide assistance in this area include, but are not limited to, the Archaeological Conservancy the Nature Conservancy.

City of Eureka Historic Preservation Element

The City of Eureka achieved Certified Local Government (CLG) status in 1999. Using a CLG grant awarded by the SHPO, the City funded the preparation of the Historic Preservation Element of the 1997 General Plan, which establishes a context for Eureka's historic resources and establishes goals and strategies for their preservation. The Historic Preservation Element was adopted on July 1, 2008 by Resolution 2008-31.

City of Eureka Historic Preservation Code

Under California Government Code section 37361, the City of Eureka provides broad local authority to impose conditions to protect and enhance places, buildings, structures, works of art, and other objects having a special character or special historical or aesthetic interest or value. The City initiated a historic preservation program in 1996 through legislative action to adopt the Historic Preservation Ordinance (Eureka Municipal Code, Title 15, Chapter 157). This ordinance established the Local Register of Historic Places (LRHP), criteria for inclusion on the LRHP, and created an administrative body, the Historic Preservation Commission, to review projects subject to the ordinance.

Core Area Design Guidelines

Eureka adopted the Core Area Design Guidelines in 1997. The intent of the guidelines is to maintain and enhance the Victorian Seaport theme of the Core Area. The Core Area consists of the approximately 50 blocks within the traditional grid street stem focused on F Street and 2nd Street. This area captures most of the City's historically significant commercial and industrial structures. The guidelines not only strive to find compatibility between new buildings and the historic, but also to maintain the pedestrian friendly streets, storefronts, and public spaces.

Historic Preservation Plan

Eureka adopted the Historic Preservation Plan in 2004. The outlines the context of Eureka's many historic resources, and establishes detailed goals and strategies for preserving these resources. Beyond identifying local resources, the Plan's goal is to document, maintain, preserve, and acknowledge public buildings, historic right of ways and public work projects, cemeteries, prehistoric places, and the natural environment to acknowledge their importance to the well-being of Eureka's community. In doing so, the City would hope to benefit from increased investment in rehabilitation and increased tourism through heritage tourism.

Native American Consultation

Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code section 65300 et seq.) and specific plans (defined in Government Code section 65450 et seq.). The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. In accordance with the requirements of Senate Bill 18 (SB 18), Eureka City staff conducted Native American outreach and consultation efforts. The City sent a local government tribal consultation list request to the Native American Heritage Commission (NAHC). The request included a request for a search of the NAHC Sacred Lands File and a list of contacts for tribes with traditional lands or cultural places within or near the City. The NAHC responded on December 30, 2014 with a letter that indicated the results of the search of the Sacred Lands File were negative. The letter included a list of Native American contacts. In January 2015, the City extended an invitation to the Wiyot, Blue Lake, and Bear River tribes to consult on the General Plan Update. All three tribes indicated they would like to consult. City staff met with representatives of the three tribes on February 14, 2017. Members of the tribes subsequently provided input on proposed General Plan goals and policies pertaining to the management and protection of cultural resources. The City and tribal representatives agreed that the tribes would be kept informed regarding development of the General Plan Update and that additional consultation would be conducted as needed.

3.5.3 Analysis, Impacts, and Mitigation

Significance Criteria

Implementation of the 2040 General Plan would result in a significant impact if it would:

a. Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5;

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;

c. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

   i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k) or

   ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe; or

d. Disturb any human remains, including those interred outside of dedicated cemeteries.

Methodology and Assumptions

Impacts on cultural and historic resources are evaluated using the criteria listed above. Impacts are evaluated based on information included in the *Eureka General Plan Community Background Report*[4] and the *Draft Eureka 2040 General Plan*.[5]

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are specifically relevant to cultural and historic resources within the City.

Goal HCP-1: A comprehensive preservation program that identifies, recognizes, protects, and assists in the preservation of Eureka's historic resources.

Policies

HCP-1.1: Preservation. Encourage and support the identification, preservation, rehabilitation, and restoration of historically significant buildings, landscape features, significant trees and plantings, hardscape, fountains, lighting, sculptures, signs, and other natural or designed features through incentives such as reduction of Historic Preservation application fees and programs such as the Local Register of Historic Places and the Mills Act.

4 City of Eureka. 2015. *Eureka General Plan Community Background Report.*
5 City of Eureka. 2017. *Draft Eureka 2040 General Plan.*

HCP-1.2: City-owned Resources. Maintain City-owned historic buildings and resources, such as structures, objects, monuments, landscapes, and right of way improvements, retaining walls, granite curbs, entry monuments, light standards, street trees, and the scoring, dimensions, and patterns of sidewalks, driveways, curbs, and gutters in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

HCP-1.3: Adaptive Reuse. Promote the adaptive reuse of historic buildings for both public and private uses when the original use is no longer feasible.

HCP-1.4: Discourage Demolition. Consider demolition of historic resources that are listed in the Local Register of Historic Places as a last resort, to be permitted only if rehabilitation is not feasible, demolition is necessary to protect health, safety, and welfare, or the public benefit outweighs the loss of the historic resource consistent with City regulations.

HCP-1.5: Heritage Tourism. Work with local Native American Tribes, agencies, organizations, property owners, and business interests to develop and promote Heritage Tourism opportunities, in part as an economic development strategy.

HCP-1.6: Certified Local Government. Maintain adequate staffing for the continuance of the California State Office of Historic Preservation's Certified Local Government Historic Preservation Program.

Goal HCP-2: A comprehensive program that identifies, preserves, and assists in the protection of archaeological and Tribal Cultural resources.

Policies

HCP-2.1: Protection. Continue to identify, protect, and preserve significant archaeological sites and conduct good-faith government-to-government consultation with local Tribes to identify and protect Tribal Cultural Resources.

HCP-2.2: Coordination with Tribes. Continue to solicit input from local Native American Tribes, and/or a qualified cultural resource professional early in project planning and review processes in areas known or believed to contain buried archaeological or cultural resources.

HCP-2.3: Consultation with Tribes. For projects subject to CEQA, initiate formal consultation as early as feasible with local Tribes to identify and protect Tribal Cultural Resources in their respective areas of traditional and cultural affiliation. Topics to discuss during consultation include project alternatives, recommended mitigation measures, and significant effects; other topics may include type of environmental review, resource significance, impact significance, and tribal alternatives for mitigation.

HCP-2.4: Confidentiality. Protect confidential Tribal information, such as by preparing a separate appendix that is not included in the environmental document or disclosed to the general public, in consultation with each Tribe.

HCP-2.5: Construction Monitoring. Condition permit approval with inadvertent discovery language and/or require monitoring of ground-disturbing activities in areas known or believed to contain buried archaeological or cultural resources.

HCP-2.6: Coordination. Coordinate with Humboldt County and local Tribes to promote the preservation of archaeological and cultural resources in the Planning Area.

HCP-2.7: Discretionary Projects. Require discretionary development projects be designed to avoid potential impacts to significant archaeological and cultural resources whenever feasible, reduce unavoidable impacts to the maximum extent feasible, and comply with mitigation measures as agreed upon during formal consultation. Determinations of significance, impacts, and mitigation shall be made in conjunction with a qualified cultural resources professional and/or local Tribes.

HCP-2.8: Repatriation of Tribal Cultural Resources. On a case by case basis, support efforts to return human remains and cultural objects unlawfully obtained from prehistoric and historic Native American sites to proven lineal descendants, or culturally related Native American tribes.

HCP-2.9: Zoning, Conservation Easements, and Acquisition of Resources. In consultation with local Tribes, governments, and landowners, protect Tribal Cultural Resources in open spaces, under conservation easements, and/or restricted development recorded on deeds, and consider zoning changes, conservation easements, and acquisition programs as a means of preserving-in-place significant archaeological and cultural resources.

HCP-2.10: Public Display of Resources. Encourage local universities, cultural museums, learning and interpretive centers, libraries, and curation facilities to preserve, store, protect, and/or make artifacts available for public display and study, when appropriate. (New)

Impacts and Mitigation Measures

Impact 3.5-1: Implementation of the proposed Eureka 2040 General Plan could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

As described above in the *Environmental Setting*, the City includes hundreds of historic resources that are listed on or eligible for listing on the NRHP, the CRHR, and/or the City's LRHP, including numerous resources in the Old Town Historic District, the Clark Addition, and other neighborhoods throughout the City. Except for a portion of the Clark Addition, and project-specific evaluation, the remainder of the City has not been subjected to professional historical resource surveys or evaluations since 1973. Consequently, many historical resources could be present in the City that have not been recorded, and numerous sites, buildings, and structures that are not currently historically significant may achieve significance over the 20-year planning horizon for the proposed 2040 General Plan.

While the City is largely a built-up urban environment, implementation of the 2040 General Plan would result in gradual physical changes within the City, including an increase of up to 1,886 dwelling units and a total of up to 1.6 million square feet of nonresidential uses. While these changes would be distributed broadly and incrementally across the 16.4-square-mile City and would not comprise a substantial intensification or concentration of physical development, physical development under the General Plan could lead to the demolition of historic or potentially historic buildings and structures. Additionally, infrastructure or other public works improvements could result in damage to or demolition of historic resources.

As detailed in the *Regulatory Overview* above, there are a number of federal, state, and local regulations in place to protect historical resources. The City's Historic Preservation Ordinance established the Local Register of Historic Places, criteria for inclusion on the local register, and establishment of the Historic Preservation Commission to review projects subject to the ordinance.

In addition, policies proposed in the Historic Preservation Element of the 2040 General Plan include a variety of measures and incentives aimed at preserving both publicly and privately owned historic and cultural resources. For example, Goal HCP-1 and its associated policies identify the City's responsibilities with regards to staff and preservation programs within the City and provide the means for preservation, including enforcement of applicable laws and regulations and maintenance and treatment of resources. Implementation programs in the Historic Preservation Element include measures such as preparation of a citywide inventory of cultural and historic resources; establishment of a digital database of survey data; development of interpretive programs; development and promotion of incentives for restoration, rehabilitation, and adaptive reuse of historic resources; and working with community groups and other local governments to organize preservation-related trainings and workshops.

With the regulatory and policy framework discussed above, the probability of demolition of historic buildings and structures would be greatly reduced. Specifically, Policy HCP-1.4 directly reduces the probability of demolition by requiring the City to consider demolition of historic resources as a last resort, to be permitted only if rehabilitation is not feasible, and where demolition is necessary to protect health, safety, and welfare, or the public benefit. Compliance with this policy would ensure that historic buildings are preserved when feasible. However, the policies would not ultimately prevent the demolition of all historic buildings or structures. Because the 2040 General Plan does not propose policies that would prohibit the demolition of any historic building that could eventually be eligible (when it meets the 50-year threshold) for state or federal listing, this impact is considered **potentially significant**. In some instances, it may not be feasible to protect a historic resource, and demolition may be the only feasible alternative. It would be up to the discretion of the City to make this determination. Because there are no feasible or practical policies or mitigation measures available to ensure that the City does not approve the demolition of a historic building or structure, this impact is considered **significant and unavoidable**.

Mitigation Measures

No feasible or practical mitigation measures beyond what the proposed 2040 General Plan policies require are available to ensure that no historic building or structure is demolished. Therefore, the impact would remain **significant and unavoidable**.

Impact 3.5-2: Implementation of the proposed Eureka 2040 General Plan could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5 or a tribal cultural resource as defined in Public Resources Code Section 21074 or could disturb human remains, including those interred outside of formal cemeteries.

As described above in the *Environmental Setting*, a records search identified numerous previously recorded archaeological sites in the General Plan Study Area. Given the long history of prehistoric and historic-period human occupation, the City is considered sensitive for the presence of subsurface prehistoric, Native American, and historic-period cultural resources and human remains.

Archaeological sites have the potential to contain intact deposits of artifacts, associated features, and burials that could contribute to the regional prehistoric or historic record and be of substantial importance to members of the local and regional community. Ground disturbance associated with physical development that could occur under the General Plan could result in damage to or destruction of these resources, which would constitute a significant impact.

As detailed in the *Regulatory Overview* above, there are a number of federal, state, and local regulations in place to protect archaeological resources, tribal cultural resources, and human remains. CEQA requires lead agencies to determine, prior to approval, if a project would have a significant adverse effect on historical or unique archaeological resources, and requires the lead agency to make provisions for handling the accidental discovery of historical or unique archaeological resources during construction. In the event that human remains are discovered in any location other than a dedicated cemetery, PRC Section 5024.1(e) requires all work to stop until the coroner in the county where the remains are discovered is contacted. If the coroner determines the remains to be Native American, the coroner must contact the Native American Heritage Commission within 24 hours. The Commission would then identify any person or persons it believes to be the most likely descended from the deceased individual.

As described previously in this section, SB 18 requires local governments to consult with tribes prior to making certain planning decisions and provides California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to cultural places. In accordance with the requirements of Senate Bill 18 (SB 18), Eureka City staff conducted Native American outreach and consultation efforts. As a part the SB 18 process for the proposed Eureka 2040 General Plan, City staff met with representatives of local tribes, and members of the tribes subsequently provided input on proposed General Plan goals and policies pertaining to the management and protection of cultural resources. The City and tribal representatives agreed that the tribes would be kept informed regarding development of the General Plan Update and that additional consultation would be conducted as needed.

In addition, the proposed Eureka 2040 General Plan includes policies and implementation programs designed to identify and protect archaeological and tribal cultural resources that could be adversely affected by development activities. For example, proposed Policy HCP-2.7 requires discretionary development projects to be designed to avoid potential impacts to significant

archaeological and cultural resources whenever feasible. Proposed Policy HCP-2.1 aims to identify, protect, and preserve significant archaeological sites and conduct good-faith government-to-government consultation with local tribes to identify and protect tribal Cultural Resources. Proposed Policy HCP-2.9 facilitates consultation with local tribes, governments, and landowners to protect tribal cultural resources in open spaces, under conservation easements, and/or restricted development recorded on deeds, and to consider zoning changes, conservation easements, and acquisition programs as a means of preserving in place significant archaeological and cultural resources.

While the aforementioned regulations and policies proposed under the Eureka 2040 General Plan to protect archaeological resources, tribal cultural resources, and human remains are substantially protective and require projects to identify and mitigate impacts to potential archaeological resources, tribal cultural resources, and human remains prior to ground disturbance, there remains the potential for ground-disturbing construction activities to inadvertently damage or destroy archaeological resources, tribal cultural resources, or human remains. In addition, many projects undertaken under the 2040 General Plan will be as-of-right, and in those projects no review relative to archaeological resources is required by the City prior to issuance of demolition or excavation permits. Because there are no feasible or practical policies or mitigation measures available to ensure archaeological resources, tribal cultural resources, or human remains are not damaged or destroyed, this impact is considered **significant and unavoidable**.

Mitigation Measures

No feasible or practical mitigation measures beyond what the proposed 2040 General Plan policies require are available to ensure that no archaeological resources, tribal cultural resources, or human remains are damaged or destroyed. Therefore, the impact would remain **significant and unavoidable**.

Cumulative Impacts

The geographic context for the analysis of cumulative cultural and historic resources impacts varies by threshold. The cumulative context for each threshold is presented in the impact discussions below.

Impact 3.5-3: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

The geographic context for the analysis of cumulative historic resource impacts is cumulative development in the City and in Humboldt County.

Historic buildings are typically more concentrated in cities, and this is also the case for Humboldt County. The cities of Eureka, Arcata, and Ferndale, for example, are recognized for high-style examples of Victorian-era architecture as well as various Period Revival styles of architecture. Historic buildings are fairly self-contained resources, unlike archaeological resources; however,

that does not necessarily mean that these types of resources are not linked and that a better understanding of the significance of the resource cannot be obtained from retaining more of these thematically linked resources. Potential future development in the City as well as Humboldt County as a whole could include the demolition or destruction of historic resources. This is a significant cumulative effect.

The cumulative effect of future development in Humboldt County could be the continued loss of historic resources. Though historic resources may be listed on the NRHP or the CRHR, or otherwise listed as historic or potentially historic in the California Historical Resources Information System (CHRIS) maintained by OHP, the listing itself does not guarantee protection. Future development in the City and in Humboldt County would be subject to the requirements of CEQA; however, even with these requirements, full mitigation of impacts on every historical resource in the City and the county would be considered infeasible. This would result in a **significant cumulative impact**.

Mitigation Measures

As discussed under Impact 3.5-1, in some instances due to public health or safety reasons, it may be infeasible to protect a historic resource and it may be demolished. It would be up to the discretion of the City to make this determination. Because there are no feasible or practical mitigation measures available to ensure that the City does not approve the demolition of a historic building or structure, this impact is considered **significant and unavoidable.**

Impact 3.5-4: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5 or a tribal cultural resource as defined in Public Resources Code Section 21074 or could disturb human remains, including those interred outside of formal cemeteries.

The geographic context for the analysis of cumulative archaeological resource, tribal cultural resource, and human remains impacts is cumulative development in the City and in Humboldt County.

Many significant prehistoric and historic archaeological sites have been disturbed or destroyed by construction work associated with the development of Eureka and neighboring communities over numerous decades of urban development.

Future development in the City under the 2040 General Plan as well as within Humboldt County could include excavation and grading that could potentially impact archaeological resources, tribal cultural resources, and human remains that may be present. The cumulative effect of this future development is the continued loss of prehistoric cultural remains. Excavations in the City of Eureka have uncovered evidence of Native American culture dating back to at least 880 A.D. Potential future development increases the likelihood that archaeological sites that date prior to 880 A.D. could be uncovered. It is therefore possible that cumulative development could result in the demolition or destruction of unique archaeological resources, which could contribute to the

erosion of the prehistoric record of the region. The loss of these resources would result in a cumulatively considerable impact.

Though archaeological resources can sometimes be preserved when discovered during excavation, there is no guarantee that these resources can be protected and preserved. The potential loss of archaeological resources associated with the project would result in the project contributing to the loss of these irreplaceable resources. The cumulative impact of development under the proposed 2040 General Plan would, therefore, be considerable resulting in a **significant cumulative impact**.

Mitigation Measures

No mitigation is available beyond what is included in the 2040 General Plan, resulting in a **significant and unavoidable impact**.

3.6 Geology, Soils, Mineral Resources, and Paleontological Resources

This section addresses potential adverse impacts relative to geology, soils, mineral resources, and paleontological resources that could result from developing the proposed 2040 General Plan. Potential impacts relative to water quality are addressed in Section 3.8, *Hydrology and Water Quality*. Policies provided in the proposed General Plan and standard City requirements are evaluated as to their effect of mitigating or avoiding any potentially significant effects.

The information and analysis included in this section was developed based on information from U.S. Geological Survey (USGS) and California Geological Survey (CGS) reports, in addition to the *Eureka General Plan Community Background Report*[1] and the *Draft Eureka 2040 General Plan*.[2]

Given the regional nature of the topics that are analyzed in this section, much of the analysis considers the General Plan's Study Area as the principal area of investigation, and that term is used frequently in the discussion that follows. As described in Chapter 2, *Project Description*, the Study Area is defined as the City of Eureka's City limits, its sphere-of-influence, and peripheral areas in adjoining areas of unincorporated Humboldt County that could be influenced by the City's planning activities. Figure 2-2 in the *Project Description* shows these various boundaries.

During the Notice of Preparation (NOP) comment period, no comments were provided in direct relation to geology, soils, mineral resources, and paleontological resources.

3.6.1 Environmental Setting

Regional and Local Geology

The City of Eureka is located in Humboldt County on the coast of northern California, approximately 100 miles south of the Oregon border. A large majority of the California coast is included as part of the Coast Ranges geomorphic province, which is divided into the Northern and Southern Coast Ranges; the City of Eureka is included in the Northern portion. It is bordered on the west and northwest by Humboldt Bay. The underlying geology of the area is mostly marine terrace deposits, which are comprised of both consolidated and unconsolidated muds and sands. The areas closest to the Bay are at or near sea-level, gaining only about 200 feet of elevation inland, which characterizes the area as having relatively low and unchanging topography. **Table 3.6-1** lists the principal geologic units in the Eureka area.

Most of the area within the City limits is developed urban area. Most of the surface materials within the City limits consist of imported fill and disturbed native materials.

1 City of Eureka. 2015. *Eureka General Plan Community Background Report.*
2 City of Eureka. 2017. *Draft Eureka 2040 General Plan*.

TABLE 3.6-1
GEOLOGIC UNITS IN THE AREA

Symbol	Unit Name	Period	Description
Qal	Alluvial deposits	Quaternary (Holocene and Late Pleistocene Epoch)	Mostly poorly consolidated, poorly sorted, permeable clay, silt, sand, and gravel deposits.
Qm	Marine shoreline and aeolian deposits	Quaternary (Holocene and Late Pleistocene Epoch)	Gravel and sand deposited in marine terraces and dune sands on present shorelines.
Qt	Nonmarine terrace deposits	Quaternary (Holocene and Pleistocene Epoch)	Uplifted clay, silt, sand, and gravel deposited in fluvial settings.

SOURCE: USGS, 2000.

Regional Seismicity

The Study Area is located at the southern end of the Cascadia Subduction Zone, which is a tectonically active region with high seismic activity. The Cascadia Subduction Zone is characterized by the subduction of the Juan De Fuca micro plate being pushed beneath the North American plate. As a result of these tectonic forces, many earthquakes have produced discernible damage in the region since the mid-1800s. Historic seismicity and paleoseismic studies in the area suggest sources of damaging earthquakes in the Eureka region can come from the Gorda Plate (a fragment of the Juan de Fuca plate); the Mendocino fault; the Mendocino Triple Junction; the northern end of the San Andreas fault; faults within the North American Plate (including the Little Salmon fault and the Mad River fault zone); and offshore faults from the Cascadia Subduction Zone in general.

Earthquakes originating within the Gorda Plate account for the majority of historic seismicity. These earthquakes occur primarily offshore along left-lateral faults,[3] and are generated by the internal deformation within the plate as it moves toward the subduction zone. Significant historic Gorda Plate earthquakes have ranged from magnitude 5 to 7.5. The November 8, 1980, earthquake (magnitude 7.2) was generated off the coast about 30 miles northwest of Eureka on a left-lateral fault within the Gorda Plate.

The Mendocino fault is the second most frequent source of earthquakes in the region. The fault represents the plate boundary between the Gorda and Pacific plates, and typically generates right lateral[4] strike-slip[5] displacement. Significant historic Mendocino fault earthquakes have ranged from magnitude 5 to magnitude 7.5. The September 1, 1994, magnitude 7.2 event originating west of Petrolia about 30 miles south of Eureka was generated along the Mendocino fault. The Mendocino triple junction was identified as a separate seismic source only after a magnitude 6.0 earthquake on August 17, 1991. Significant seismic events associated with the triple junction are shallow onshore earthquakes that appear to range from magnitude 5 to 6.

[3] To an observer straddling a left-lateral fault, the left-hand block or plate would move towards the observer.
[4] To an observer straddling a right-lateral fault, the right-hand block or plate would move towards the observer.
[5] A strike-slip fault creates vertical (or nearly vertical) fractures (i.e., the blocks primarily move horizontally).

Earthquakes originating on the northern San Andreas fault are uncommon, but can be very large. The northern San Andreas fault is a right lateral strike-slip fault that represents the plate boundary between the Pacific and North American plates. The fault extends through the Point Delgada region and terminates at the Mendocino triple junction. The 1906 San Francisco earthquake (magnitude 8.3) caused the most significant damage in the north coast region, with the possible exception of the April, 1992 Petrolia earthquake.[6]

Earthquakes originating within the North American plate can be anticipated from a number of faults, including the Mad River fault zone and Little Salmon fault. There have been no historic recorded large magnitude earthquakes associated with these faults, although the December 21, 1954, magnitude 6.5 event may have occurred in the Mad River fault zone. Damaging North American plate earthquakes are expected to range from magnitude 6.5 to 8. The Little Salmon fault appears to be the most active fault in the Humboldt Bay region, and is capable of generating very large earthquakes.

Regional Faults

As noted above, the Study Area is located in a region that has numerous active onshore and offshore faults, with the active Little Salmon fault actually intersecting the southwestern edge of the area.[7,8] **Table 3.6-2** presents fault locations relative to the City, which are also shown in **Figure 3.6-1**. Distances measured are map distances. Active faults are those known to have experienced movement within the Holocene age defined as within the last 11,000 years (the USGS uses 15,000 years) and are potentially active faults and are considered to have moved within the Quaternary age or within the last 1.6 million years. Throughout the region, there is the potential for damage resulting from movement along any one of a number of the active faults, seismic shaking, and seismically induced ground failures (e.g., liquefaction). The nearby active faults are discussed below.

Little Salmon Fault

The Little Salmon fault intersects the southwestern edge of the Study Area in the area of Humboldt Hill[9] (see the inset on Figure 3.6-1). The Little Salmon fault is a northwest-trending, reverse fault (i.e., the northeast side of the fault slides up and over the southwest side of the fault along a northeast-dipping fault plane). Estimates of the amount of fault slip for individual earthquakes along the fault have been made ranging from 15 to 23 feet. Radiocarbon dating suggests that earthquakes have occurred on the Little Salmon fault about 300, 800, and 1,600 years ago. Average slip rate for

6 Dengler, L. McPherson, r., and Carver, G.A., Historic Seismicity and Potential Source Areas of Large Earthquakes in North Coast California, in Burke, R.M. and Carver, G.A. (editors), 1992 Friends of the Pleistocene Guidebook, Pacific Cell, p. 112-118.

7 Jennings, C. W., California Geological Survey, Geologic Data Map No. 6, Compilation and Interpretation by: Charles W. Jennings and William A. Bryant, 2010 Fault Activity Map of California and Adjacent Areas, also available at http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html. 2010.

8 Hart, E. W., and Bryant, W.A., Fault-Rupture Hazard Zones in California: Alquist-Priolo Special Studies Zones Act of 1972 with Index to Special Studies Zones Maps, California Division of Mines and Geology, Special Publication 42, 1990, revised and updated 1997.

9 Jennings, C. W., California Geological Survey, Geologic Data Map No. 6, Compilation and Interpretation by: Charles W. Jennings and William A. Bryant, 2010 Fault Activity Map of California and Adjacent Areas, also available at http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html. 2010.

TABLE 3.6-2
FAULT INFORMATION

Fault Name	Fault Activity Rating	Distance From Study Area		Upper Bound Earthquake (Mw)[a]
		Miles	Kilometers	
Little Salmon (onshore)	A	Intersects	0	7.0
Table Bluff	A	10	16	7.0
Little Salmon (offshore)	A	7	12	7.1
Cascadia Subduction Zone	A	35	57	9.0
Mad River	A	10	15	7.1
Fickle Hill	A	4	7	6.9
McKinleyville	A	6	10	7.0
Trinidad	A	10	17	7.3
Big Lagoon – Bald Mountain	PA	15	27	7.3
San Andreas	A	52	84	7.9

NOTES:
A= active, PA = potentially active, per Peterson et al. Footnote11.

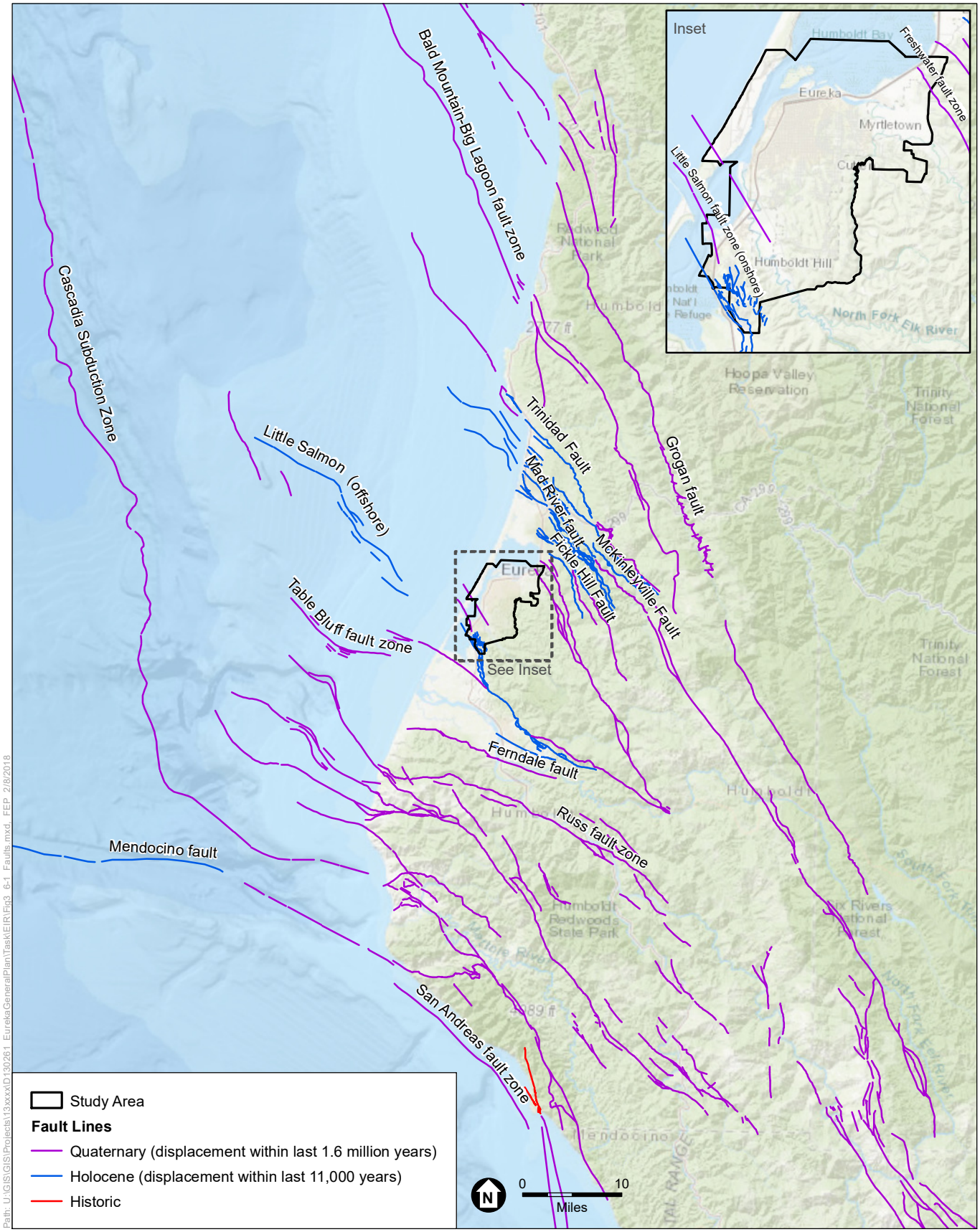
[a] The Richter magnitude (M) scale was developed by Charles Richter in the 1930's and is a logarithmic measurement of the amount of earthquake released by an earthquake. Today, seismologists are using the Moment Magnitude (Mw) scale, which measures the size of the earthquake's fault, and how much the earth slips at the time of the quake.

the Little Salmon fault for the past 6,000 years is between 6 and 10 millimeters per year (mm/yr).[10] Based on currently available fault parameters, the maximum magnitude earthquake for the Little Salmon fault is thought to be approximately 7.0.[11]

Cascadia Subduction Zone

The Cascadia Subduction Zone (CSZ) represents the most significant potential earthquake source in the north coast region. The CSZ is the location where the oceanic crust of the Juan de Fuca plate is being subducted beneath the continental crust of the North American Plate. A large subduction event may rupture along 150 miles or more of the coast from Cape Mendocino to British Columbia, with a magnitude of up to 9.5, and could result in extensive tsunami inundation in low-lying coastal areas. The April 25, 1992, Petrolia earthquake (magnitude 7.1) appears to be the only historic earthquake involving slip along the subduction zone, but this event was confined to the southernmost portion of the fault. It is estimated that there have been three to six significant subduction zone events along the CSZ in the last 3,000 years.[12] Paleoseismic studies along the subduction zone suggest that great earthquakes are generated along the zone every 300 to 800 years. Historic records from Japan describing a tsunami thought to have originated along the Cascadia Subduction Zone suggest the most recent great subduction event occurred on January 27, 1700. A great subduction earthquake would generate long duration, very strong ground shaking throughout the north coast region.

[10] Valentine, et. al., 2012. *Paleoseismicity of the Southern End of the Cascadia Subduction Zone*, Northwestern California, Bulletin of the Seismological Society of America, Vol. 102, No. 3, pp. 1059–1078, June 2012.
[11] Peterson, M.D., Bryant, W.A., Cramer, C.H., Probabilistic Seismic Hazard Assessment for the State of California, California Division of Mines and Geology Open-File Report issued jointly with U.S. Geological Survey, CDMG 96-08 and USGS 96-706, 1996.
[12] Valentine, et. al., 2012. *Paleoseismicity of the Southern End of the Cascadia Subduction Zone*, Northwestern California, Bulletin of the Seismological Society of America, Vol. 102, No. 3, pp. 1059–1078, June 2012.



SOURCE: City of Eureka, 2018; USGS, 2010; ESA, 2018

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Figure 3.6-1
Regional Faults

North Spit Fault

The North Spit fault was identified in seismic profiles offshore of the North Spit, west of Humboldt Bay. The fault's existence or extent is uncertain, however, because it was not imaged in seismic profiles farther offshore, and it has never been identified on-land. Despite its uncertainty, the fault is relevant to the Study Area because of its proximity even though it is not recognized or zoned by the State as an active or potentially active fault.

Groundshaking

Strong ground movement from a major earthquake could affect the Study Area at any time in the coming years. Ground shaking may affect areas hundreds of miles distant from the earthquake's epicenter. The intensity of ground movement during an earthquake can vary depending on the overall magnitude, distance from the fault, focus of earthquake energy, and type of geologic material.

Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill or soft estuarine deposits. The composition of underlying materials in areas located relatively distant from faults can intensify ground shaking. The Modified Mercalli (MM) intensity scale (see **Table 3.6-3**) is a common measure of earthquake effects due to ground shaking intensity. The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total), and intensities ranging from IV to X could cause moderate to significant structural damage.[13]

Areas most susceptible to intense ground shaking are those areas located closest to the earthquake-generating fault, and areas underlain by thick, loosely unconsolidated, saturated sediments, particularly soft, saturated estuarine deposits and artificial fill.

Fault Rupture

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude and nature of fault rupture can vary for different faults or even along different strands of the same fault. Future faulting is generally expected along different segments of faults with recent activity.[14] Structures, transportation facilities, and utility systems crossing fault traces are at risk during a major earthquake due to ground rupture caused by differential lateral and vertical movement on opposite sides of the active fault trace. Thrust faults as well as faults with strike-slip movement can have a vertical displacement component that can total several feet.

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13 The damage level represents the estimated overall level of damage that will occur for various MM intensity levels. The damage, however, will not be uniform. Some structures will experience substantially more damage than this overall level, and others will experience substantially less damage. Not all structures perform identically in an earthquake. The age, material, type, method of construction, size, and shape of a structure all affect its performance.

14 California Geological Survey, 2008. Guidelines for Evaluating and Mitigation Seismic Hazards, CGS Special Publication 117A.

TABLE 3.6-3
MODIFIED MERCALLI INTENSITY SCALE

Intensity Value	Intensity Description	Average Peak Ground Acceleration[a]
I	Not felt	< 0.0017 g
II	Felt by people sitting or on upper floors of buildings	0.0017 to 0.014 g
III	Felt by almost all indoors. Hanging objects swing. Vibration like passing of light trucks. May not be recognized as an earthquake.	0.0017 to 0.014 g
IV	Vibration felt like passing of heavy trucks. Stopped cars rock. Hanging objects swing. Windows, dishes, doors rattle. Glasses clink. In the upper range of IV, wooden walls and frames creak.	0.014 to 0.039 g
V (Light)	Felt outdoors. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing. Pictures move. Pendulum clocks stop.	0.035 to 0.092 g
VI (Moderate)	Felt by all. People walk unsteadily. Many frightened. Windows crack. Dishes, glassware, knickknacks, and books fall off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster, adobe buildings, and some poorly built masonry buildings cracked. Trees and bushes shake visibly.	0.092 to 0.18 g
VII (Strong)	Difficult to stand or walk. Noticed by drivers of cars. Furniture broken. Damage to poorly built masonry buildings. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices, unbraced parapets and porches. Some cracks in better masonry buildings. Waves on ponds.	0.18 to 0.34 g
VIII (Very Strong)	Steering of cars affected. Extensive damage to unreinforced masonry buildings, including partial collapse. Fall of some masonry walls. Twisting, falling of chimneys and monuments. Wood-frame houses moved on foundations if not bolted; loose partition walls thrown out. Tree branches broken.	0.34 to 0.65 g
IX (Violent)	General panic. Damage to masonry buildings ranges from collapse to serious damage unless modern design. Wood-frame structures rack, and, if not bolted, shifted off foundations. Underground pipes broken.	0.65 to 1.24 g
X (Very Violent)	Poorly built structures destroyed with their foundations. Even some well-built wooden structures and bridges heavily damaged and needing replacement. Water thrown on banks of canals, rivers, lakes, etc.	> 1.24 g
XI (Very Violent)	Few, if any, masonry structures remain standing. Bridges destroyed. Rails bent greatly. Underground pipelines completely out of service.	> 1.24 g
XII (Very Violent)	Damage nearly total. Practically all works of construction are damaged greatly or destroyed. Large rock masses displaced. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown into the air.	> 1.24 g

NOTES:

[a] Value is expressed as a fraction of the acceleration due to gravity (g). Gravity (g) is 9.8 meters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

SOURCES: Association of Bay Area Governments, 2016. Adapted from Modified Mercalli Intensity Scale (MMI), Available: resilience.abag.ca.gov/shaking/mmi/. Accessed May 8, 2016.

California Geological Survey, 2002b, *How Earthquakes and Their Effects Are Measured*, Note 32.

The Little Salmon Fault is an active fault that has been considered the most dangerous fault within the Study Area, and may be the most significant fault in Humboldt County.[15] The fault system enters the Study Area at approximately the base of Humboldt Hill and extends south-southeast through the College of the Redwoods.

[15] Humboldt County Planning Department, 1995. Humboldt Bay Area Plan of the Humboldt County Local Coastal Program. Humboldt County General Plan, April 1995.

The Little Salmon Fault system had been the subject of various studies where there has been evidence found of three to four slip events occurring along the system over the last 1,800 to 2,300 years with the most recent event occurring approximately 460 years ago.[16] Earthquake recurrence intervals along the Little Salmon Fault are estimated at between 400 and 800 years. The last major earthquake along the fault occurred approximately 415 years ago.

Liquefaction

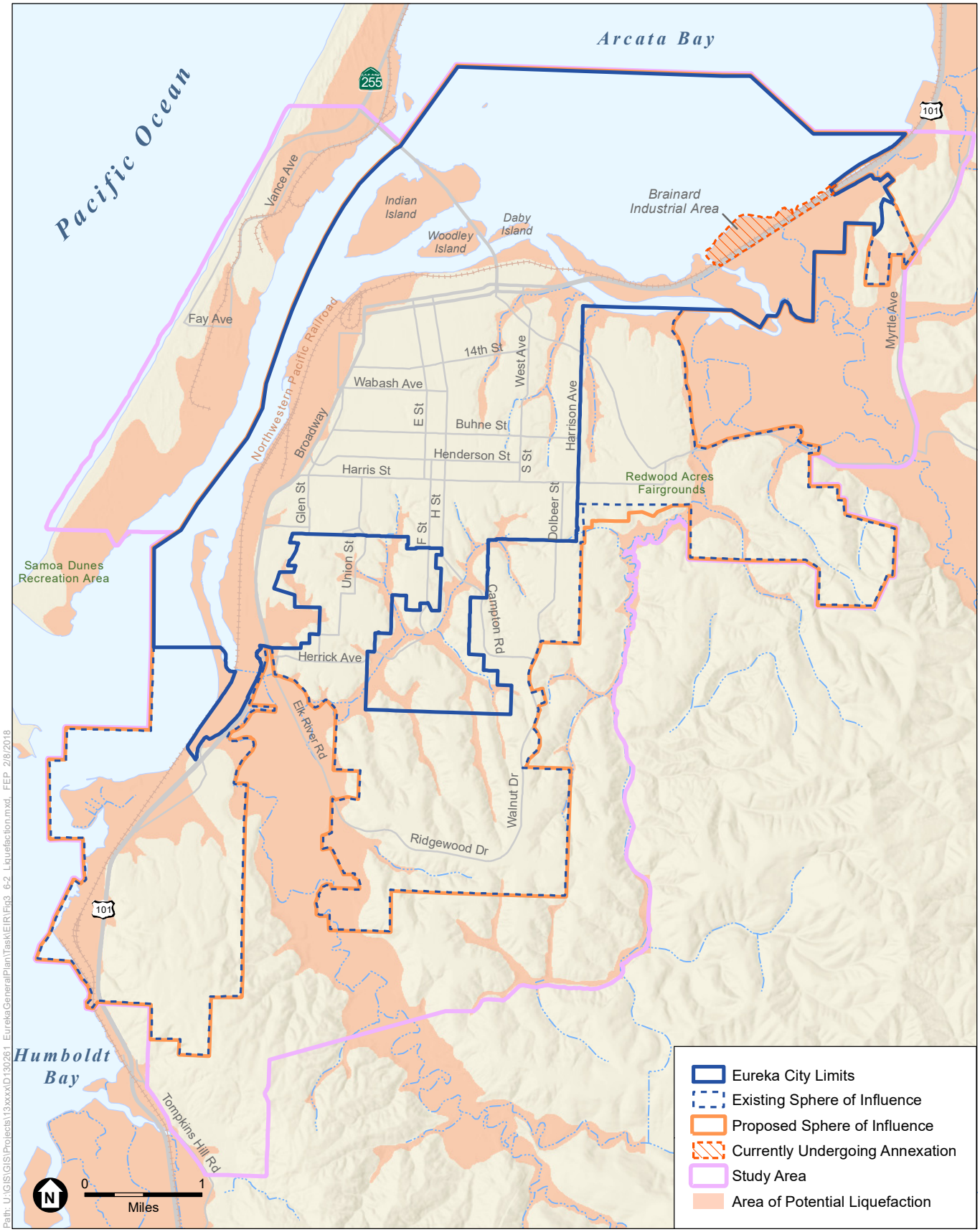
Liquefaction is a phenomenon whereby unconsolidated and/or near saturated soils lose cohesion and are converted to a fluid state as a result of severe vibration. The relatively rapid loss of soil shear strength during strong earthquake shaking results in the temporary fluid-like behavior of the soil. Soil liquefaction causes ground failure that can damage roads, airport runways, pipelines, underground cables, and buildings with shallow foundations. Liquefaction can occur in areas characterized by water-saturated, cohesionless, granular materials at shallow depths, or in saturated unconsolidated or artificial fill sediments. Liquefaction potential is highest in areas underlain by shallow groundwater and unconsolidated alluvium. In general, liquefaction hazards within the Study Area coincide roughly with coastal areas and floodplain areas of the drainages that flow through the Study Area, as shown on **Figure 3.6-2**.

Soils

Surface soils are mapped and classified by the U.S. Department of Agriculture Natural Resource Conservation Service. Depending on localized conditions, these general classifications are grouped into more specific soil types by location, climate, and slope. The Study Area includes alluvial soils, upland soils, marshland soils, and coastal dune sands. For much of the Study Area, there is no digital data available. In particular, surface materials within much of the City limits consists of imported fill and soils disturbed from their original conditions.[17] From the limited available information, most of the urban area is mapped as disturbed materials with less disturbed soils outside of the developed areas, consisting of a variety of silty to clayey loams.[18]

Expansive soils are soils that possess a “shrink-swell” characteristic. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Changes in soil moisture can result from rainfall, landscape irrigation, utility leakage, roof drainage, and/or perched groundwater.[19] Expansive soils are typically very fine grained and have a high to very high percentage of clay. Structural damage may occur incrementally over a long period of time, usually as a result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Soils with high clay content, such as estuarine muds located on the margins of lagoons and bays, are commonly found to be expansive. As previously noted, much of the City’s urban area consists of fill or

16 Witter et. al. 2001. Upper-Plate Earthquakes on the Western Little. Salmon Fault and Contemporaneous Subsidence of Southern Humboldt Bay Over the Past 3,600 Years, Northwestern California.
17 Natural Resources Conservation Service, 2017, Web Soil Survey
18 Loam is a general term for soil composed of a mix of sand, silt, and clay.
19 Perched groundwater is a local saturated zone above the water table that typically exists above an impervious layer (such as clay) of limited extent.



SOURCE: City of Eureka, 2018; Humboldt County Community Development Services, 2003; ESA, 2018

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Figure 3.6-2
Liquefaction Hazards

disturbed soils. For those areas away from the urban center where information is available, soils with a higher potential for expansion are located south and east of the Eureka Slough area, as shown on **Figure 3.6-3**.

Landslides and Slope Failure

Slope failures, commonly referred to as landslides, include many phenomena that involve the downslope displacement and movement of material, either triggered by static (i.e., gravity) or dynamic (i.e., earthquake) forces. A slope failure is a mass of rock, soil, and debris displaced downslope by sliding, flowing, or falling. Exposed rock slopes undergo rockfalls, rockslides, or rock avalanches, while soil slopes experience shallow soil slides, rapid debris flows, and deep-seated rotational slides. Landslides may occur on slopes of 15 percent or less; however, the probability is greater on steeper slopes that exhibit old landslide features such as scarps, slanted vegetation, and transverse ridges. Landslide-susceptible areas are characterized by steep slopes and downslope creep of surface materials. Debris flows consist of a loose mass of rocks and other granular material that, if saturated and present on a steep slope, can move downslope. The rate of rock and soil movement can vary from a slow creep over many years to a sudden mass movement. Landslides occur throughout California, but the density of incidents increases in zones of active faulting.

The majority of the area within the City limits is relatively flat and not susceptible to landslides. Areas with a higher potential for landslides are limited to coastal bluff areas. Coastal erosion is discussed below.

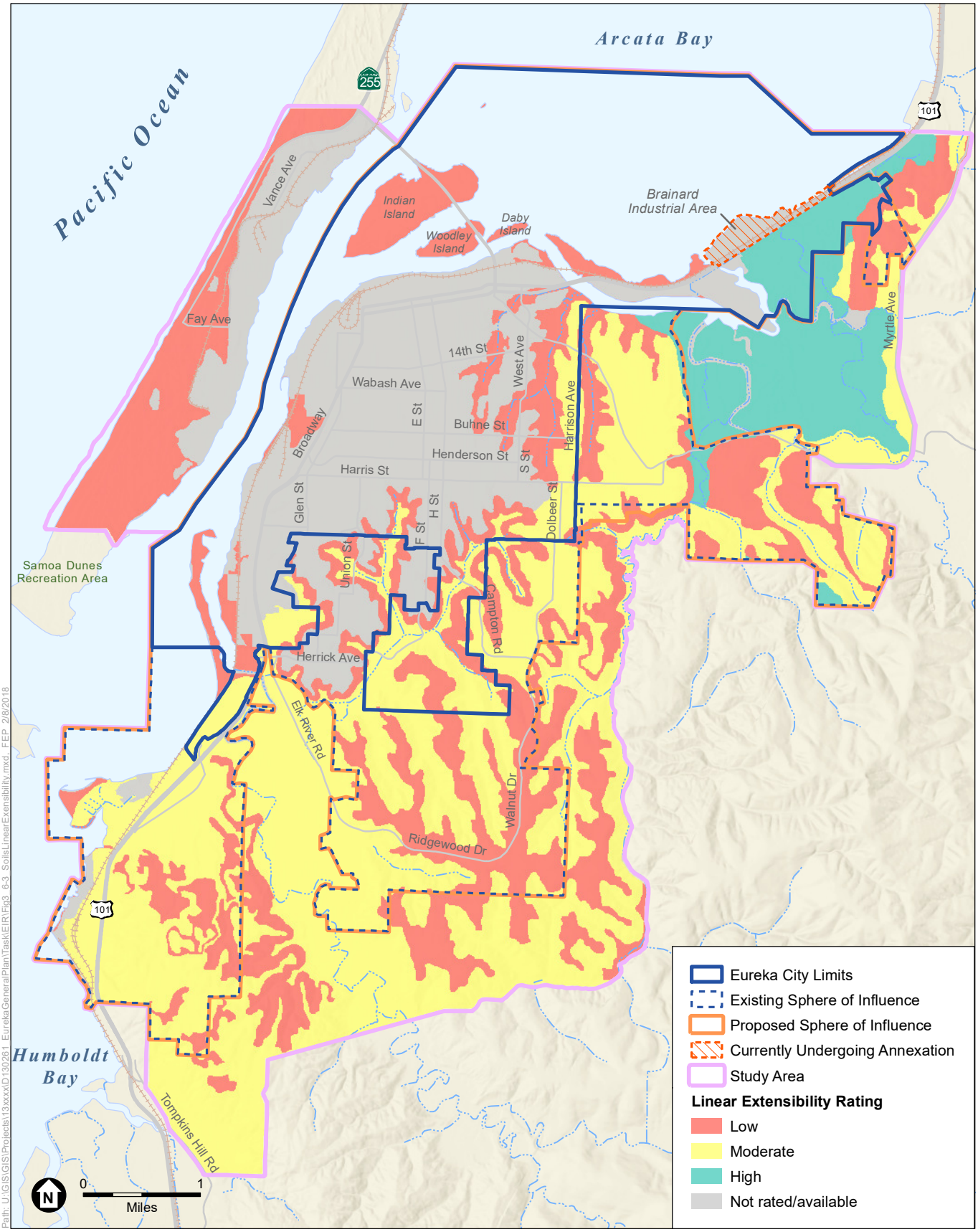
Subsidence

Subsidence is the gradual lowering of the land surface due to compaction of underlying materials. Subsidence can occur as a result of the extraction of groundwater and oil, which can cause subsurface clay layers to compress and lower the overlying land surface. The 2040 General Plan does not include the extraction of water or oil within the City limits.

Coastal Erosion

Coastal erosion is a complex response to many processes including marine (e.g., water levels, waves, sediment supply and transport, etc.), terrestrial (e.g., rainfall, runoff, wind, etc.), topographic/geologic conditions, and other instabilities such as seismic shifts and biologic changes. In general, under natural conditions, sand is provided to beaches by sediment transport along the coast through wave action as well as from deposition through rivers and streams that empty into the ocean. Winter storms tend to cause heavy wave action which reduces sand content at beaches that will typically recover during milder summer conditions.

In the Study Area, the North Spit of Humboldt Bay which faces the Pacific Ocean, is part of one of the longest continuous stretch of dune sands in northern California. The spit was formed on a basement of sedimentary and volcanic rocks deposited on the ocean floor that were later deformed and metamorphosed to varying degrees. 15,000 years ago, the sea level was about 400 feet lower than today and the shoreline further west. The sea began to rise and the shoreline migrated eastward



SOURCE: City of Eureka, 2018; NRCS, 2017; ESA, 2018

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Figure 3.6-3
Linear Extensibility of Soils

with the spit formed by longshore transport of river sediment from the Mad and Little Rivers and headland erosion. During most of the year, the California Current flows southerly and combined with waves that break at angle to the shoreline, and there is a transport of sand along the beach known as littoral drift.

Beaches respond to seasonal changes in wave conditions that can cause erosion or accretion to take place. Lower energy summer waves tend to result in relatively low erosion potential while stormy winter months of high waves typically cause erosion of sand.

Coastal beach erosion during major storms has occurred at a number of locations within the Study Area.[20] The future rise of sea levels could also exacerbate erosion hazards. In a study conducted for the entire California Coast, it was determined that although there will be wide variations for particular locations, California could lose several hundred feet of shore along the entire coast due to sea level rise and coastal erosion.[21]

Mineral Resources

The California Geological Survey classifies the regional significance of mineral resources in accordance with the California Surface Mining and Reclamation Act of 1975 (SMARA, Pub. Res. Code §§2710-2796). Mineral Resource Zones (MRZ) have been designated to indicate the significance of mineral deposits. The MRZ categories are as follows:

***MRZ-1*:** Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.

***MRZ-2*:** Areas where adequate information indicates significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.

***MRZ-3*:** Areas containing mineral deposits the significance of which cannot be evaluated from available data.

***MRZ-4*:** Areas where available information is inadequate for assignment to any other MRZ.

The California Geological Survey (CGS) website hosts the SMARA Mineral Lands Classification data portal, which provides maps and reports on the mineral resources in the state. The State Geologist designates areas in the state with a MRZ classification based on the categorization scheme laid out above. The City of Eureka does not hold a MRZ classification according to the data portal. This does not imply that there are no significant or valuable mineral resources in the area; there is simply a lack of information for the area.

Paleontological Resources

Paleontological resources are the fossilized remains or impressions (trace fossils) of plants and animals, including vertebrates (animals with backbones; mammals, birds, fish, etc.), invertebrates

[20] Humboldt County, Beach & Dunes Management Plan, 1992.
[21] Philip Williams & Associates, California Coastal Erosion Response to Sea Level Rise – Analysis and Mapping, March 11, 2009.

(animals without backbones; starfish, clams, coral, etc.), and microscopic plants and animals (microfossils). They are valuable, nonrenewable, scientific resources used to document the existence of extinct life forms and to reconstruct the environments in which they lived. Fossils can be used to determine the relative ages of the depositional layers in which they occur and of the geologic events that created those deposits. The age, abundance, and distribution of fossils depend on the geologic formation in which they occur and the topography of the area in which they are exposed. The geologic environments within which the plants or animals became fossilized usually were quite different from the present environments in which the geologic formations now exist. The process of fossilization favors an environment where sediments were deposited under anoxic conditions with very little disturbance, usually in or near water.

In the context of the California Environmental Quality Act, fossils of land dwelling and marine vertebrates, their environment, and associated geological, stratigraphical, taphonomical, and geographical data are considered important (i.e., significant) paleontological resources. Such fossils typically are found in river, lake, and bog deposits, although they may occur in nearly any type of sedimentary sequence.

Another important consideration when assessing paleontological resources is time. The Society of Vertebrate Paleontology (SVP) considers remains of 5,000 years and older to be a significant resource.[22] This also means that geologic units that have ages younger than 5,000 have a low potential as a paleontological resource.

As indicated in Section 3.6.1, *Environmental Setting*, the geologic units in the study area are the appropriate age and type to contain fossils (see Table 3.6-1). However, the surface materials in the urban area consist of imported fill that would not contain paleontological resources, or disturbed native materials within which paleontological resources, if any, would have been destroyed. Paleontological resources, if any, would only be encountered in excavations at depths below fill and disturbed materials.

3.6.2 Regulatory Overview

Federal

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1977 to “reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.” To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by NEHRP, which refined the description of agency responsibilities, program goals, and objectives.

[22] SVP, 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources.

Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 (DMA2K) (Public Law 106-390) amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 to establish a Pre-Disaster Mitigation (PDM) program and new requirements for the federal post-disaster Hazard Mitigation Grant Program (HMGP). DMA2K encourages and rewards local and state pre-disaster planning. It promotes sustainability, and seeks to integrate state and local planning with an overall goal of strengthening statewide hazard mitigation. This enhanced planning approach enables local, tribal, and state governments to identify specific strategies for reducing probable impacts of natural hazards such as floods, fire, and earthquakes. In order to be eligible for hazard mitigation funding after November 1, 2004, local governments are required to develop a Hazard Mitigation Plan that incorporates specific program elements of the DMA2K law.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting in structures for human occupancy. In accordance with this act, the state geologist established regulatory zones, called “earthquake fault zones,” around the surface traces of active faults and has published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults and must be set back from the fault (generally 50 feet). Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace because many active faults are complex and consist of more than one branch that may experience ground surface rupture. Cities and counties must regulate certain development projects within these zones.

California Coastal Act of 1976

The California Coastal Commission was established by voter initiative in 1972 (Proposition 20) and later made permanent by the Legislature through adoption of the California Coastal Act in 1976. The Coastal Commission, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. Development activities, which are broadly defined by the Coastal Act to include construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the Coastal Commission or the local government. Implementation of Coastal Act policies is accomplished primarily through the preparation of local coastal programs (LCP’s) that are required to be completed by each of the 15 counties and 59 cities (including Eureka) located in whole or in part in the coastal zone.

The California Coastal Act requires protection of “sensitive coast resource areas,” which may include archaeological sites referenced in the California Coastline and Recreation Plan or as designated by the State Historic Preservation Officer. Where development in the coastal zone would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures are required.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was passed in 1990 following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones, and cities, counties, and other local permitting agencies to regulate certain development projects within these zones. For projects that would locate structures for human occupancy within designated Zones of Required Investigation, the Seismic Hazards Mapping Act requires project applicants to perform a site-specific geotechnical investigation to identify the potential site-specific seismic hazards and corrective measures, as appropriate, prior to receiving building permits. The *CGS Guidelines for Evaluating and Mitigating Seismic Hazards* (Special Publication 117A) provides guidance for evaluating and mitigating seismic hazards (CGS, 2008b). The CGS is in the process of producing official maps based on USGS topographic quadrangles, as required by the Act. To date, the CGS has not completed delineations for the USGS quadrangles in which the City limits are located.

The Surface Mining and Reclamation Act of 1975 (SMARA)

The Surface Mining and Reclamation Act (SMARA, Public Resources Code, Sections 2710-2796) provides a comprehensive surface mining and reclamation policy with the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. The Act also encourages the production, conservation, and protection of the state's mineral resources.

California Building Code

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress to facilities (entering and exiting), and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2016 edition of the CBC is based on the 2015 International Building Code (IBC) published by the International Code Council, which replaced the Uniform Building Code (UBC). The code is updated triennially, and the 2016 edition of the CBC was published by the California Building Standards Commission on July 1, 2016, and took effect starting January 1, 2017. The 2016 CBC contains California amendments based on the American Society of Civil Engineers (ASCE) Minimum Design Standard ASCE/SEI 7-16, Minimum Design Loads for Buildings and Other Structures, provides requirements for general structural design and includes means for determining earthquake loads, as well as other loads (such as wind loads) for inclusion into building codes. Seismic design provisions of the building code generally prescribe minimum

lateral forces applied statically to the structure, combined with the gravity forces of the dead and live loads of the structure, which the structure then must be designed to withstand. The prescribed lateral forces are generally smaller than the actual peak forces that would be associated with a major earthquake. Consequently, structures should be able to (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some nonstructural damage; and (3) resist major earthquakes without collapse, but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake; however, it is reasonable to expect that a structure designed in accordance with the seismic requirements of the CBC should not collapse in a major earthquake.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, all of which are used to determine a seismic design category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site; SDC ranges from A (very small seismic vulnerability) to E/F (very high seismic vulnerability and near a major fault). Seismic design specifications are determined according to the SDC in accordance with CBC Chapter 16. CBC Chapter 18 covers the requirements of geotechnical investigations (Section 1803), excavation, grading, and fills (Section 1804), load-bearing of soils (Section 1806), as well as foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). For Seismic Design Categories D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses measures to be considered in structural design, which may include ground stabilization, selecting appropriate foundation type and depths, selecting appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

Requirements for geotechnical investigations are included in Appendix J, CBC Section J104, Engineered Grading Requirements. As outlined in Section J104, applications for a grading permit are required to be accompanied by plans, specifications, and supporting data consisting of a soils engineering report and engineering geology report. Additional requirements for subdivisions requiring tentative and final maps and for other specified types of structures are in California Health and Safety Code Sections 17953 to 17955 and in 2013 CBC Section 1802. Testing of samples from subsurface investigations is required, such as from borings or test pits. Studies must be done as needed to evaluate slope stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on load-bearing capacity, compressibility, liquefaction, differential settlement, and expansiveness.

CCR Title 24 also includes the California Residential Code and the California Green Building Code, which have been adopted as separate documents (CCR Title 24, Part 2.5 and 11, respectively). The California Residential Code includes structural design standards for residential one- and two-family dwellings and covers all structural requirements for conventional

construction. This part incorporates by adoption the 2009 International Residential Code of the International Code Council with necessary California amendments for seismic design. All other structures including multi-family residential projects are found in the other parts of the CBC as discussed above.

California Excavation Notification Requirements

California Code of Regulations Section 4216 requires that construction contractors report a project that involves excavation 48-hours prior to breaking ground. This program allows owners of buried installations to identify and mark the location of its facilities before any nearby excavation projects commence. Adherence to this law by contractors of projects reduces the potential of inadvertent pipeline and utility damage and leaks. All contractors are required to comply with California excavation notification requirements.

California Occupational Safety and Health Administration Regulations

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. In California, the California Division of Occupational Safety and Health (Cal/OSHA) and the federal OSHA are the agencies responsible for ensuring worker safety in the workplace.

The OSHA Excavation and Trenching standard (29 CFR 1926.650) covers requirements for excavation and trenching operations, which are among the most hazardous construction activities. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area. Cal/OSHA is the implementing agency for both state and federal OSHA standards. All contractors are required to comply with OSHA regulations.

NPDES Construction General Permit

Some elements of construction associated with the General Plan Update could disturb more than one acre of land surface potentially affecting the quality of stormwater discharges into waters of the U.S. Such activities would therefore be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002, Construction General Permit; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects (LUP), including installation of water pipelines and other utility lines.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The

sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, the construction projects could be subject to the following requirements:

- Effluent standards
- Good site management "housekeeping"
- Non-stormwater management
- Erosion and sediment controls
- Runon and runoff controls
- Inspection, maintenance, and repair
- Monitoring and reporting requirements

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving off site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The SWPPP must be prepared before construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project area. The SWPPP must list BMPs and the placement of those BMPs that the applicant would use to protect stormwater runoff. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The Construction General Permit also sets post-construction standards (i.e., implementation of BMPs to reduce pollutants in stormwater discharges from the site following construction).

In the City of Eureka area, the Construction General Permit is implemented and enforced by the North Coast Regional Water Quality Control Board (RWQCB), which administers the stormwater permitting program. Dischargers are required to electronically submit a notice of intent and permit registration documents in order to obtain coverage under this Construction General Permit. Dischargers are responsible for notifying the RWQCB of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and

how the deficiencies were corrected. The risk assessment and SWPPP must be prepared by a State Qualified SWPPP Developer and implementation of the SWPPP must be overseen by a State Qualified SWPPP Practitioner. A Legally Responsible Person, who is legally authorized to sign and certify PRDs, is responsible for obtaining coverage under the permit.

Local

City of Eureka 1997 General Plan

The City's 1997 General Plan contains policies and implementation measures relevant to geology, soils, and seismicity. Specifically, the 1997 General Plan includes policies that are designed to minimize loss of life, injury, and property damage. Upon approval of the proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded. The 1997 General Plan did not include mineral and paleontological resources policies.

Health and Safety

Seismic Hazards

Goal 7.A: To minimize loss of life, injury, and property damage due to seismic hazards.

Policies

7.A.1: For all development in areas subject to seismic hazards (i.e., fault rupture, amplified seismic shaking, slope failure, subsidence, settlement, or other similar effects) which is otherwise consistent with the policies of this General Plan, the City shall, prior to project approval, require a geological report prepared by a registered geologist, a certified engineering geologist, or a registered engineer with expertise in seismic engineering. The report shall consider, describe, and analyze the following:

a. Geologic conditions, including soil, sediment, and rock types and characteristics, in addition to structural features such as bedding, joints, and faults;

b. Evidence of past or potential liquefaction conditions, or other types of ground failure, related to seismic shaking;

c. Potential effects on the site because of fault rupture; and

d. Any other information that might affect the proposed development, such as the information called for in Division of Mines and Geology Notes 44 and 49.

The report shall recommend mitigation measures for any potential impacts and shall outline alternative solutions. The report shall express a professional opinion as to whether the project can be designed so that it will neither be subject to nor contribute to significant geological instability throughout the life span of the project.

7.A.2: The City shall work with Humboldt County to develop an emergency preparedness program so Eureka Area residents and visitors are not endangered by tsunami run-up and inundation.

7.A.3: The City shall require that new structures intended for human occupancy be designed and constructed to minimize risk to the safety of occupants.

7.A.4: The City shall develop mechanisms to encourage and assist in the seismic retrofitting of buildings susceptible to damage during seismic events and to conduct the necessary work in a manner that is financially feasible to property owners and that can be conducted with minimum disruption to tenants. In particular, the City should consider the retrofit needs of the following types of structures:

a. Unreinforced masonry buildings (URMs)
b. Pre-1940 wood frame houses
c. Tilt-up buildings
d. Pre-mid 1970s concrete frame buildings
e. Mobilehomes

7.A.5: The City should seek to give special structural consideration and flexibility to officially identified historically – and architecturally-significant structures.

7.A.6: The City shall require that all new parapets, signs, and other building ornamentation are constructed to withstand seismic shaking.

7.A.8: The City shall work with Humboldt County and appropriate state and federal agencies to identify major emergency transportation corridors for use during seismic emergencies. In doing so, the City should ensure safe access routes to communication centers, hospitals, airports, staging areas, and fuel storage sites.

7.A.9: The City shall identify provisions for water supply and delivery and wastewater treatment and disposal in cases where services are interrupted as a result of damage caused by seismic activity.

7.A.10: The City shall identify alternative sources of energy (i.e., electricity, natural gas) for use in cases where energy supplies are interrupted as a result of damage caused by seismic activity.

Geologic Hazards

Goal 7.B: To minimize loss of life, injury, and property damage due to geological hazards.

Policies

7.B.1: The City shall ensure new development is sited and designed consistent with limitations imposed by geologic hazards.

7.B.2: The City shall ensure that development on or near the shoreline of Elk River, Humboldt Bay, and Eureka Slough neither contributes significantly to, nor is subject to, high risk of damage from shoreline erosion over the life span of the development.

7.B.3: Within the Coastal Zone the City shall prohibit alteration of cliffs, bluff tops, and gulch faces or bases by excavation or other means except to protect existing structures. Permitted development shall not require the construction of protective devices that would substantially alter natural landforms.

7.B.4: For all high density residential and other high occupancy development located in areas of significant liquefaction potential, the City shall, at the time project application, require a geology and soils report prepared by a registered geologist, professional civil

engineer with expertise in soil mechanics or foundation engineering geologist, and shall consider, describe, and analyze the following:

a. Geological conditions, including soil, sediment, and rock types and characteristics in addition to structural features, such as bedding, joint and faults;

b. Evidence of past or potential liquefaction conditions, and the implications of such conditions for the proposed development;

c. Potential effects of seismic forces resulting from a maximum credible earthquake;

d. Any other factors that might affect the development.

The report shall also detail mitigation measures for any potential impacts and outline alternative solutions. The report shall express a professional opinion as to whether the project can be designed so that it will neither be subject to nor contribute to significant geologic instability throughout the life-span of the project.

7.B.5: For all development proposed within areas subject to significant shoreline erosion, and which is otherwise consistent with the policies of this General Plan, the City shall, prior to project approval, require a geology and soils report prepared by a registered geologist, professional civil engineer with expertise in soil mechanics or foundation engineering, or by a certified engineering geologist, and shall consider, describe, and analyze the following:

a. Site topography, extending the surveying work beyond the site as needed to depict unusual conditions that might affect the site;

b. Historic, current and foreseeable shoreline erosion, including investigation of recorded land surveys and tax assessment records in addition to the use of historic maps and photographs where available and possible changes in shore configuration and sand transport;

c. Geologic conditions, including soil, sediment and rock types and characteristics in addition to structural features, such as bedding, joint and faults;

d. Impact of construction activity on the stability of the site adjacent area;

e. Potential erodibility of site and mitigating measures to be used to ensure minimized erosion problems during and after construction;

f. Effects of marine erosion an shoreline areas;

g. Potential effects of seismic forces resulting from a maximum credible earthquake;

h. Any other factors that might affect slope stability.

The report shall evaluate the off-site impacts of development and the additional impacts that might occur due to the proposed development. The report shall also detail mitigation measures for any potential impacts and outline alternative solutions. The report shall express a professional opinion as to whether the project can be designed so that it will neither be subject to nor contribute to significant onsite or offsite geologic instability throughout the life-span of the project.

City of Eureka Municipal Code

The City's Municipal Code contains a number of requirements that are relevant to building standards and avoidance and minimization of seismic hazards. Examples include the following:

Section 150.016: California Building Code Adopted

(A) Except as provided in this chapter, those certain building codes known and designated as the California Building Code, 2016 Edition, (Part 2 of Title 24) Volumes 1 and 2, including Chapter 1 Division II Administration, Appendix I Patio Covers and Appendix J Grading, based on the 2015 International Building Code as published by the International Code Council, shall become the building codes of the City of Eureka for regulating the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use, height, area and maintenance of all buildings and/or structures in the city, except those classified one and two family dwellings or townhouses and structures accessory thereto. The California Building Code and its appendices shall be on file for public examination in the office of the Building Official.

Section 150.068: Seismic Hazard Classification

(A) General. The seismic hazard classifications in this section are hereby established. Each building within the scope of this subchapter shall be placed in one such classification by the Building Official.

(B) High hazard building. Any unreinforced masonry building having one or more of the following conditions present:

(1) An occupant load of 300 or more.

(2) A foundation, all or part, of unreinforced masonry, including footings, piers, stemwalls, and the like, which places any part of the mudsill (or equivalent) of the building 12 inches or more above interior or exterior grade at any point. All measurements shall be vertical.

(3) Wall(s) constructed of unreinforced masonry and 15 feet or more in height, all or part, measured vertically from the bottom surface of the wall base (equivalent to sole plate) to the top surface of the wall (equivalent to top plate).

(4) Parapet wall(s) constructed of unreinforced masonry; and 24 inches or more in height, all or part, measured vertically from the uppermost part of the parapet to the top surface of the contiguous subroof deck; or in deteriorated and/or unstable condition, regardless of wall height, as determined by the Building Official.

(5) More than one story in height as determined in accordance with UBC Section 220.25, including buildings otherwise classified as Low Hazard or Medium Hazard Buildings.

(6) In a physical condition, as determined by the Building Official, or by the responsible engineer or architect with the concurrence of the Building Official, to be a hazardous building and dangerous to human life as defined by UBC 102.

(7) An essential building.

(C) Medium board building. Any one-story unreinforced masonry building, not classified as a high hazard building, having an occupant load between 100 and 299.

(D) Low hazard building. Any one-story unreinforced masonry building, not classified as a high or medium hazard building, having an occupant load of less than 100.

3.6.3 Analysis, Impacts, and Mitigation

Significance Criteria

The criteria used to determine the significance of impacts related to geology, soils, minerals, and paleontological resources are based on Appendix G of the *CEQA Guidelines*, as modified by *California Building Industry Association v. Bay Area Air Quality Management District* (see Methodology discussion further below). The 2040 General Plan Update would result in a significant impact to geology, soils, seismicity, and mineral or paleontological resources if it would:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
  - Strong seismic ground shaking
  - Seismic-related ground failure, including liquefaction
  - Landslides
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on-site or offsite landslide, lateral spreading, subsidence (i.e., settlement), liquefaction, or collapse;
- Be located on expansive[23] soil creating direct or indirect substantial risks to life or property;
- Have soils incapable of adequately supporting the use of septic tanks or alternative reclaimed water disposal systems where sewers are not available for the disposal of reclaimed water;
- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state;
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan; and
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Methodology and Assumptions

General

Development activities associated with the General Plan Update would be regulated by the various laws, regulations, and policies summarized in the Regulatory Framework. Compliance

[23] The CBC, based on the International Building Code and the now defunct Uniform Building Code, no longer includes a Table 18-1-B. Instead, Section 1803.5.3 of the CBC describes the criteria for analyzing expansive soils.

with applicable federal, state, and local laws and regulations is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. It should be noted that compliance with many of the regulations is a condition of permit approval.

A significant impact would occur if, after considering the features described in the Project Description, including the proposed updates to the City's General Plan, and the required compliance with regulatory requirements, a significant impact would still occur. For those impacts considered to be significant, mitigation measures are proposed to reduce the identified impacts.

California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal. 4th 369)

In 2015, the California Supreme Court held that CEQA generally does not require a lead agency to consider the impacts of the existing environment on the future residents or users of a project [*California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal. 4th 369.]. However, if a project exacerbates a condition in the existing environment, the lead agency is required to analyze the impact of that exacerbated condition on the environment, which may include future occupants of the project. As stated in *Ballona Wetlands Land Trust v. City of Los Angeles* [(2011) 201 Cal.App.4th 455, 473]: "[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project." While the potential for increased exposure of people or structures to risks associated with seismic occurrences and location of people or structures on unstable geologic units as a result of the location of General Plan activities are discussed in this section for informational purposes, the effects of the preexisting hazards on users of the proposed project and structures are not environmental impacts under CEQA.

Issues Not Discussed in Impacts

There would be no impact related to the following topics for the reasons described below:

- ***Risk of loss, injury, or death involving fault rupture.*** Implementation of the 2040 General Plan would not directly or indirectly cause or expose people or structures to injury, death, or damage from fault rupture because there are no known active faults within the City limits, as determined by CGS mapping performed in accordance with the Alquist-Priolo Earthquake Fault Zoning Act. Accordingly, this significance criterion is not applicable to the General Plan Update and is not discussed further.

- ***Soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.*** Implementation of the 2040 General Plan would not lead to new developments that would have soils that are incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems, because all waste water within the City limits is connected to the City sewer system and the existing policies do not permit the use of septic tanks within the City limits. Policy 4.C.5 in the existing General Plan and the modified policy, U-2.5, in the proposed General Plan Update prohibit the use of septic tanks or alternative wastewater disposal systems. All new developments would be required to connect to the City's wastewater treatment system.

- ***Loss of availability of a known mineral resource that would be of value to the region and residents of the state.*** In accordance with the SMARA, the known mineral resources in California are mapped, and protected from adverse environmental impacts. The CGS manages the data, and it is available in a searchable database. There is no data currently available on the data portal for the City of Eureka. This does not imply that there are no mineral resources in the City limits; it indicates that the City is not considered an area of importance when it comes to mineral resources. In addition, given that most of the area within the City limits is already built out, there are no current mining operations and limited available area for any future mining considerations. Accordingly, this significance criterion is not applicable to the General Plan Update and is not discussed further.

- **Loss or availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.** There are no locally-important mineral resource recovery sites that are currently being protected by any planning policies for the City of Eureka. Accordingly, this significance criterion is not applicable to the General Plan Update and is not discussed further.

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are specifically relevant to seismic, geologic, and soil-related hazards within the Study Area.

Health and Safety Element

Seismic and Geologic Hazards

Goal HS-1: Protection of property, critical facilities, and human life from seismic and geological hazards.

Policies

HS-1.1: Appropriate Siting and Design. Ensure all new structures intended for human occupancy including new development and redevelopment of existing uses are sited and designed consistent with limitations imposed by seismic and geological hazards, constructed to minimize seismic risk, and constructed in compliance with the safety standards included in the Uniform Building Code.

HS-1.2: Shoreline Protection. Ensure that development on or near the shoreline of Elk River, Humboldt Bay, and Eureka Slough does not create, contribute significantly to, or is subject to, high risk of damage from shoreline erosion or geologic instability over the life span of the development. (Modified 1997 General Plan Policy 7.B.2)

HS-1.3: Retrofit Program. Encourage property owners to seismically retrofit buildings that do not meet current building and safety code requirements, especially critical facilities (e.g., fire stations, police stations, and hospitals) susceptible to damage during seismic events. When funding allows, develop assistance programs.

HS-1.4: Unreinforced Masonry Buildings. Ensure that all unreinforced masonry buildings that are used for public purposes are retrofitted to be earthquake safe; and if retrofit is not feasible, require a notice for patrons be provided indicating that the building is constructed of unreinforced masonry. (Modified 1997 General Plan Policy 7.A.7)

HS-1.5: Historic Buildings. Consider giving special structural consideration and flexibility to officially identified structures of historic and architectural significance when performing seismic retrofitting. (Modified 1997 General Plan Policy 7.A.5)

HS-1.6: Water and Wastewater Provisions. Identify provisions for water supply and delivery, and wastewater treatment and disposal, in cases where services are interrupted as a result of damage caused by seismic activity. (Existing 1997 General Plan Policy 7.A.9)

HS-1.7: **Paleontological Resource Protection.** Protect paleontological resources by ensuring compliance with standard protocols during construction activities and accidental discovery of a resource.

Impacts and Mitigation

Impact 3.6-1: New development under the Eureka 2040 General Plan Update would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides.

As discussed above in Section 3.6.1, *Environmental Setting*, the region will likely experience a large regional earthquake within the operational life of the 2040 General Plan. There is a potential for strong to very strong intensity groundshaking within the City limits that would be associated with such an earthquake. The intensity of such an event would depend on the causative fault and the distance to the epicenter, the magnitude, the duration of shaking, and the nature of the geologic materials on which the project components would be constructed. Intense groundshaking and high ground accelerations would affect the entire area. The primary and secondary effects of groundshaking could damage structural foundations, distort or break infrastructure, and place people at risk of injury or death. Implementation of the 2040 General Plan Update would result in new land uses and development being located in portions of the City that would be subject to seismic ground shaking, and could therefore expose people or structures to hazards including seismic shaking and seismic-related ground failure (e.g., liquefaction).

This type of ground failure is most likely to occur in areas that where the soils contain bay muds and sands. Areas located near Humboldt Bay and in drainages have the highest potential for liquefaction. This type of ground failure could cause damage to infrastructure and cause buildings and structures to collapse. Landslides commonly occur during periods of intense rainfall and are triggered when the soil’s capacity to hold water is exceeded. Landslides can be slow or rapid, moving debris and mudflows that can cause substantial loss, injury, or death. Landslides can occur on unstable slopes, including terrace deposits along the coast.

Construction activities would be temporary, and thus, are not anticipated to exacerbate the exposure of people or structures to substantial adverse effects involving seismic hazards. In addition, projects would not exacerbate the potential for earthquakes because projects within the City limits would use the existing City water supply and sewer system, and would not include the injection or extraction of groundwater, oil, and/or wastewater. Therefore, relative to seismicity, a **less than significant impact** would occur during construction.

While the City is largely a built-up urban environment, implementation of the 2040 General Plan would result in gradual physical changes within the City over a 20-year period, including an increase of up to 1,886 dwelling units and a total of up to 1.6 million square feet of nonresidential uses. New development under the 2040 General Plan could expose people or structures to the geologic hazards mentioned above.

As discussed above in Section 3.6.2, *Regulatory Overview*, the CBC and local ordinances would require that the structural elements of projects undergo appropriate design-level geotechnical evaluations prior to final design and construction. The geotechnical investigation would include any necessary recommendations for soils remediation and/or foundation systems necessary to reduce seismic-related hazards to less than significant. Implementing the regulatory requirements in the CBC and local ordinances, and ensuring that buildings and structures are constructed in compliance with the law is the responsibility of the project engineers and building officials. The CBC describes required standards for the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California. The standards include earthquake design requirements that determine the seismic design category and then describe the structural design requirements. The geotechnical engineer, as a registered professional with the State of California, is required to comply with the CBC and local codes while applying standard engineering practice and the appropriate standard of care for the particular region in California, which, in the case of the 2040 General Plan, would be the City of Eureka. The California Professional Engineers Act (Building and Professions Code Sections 6700–6799), and the Codes of Professional Conduct, as administered by the California Board of Professional Engineers and Land Surveyors, provides the basis for regulating and enforcing engineering practice in California. The local building officials are typically employed by the local jurisdiction (i.e., the City) and are responsible for ensuring CBC and local code compliance prior to approval of the building permit. As discussed above, the geotechnical investigations would include recommendations to address geotechnical issues, including seismic shaking and seismically inducted ground failures, such as liquefaction and lateral spreading.

In addition, the proposed 2040 General Plan includes policies (see Section 3.6.2, *Regulatory Overview*, above) that are designed to reduce such impacts. The proposed policies HS-1.1 through HS-1.6 are all designed to reduce the impacts of geologic hazards on people and structures. Finally, new development associated with the 2040 General Plan would be subject to the City's existing design review process, whereby applicable projects would be reviewed for consistency with zoning standards and compatibility with surrounding areas.

With compliance with the regulatory requirements and the implementation of geotechnical design recommendations, impacts relative to seismic shaking and seismically induced ground failure during operations would be **less than significant**.

Mitigation Measures

None required.

Impact 3.6-2: New developments under the Eureka 2040 General Plan would not result in substantial soil erosion or the loss of topsoil.

Construction associated with the General Plan Update would have the potential to result in soil erosion during excavation, grading, trenching, and soil stockpiling. Because the overall footprint of construction activities could exceed one acre, proposed projects would be required to comply with the *NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ) (Construction General Permit) and the local stormwater ordinances, all of which are described above in Section 3.6.2, *Regulatory Overview*. These state and local requirements were developed to ensure that stormwater is managed and erosion is controlled on construction sites. The Construction General Permit requires preparation and implementation of a SWPPP, which requires applications of BMPs to control run-on and run-off from construction work sites. The BMPs would include, but would not be limited to, physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of infiltration swales, protection of stockpiled materials, and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. With compliance with existing regulations, impacts associated with soil erosion during construction would be **less than significant**.

Once constructed, there would be no further ground disturbance and no potential for erosion. Development projects would be constructed using BMPs that would provide erosion and sedimentation control measures to maintain the capacity of area storm drains and protect water quality in compliance with the regional MS4 permit (see Regulatory Overview in Section 3.7, *Hazards and Hazardous Materials*). Therefore, there would be **no impact** relative to erosion during operations.

<u>Mitigation Measure</u>

None required.

Impact 3.6-3: New developments under the Eureka 2040 General Plan could be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

New developments under the 2040 General Plan may be located on geologic units or soils that may become unstable. As described in Table 3.6-1, *Geologic Units in the Study Area*, the City of Eureka is underlain by sedimentary units that may become unstable during a strong seismic event, which could trigger liquefaction, landslides, and lateral spreading. The seismically triggered events are analyzed above in Impact 3.6-1. While these ground failures can also occur under non-seismic events (e.g., irrigation at the top of a landslide prone area can trigger a landslide), the same regulatory requirements discussed in Impact 3.6-1 would reduce the impact to **less than significant**.

The 2040 General Plan does not include the extraction of groundwater or oil which could cause subsidence or collapse therefore, there would be **no impact**.

With compliance with the regulatory requirements, including policies in the 2040 General Plan, impacts relative to unstable geologic units or soil would be **less than significant**.

Mitigation Measure

None required.

Impact 3.6-4: New developments under the Eureka 2040 General Plan Update could be located on expansive soil, as defined in Section 1803.5.3 of the 2016 California Building Code, creating substantial risks to life or property.

Expansive soils can damage structures and buried utilities and can also increase required maintenance. Expansion and contraction of expansive soils in response to changes in moisture content can cause differential and cyclical movements that can result in damage and/or distress to structures and equipment. There would be no construction-related impacts relative to expansive soils; impacts would only occur under post-construction and operational conditions, as discussed below.

As discussed above in the Environmental Setting, most of the City is not located on areas with highly expansive soils. Expansive soils appear to be limited to the area just south and east of Eureka Slough. Consequently, unless located in the area of high expansive soil potential, there would be a low risk to life or property related to new developments under the 2040 General Plan. Regardless, as a requirement of the CBC and local codes, projects would be required to prepare a final geotechnical investigation that would include site-specific recommendations to address potentially expansive soils as a condition of permit approval. The site-specific analysis of site foundation soils guides the recommended building foundation design, such that damage from expansive soils is minimized and reduced to levels that can be accommodated by the final design. The potential measures could include replacement of native soils with engineered fill, treatment of native soils, or addition of soil amendments which are effective means of reducing the risk from expansive soils. In addition, the proposed 2040 General Plan includes policies (see Section 3.6.2, *Regulatory Overview*, above) that are designed to reduce impacts due to soil conditions. Therefore, implementation of standard geotechnical engineering practices and adherence to building code requirements would reduce potential impacts from expansive soils during operations to **less than significant**.

Mitigation Measure

None required.

Impact 3.6-5: New development under the Eureka 2040 General Plan could directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature.

As previously discussed, most of the area within the City limits has been developed and paleontological resources, if there were any, would have been destroyed during those previous construction activities. If any paleontological resources still exist, they would be in undisturbed areas or at depths below fill and disturbed materials. Implementation of the 2040 General Plan Update would result in additional development that could potentially impact paleontological resources. As noted above, the changes and new developments that take place under the 2040 General Plan would be pursued and distributed over the course of 20 years. This could lead to the identification of paleontological resources on a project-by-project basis. While the area is largely developed and not well-known for its paleontological resources, that does not imply that there are none. Disturbance or destruction of paleontological resources would constitute a **potentially significant impact**. However, the proposed General Plan contains Policy HS-1.7, *Paleontological Resource Protection*, which would serve to avoid and minimize potential impacts. As such, this impact would be **less than significant**.

Mitigation Measure

None required.

3.7 Hazards and Hazardous Materials

This section addresses potential adverse impacts on hazards and hazardous materials that could result from implementing the proposed General Plan, including hazards relative to hazardous materials, proximity to schools and airports, emergency routes, and wildland fires. Potential impacts relative to water quality are addressed in Section 3.8, *Hydrology and Water Quality*. Policies provided in the proposed General Plan and standard City requirements are evaluated as to their effect of mitigating or avoiding any potentially significant effects.

During the Notice of Preparation (NOP) comment period, no comments were provided in direct relation to Hazards and Hazardous Materials.

3.7.1 Environmental Setting

Definition of Hazardous Materials

Definitions of terms used in the characterization of baseline conditions, regulatory framework, and impact analysis for hazards and hazardous materials are provided below.

Hazardous Material: The term "hazardous material" can have varying definitions depending on the regulatory programs. For the purposes of this Draft EIR, the term refers to both hazardous materials and hazardous wastes. The California Health and Safety Code Section 25501(p) defines hazardous material as: Hazardous material means any material that because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Hazardous Waste: A "hazardous waste" is a waste that because of its quantity, concentration, or physical, chemical, or infectious characteristic, causes or significantly contributes to an increase in mortality or illness or poses substantial or potential threats to public health or the environment (42 U.S.C. 6903(5)). Hazardous wastes are further defined under the Resource Conservation and Recovery Act (RCRA) as substances exhibiting the characteristics of ignitability, reactivity, corrosivity, or toxicity. Chemical-specific concentrations used to define whether a material is a hazardous, designated, or nonhazardous waste include Total Threshold Limit Concentrations (TTLCs), Soluble Threshold Limit Concentrations (STLCs), and Toxic Characteristic Leaching Procedure (TCLPs), listed in CCR Title 22, Chapter 11, Article 3, Section 66261, and used as waste acceptance criteria for landfills. Waste materials with chemical concentrations above TTLCs, STLCs, and TCLPs must be sent to Class I disposal facilities, may be sent to Class II disposal facilities depending on the waste material, and may not be sent to Class III disposal facilities.

Screening Levels for Hazardous Materials in Soil, Soil Gas, or Groundwater: The U.S. Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs)[1] and San Francisco Bay Area Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs)[2] are guidelines used to evaluate the potential risk associated with chemicals found in soil or groundwater where a release of hazardous materials has occurred. Although developed and maintained by the San Francisco Bay Area RWQCB, ESLs are used by regulatory agencies throughout the state. Screening levels have been established for both residential and commercial/industrial land uses, and for construction workers. Residential screening levels are the most restrictive; soil with chemical concentrations below these levels generally would not require remediation and would be suitable for unrestricted uses if disposed of offsite. Commercial/industrial screening levels are generally less restrictive than residential screening levels because they are based on potential worker exposure to hazardous materials in the soil (and these are generally less than residential exposures). Screening levels for construction workers are also less restrictive than for commercial/industrial workers because construction workers are only exposed to the chemical of concern during the duration of construction, while industrial workers are assumed to be exposed over a working lifetime. Chemical concentrations below these screening levels generally would not require remediation and would be suitable for unrestricted uses. In addition, there are other more specific but similar screening levels used more narrowly focused human health or ecological risk assessment considerations.

Hazardous Materials within the City

Modern development of the City of Eureka and surrounding areas began around 1850. Land uses have and still do include commercial, industrial, municipal, and residential uses. Some of these land uses include the use of hazardous materials. As discussed below, there are a number of locations within the City limits listed by regulatory agencies as hazardous materials sites. In addition, the buildings and structures within the City may include hazardous building materials within their structures, as discussed further below.

Hazardous Materials Storage and Use Facilities

Hazardous materials facilities are those active sites that are currently permitted to use and/or store hazardous materials. Hazardous materials facilities that use and/or store hazardous materials are regulated by the local Certified Unified Program Agency (CUPA), which for the City of Eureka is the Humboldt County Division of Environmental Health (Humboldt DHS).[3] The Humboldt DHS is charged with the responsibility of conducting compliance inspections of hazardous materials facilities in Humboldt County, including within the City of Eureka. These facilities handle hazardous materials, generate or treat hazardous waste, and/or operate underground storage tanks. Facilities are required to disclose all hazardous material and waste above certain designated quantities that are used, stored, or handled at their facility. The quantities that trigger disclosure are based on the maximum quantity on site at any time:

- 55 gallons, 500 pounds, or 200 cubic feet for 30 days or more at any time in the course of a year
- Any amount of hazardous waste

1 RSLs are available at: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2017.
2 ESLs are available at: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.html.
3 County of Humboldt Division of Environmental Health. 2018. *Certified Unified Program Agency (CUPA).*

- Category I or II pesticides
- Explosives
- Extremely hazardous substances above the threshold planning quantity

The CUPA uses education and enforcement programs to minimize the risk of chemical exposure to human health and the environment. The CUPA forwards important facility information to local fire prevention agencies that enables them to take appropriate protective actions in the event of an emergency at regulated facilities. The Humboldt County CUPA program elements include:

- Hazardous Materials Release Response Plans and Inventory (Business Plans)
- California Accidental Release Program (CalARP)
- Underground Storage Tanks (UST)
- Aboveground Petroleum Storage Spill Prevention Control and Countermeasures (SPCC)
- Hazardous Waste Generation and Onsite Treatment

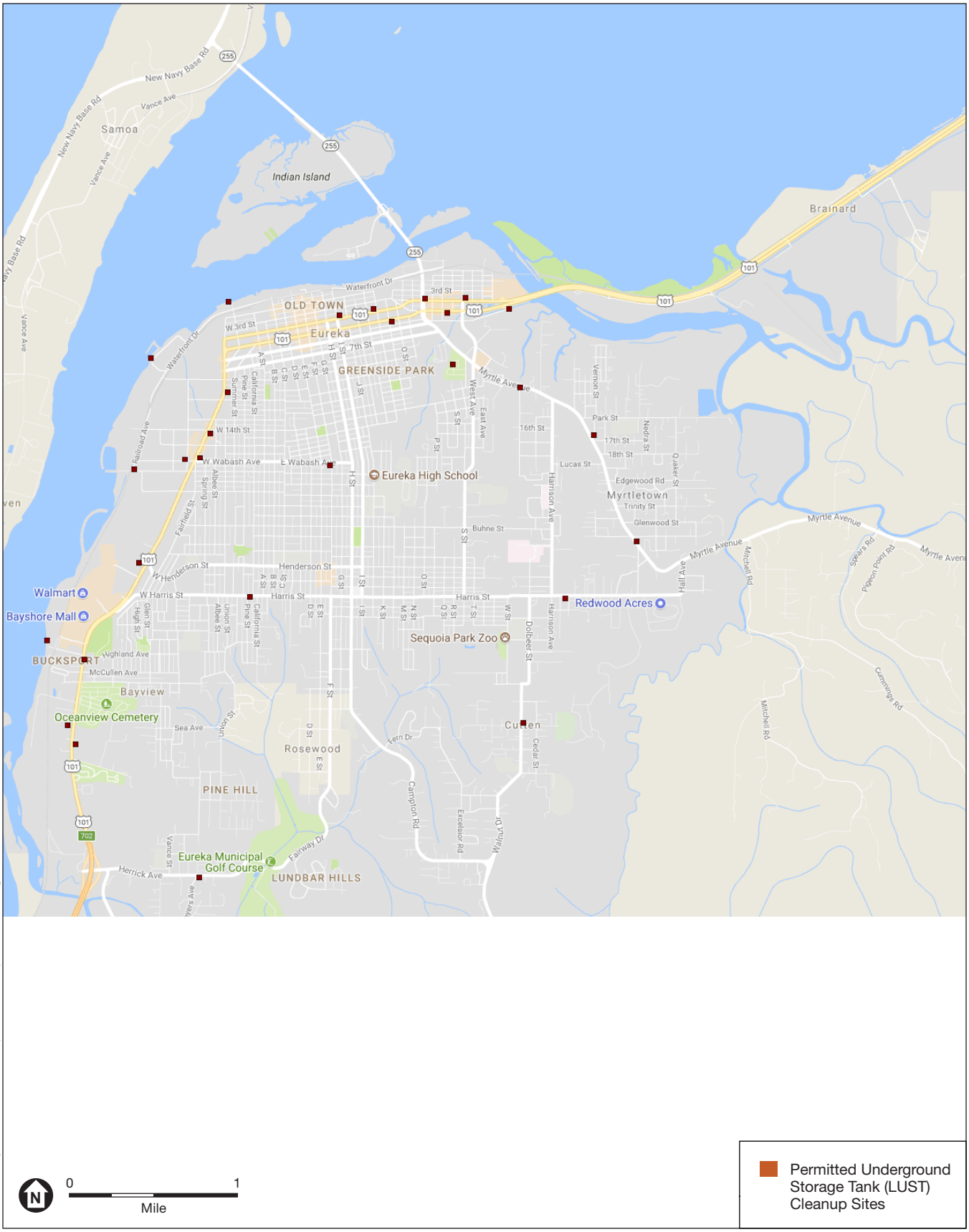
Those businesses that exceed the above listed quantities are required to submit a Hazardous Materials Release Response Plan and Inventory, more commonly known as a Hazardous Materials Business Plan or HMBP. As noted in the Humboldt County Emergency Operations Plan, hydrogen peroxide, formaldehyde, and flammable fuels are transported in large quantities from the north and south areas of the county.[4] The CUPA program includes sites that store hazardous materials in underground storage tanks (USTs). As of February 5, 2018, there were 28 USTs within or near the City limits, as shown on **Figure 3.7-1**.

In the event that a hazardous materials release occurs, the investigation and cleanup of the release is regulated by the Humboldt DHS, RWQCB, or Department of Toxic Substances Control (DTSC), depending on the nature of the release. Sites that are currently under investigation are discussed below.

Listed Hazardous Materials Release Sites

Active hazardous materials sites are those sites that are currently under investigation by regulatory agencies. The investigations and cleanups will be guided by the use of screening levels, such as those previously described, to determine when a given site has been cleaned up to within acceptable risk levels. Once achieved, a given site is typically issued a no further action letter or the equivalent, and the case is closed; the regulatory agency will not require further investigation or cleanup. Note that this does not mean that a closed site necessarily has no levels of the chemicals that prompted the investigation. Residual levels of chemicals may remain in soil and/or groundwater at concentrations below the screening levels used to justify closing the site investigation.

4 County of Humboldt. 2015. *County of Humboldt Emergency Operations Plan*. March.



D130261.00 - City of Eureka General Plan Update-EIR\05 Graphics-GIS-Modeling\Illustrator

SOURCE: Calfire, 2007

Eureka General Plan Update and EIR

Figure 3.7-1
Permitted Underground Storage Tanks Sites

ESA

The State Water Resources Control Board (SWRCB) and the DTSC maintain the websites GeoTracker[5] and EnviroStor,[6] respectively, that provide information on the location, status, and investigation and cleanup reports for active and closed sites. The location of hazardous materials sites from the combined websites in and around the City of Eureka as of February 4, 2018, are shown on **Figure 3.7-2**. Open cases are shown with open location boxes; closed sites are shown with an "X" in the box. As investigations and cleanups are completed and the regulatory agency grants site closure, an "X" is added to the location box. As regulatory agencies become aware of new cases, the cases are added to the websites.

The majority of the sites are open or closed petroleum sites (green or red squares), where fuel and/or oil was released, and groundwater was or is at risk of being affected. These sites tend to be under the jurisdiction of the RWQCB. The triangular sites are under the jurisdiction of the DTSC (e.g., dry cleaning solvents from dry cleaners), but may involve a variety of chemicals that may include petroleum releases. The one orange square along the northwest coastline of the City is an inactive site that indicates this area was previously filled with undocumented fill, whose chemical effects are unknown. Note that the majority of sites are located closer to the coastline in the industrial, commercial and Old Town/Downtown areas, where a higher amount of hazardous materials using industrial and commercial operations were and are located.

Hazardous Building Materials

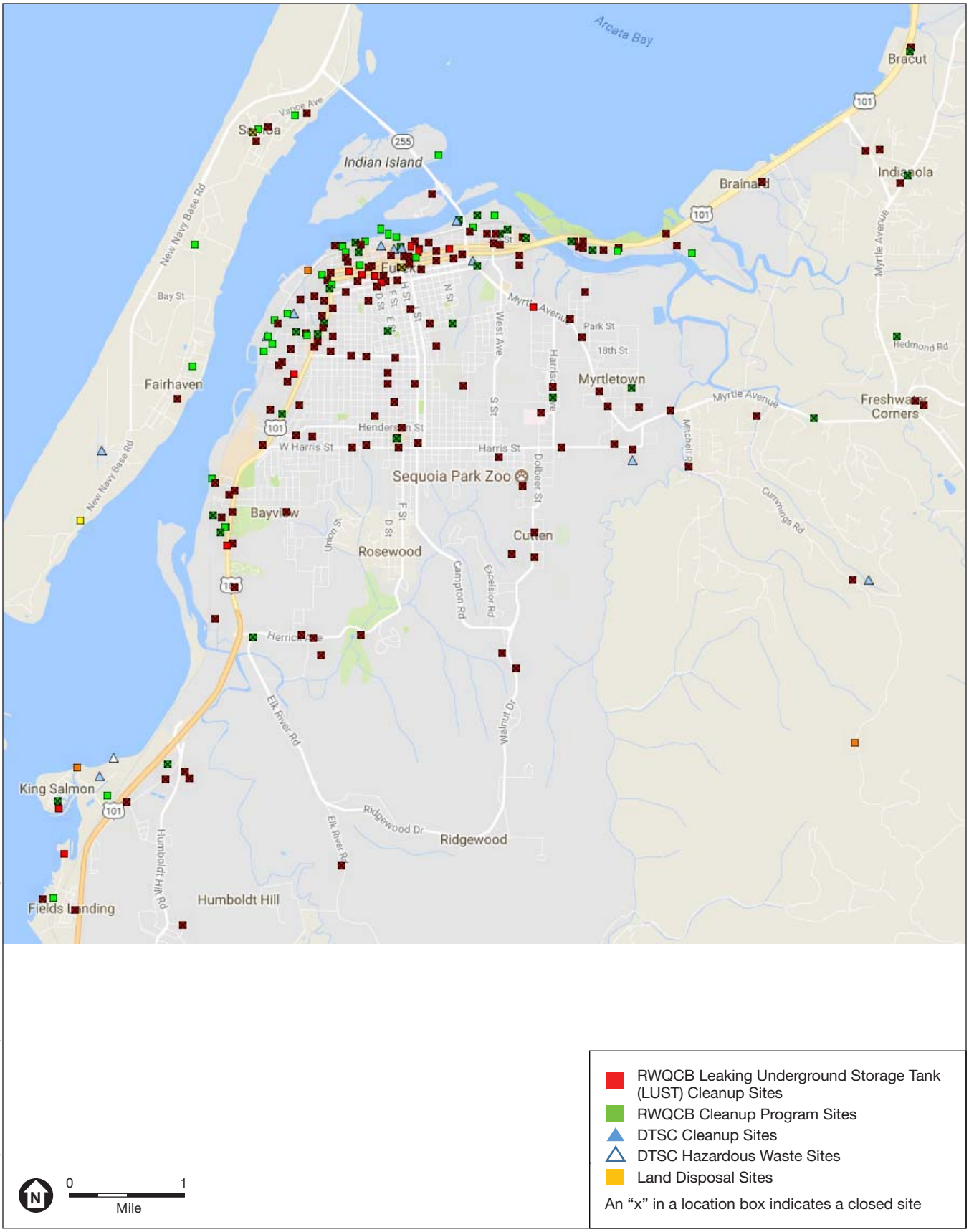
As noted above, development of the City of Eureka and surrounding areas began around 1850. This predates the 1970's ban on the use of asbestos containing materials (ACM) and lead-based paint (LBP) in building materials. Other hazardous building materials include polychlorinated biphenyls (PCBs) in light ballasts and mercury-containing fluorescent light tubes and switches. Existing structures, especially those that predate the 1970s, may contain or be coated by one or more of these or other hazardous materials.

Proximity to Schools

The following schools are located within the City limits:

- Zoe Barnum High School, 216 West Harris Street
- Catherine L Zane Middle School, 2155 S Street
- Alice Birney Elementary School, 717 South Avenue
- Eureka High School, 1915 J Street
- Grant Elementary School, 3901 G Street
- Winzler Children's Center, 719 West Creighton Street
- Washington Elementary School, 3322 Dolbeer Street
- Pacific View Charter School, 115 Henderson Street
- Eureka Community School, 1820 W 6th Street
- Glen Paul School, 2501 Cypress Avenue

5 GeoTracker available at: http://geotracker.waterboards.ca.gov/.
6 EnviroStor available at: http://www.envirostor.dtsc.ca.gov/public/.



D130261.00 - City of Eureka General Plan Update-EIR\05 Graphics-GIS-Modeling\Illustrator

SOURCE: SWRCB, 2018; DTSC, 2018

Eureka General Plan Update and EIR

Figure 3.7-2
Hazardous Materials Sites

ESA

- St. Bernard's Academy, 222 Dollison Street
- Redwood Christian School, 2039 E Street

Proximity to Airports

Murray Field is a County-owned public airport located within the far northeast corner of the City limits, three miles northeast of downtown Eureka in Humboldt County, California. Most of its use is general aviation, but FedEx Express flights stop for package delivery.

The Samoa Field Airport, formerly known as the Eureka Municipal Airport, is a City-owned, public airport located on Samoa Peninsula in Humboldt Bay in Humboldt County, California, about one mile west of the Eureka City Limits. The airport is a general aviation (non-commercial) airport.

Emergency and Disaster Routes

As noted in the Humboldt County Emergency Operations Plan, hazardous materials incidents in Humboldt County would most likely occur on transportation routes or at fixed hazardous materials facilities.[7] Hazardous materials are often transported through the area on Highways 101 and 255, both of which traverse the City limits. Surface streets are used for the local transportation of hazardous materials. Emergency or evacuation routes depend on the nature and location of the emergency or disaster. The Emergency Operations Plan does not identify specific emergency response or evacuation routes.

Wildfires

The California Department of Forestry and Fire Protection (Calfire) maps identify fire hazard severity zones in state (SRA) and local (LRA) responsibility areas for fire protection. The LRA fire severity map designates some areas within the City limits as moderate to high fire hazard severity zones, as shown on **Figure 3.7-3**.[8] The SRA area does not extend into the City limits.[9]

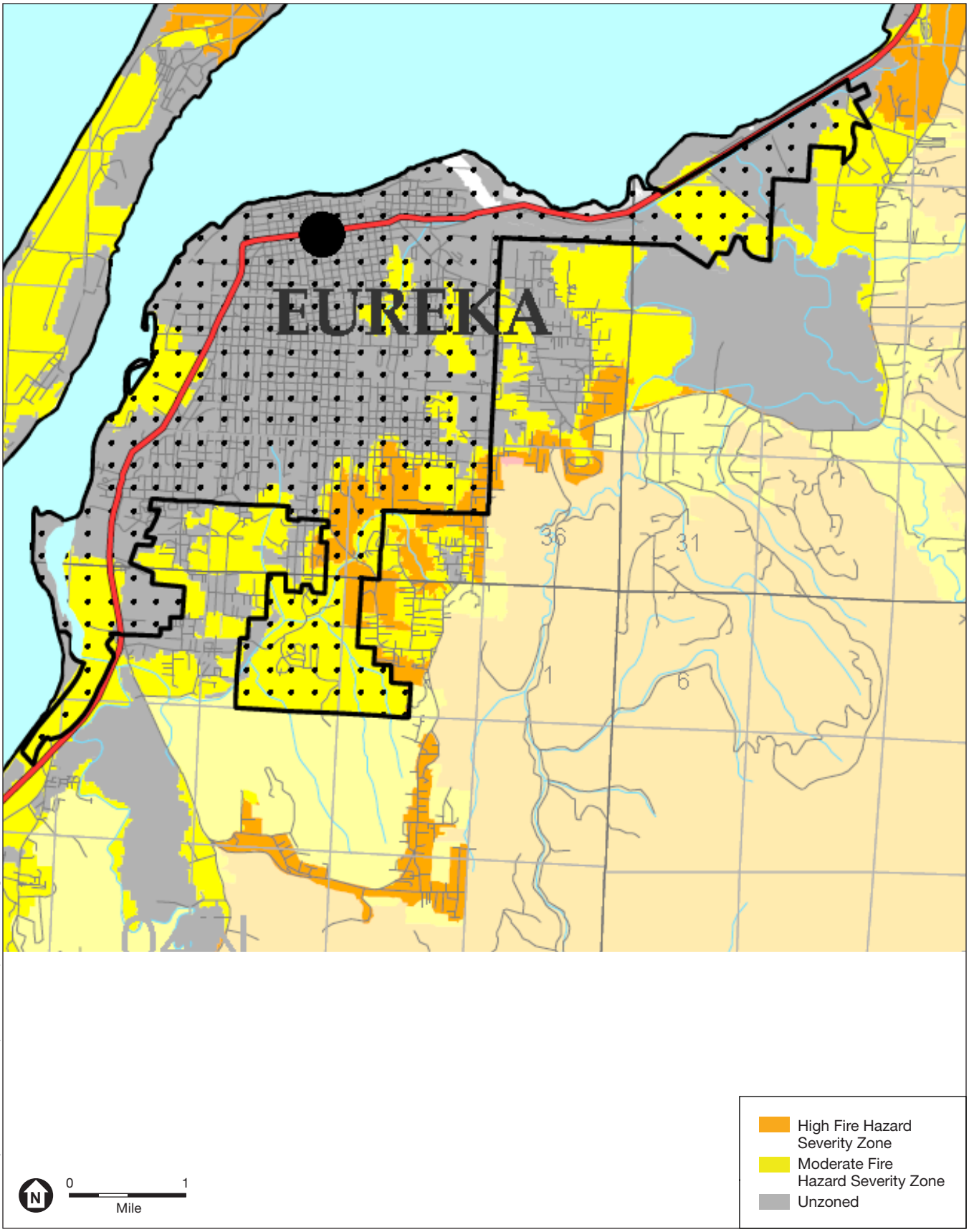
3.7.2 Regulatory Overview

Federal

The primary federal agencies with responsibility for hazardous materials management include the USEPA, U.S. Department of Labor Occupational Safety and Health Administration (Fed/OSHA), and the U.S. Department of Transportation (USDOT). Federal laws, regulations, and responsible agencies are summarized in **Table 3.7-1**.

State and local agencies often have either parallel or more stringent rules than federal agencies. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the State or local agency section.

7 County of Humboldt. 2015. *County of Humboldt Emergency Operations Plan*. March.
8 Calfire. 2007. *Draft Fire Hazard Severity Zones in LRA*. September 19.
9 Calfire. 2007. *Fire Hazard Severity Zones in SRA*. November 7.



D130261.00 - City of Eureka General Plan Update-EIR\05 Graphics-GIS-Modeling\Illustrator

SOURCE: Calfire, 2007

Eureka General Plan Update and EIR

Figure 3.7-3
Fire Hazard Severity Map

ESA

TABLE 3.7-1
FEDERAL LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible Federal Agency	Description
Hazardous Materials Management	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA))	Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
Hazardous Waste Handling	Resource Conservation and Recovery Act of 1976 (RCRA)	Under RCRA, the USEPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste from "cradle to grave."
	Hazardous and Solid Waste Act	Amended RCRA in 1984, affirming and extending the "cradle to grave" system of regulating hazardous wastes. The amendments specifically prohibit the use of certain techniques for the disposal of some hazardous wastes.
Hazardous Materials Transportation	USDOT	USDOT has the regulatory responsibility for the safe transportation of hazardous materials. The USDOT regulations govern all means of transportation except packages shipped by mail (49 CFR).
	U.S. Postal Service (USPS)	USPS regulations govern the transportation of hazardous materials shipped by mail.
Occupational Safety	Occupational Safety and Health Act of 1970	Fed/OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR 1910).
Structural and Building Components (Lead-based paint, polychlorinated biphenyls, and asbestos)	Toxic Substances Control Act	Regulates the use and management of polychlorinated biphenyls in electrical equipment, and sets forth detailed safeguards to be followed during the disposal of such items.
	USEPA	The USEPA monitors and regulates hazardous materials used in structural and building components and their effects on human health.

State

The primary State agencies with responsibility for hazardous materials management in the region include the DTSC and the RWQCB within the California Environmental Protection Agency (Cal EPA), California Occupational Safety and Health Administration (Cal/OSHA), California Department of Health Services (CDHS), California Highway Patrol (CHP), and the California Department of Transportation (Caltrans). State laws, regulations, and responsible agencies are summarized in **Table 3.7-2**.

TABLE 3.7-2
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Hazardous Materials Management	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program); CUPA (Health and Safety Code Sections 25404 et seq.)	In January 1996, Cal EPA adopted regulations, which implemented a Unified Program at the local level. The agency responsible for implementation of the Unified Program is called the Certified Unified Program Agency (CUPA), which for the City of Eureka, is the Humboldt County Division of Environmental Health (Humboldt DHS). The CUPA administers the following programs: • Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (a.k.a. Tiered Permitting) • Aboveground Petroleum Storage Tanks • Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or "Community-Right-To-Know") • California Accidental Release Prevention Program • UST Program • Uniform Fire Code Plans and Inventory Requirements
	State Hazardous Waste and Substances List ("Cortese List"); DTSC, RWQCB, SC EHD.	The Project site includes one hazardous materials site on the "Cortese List" compiled pursuant to Government Code section 65962.5 and referenced in Public Resources Code 21092.6. The oversight of hazardous materials sites often involves several different agencies that may have overlapping authority and jurisdiction. For the onsite hazardous materials cases and issues, the RWQCB is the lead agency. Other cases may be overseen by the DTSC, the RWQCB, the Humboldt DHS, or other agencies.
Hazardous Waste Handling	California Hazardous Materials Release Response Plan and Inventory Law of 1985; CUPA	The California Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act) requires that businesses that store hazardous materials onsite prepare a Hazardous Materials Business Plan (HMBP) and submit it to the local CUPA, which in this case is the Humboldt DHS.
	California Hazardous Waste Control Act; DTSC	Under the California Hazardous Waste Control Act, California Health and Safety Code, Division 20, Chapter 6.5, Article 2, Section 25100, et seq., DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills. DTSC is also the administering agency for the California Hazardous Substance Account Act. California Health and Safety Code, Division 20, Chapter 6.8, Sections 25300 et seq., also known as the State Superfund law, providing for the investigation and remediation of hazardous substances pursuant to State law.
	California Fire Code	The California Fire Code regulates the storage and handling of hazardous materials, including the requirement for secondary containment, separation of incompatible materials, and preparation of spill response procedures.
Hazardous Materials Transportation	Titles 13, 22, and 26 of the California Code of Regulations	Regulates the transportation of hazardous waste originating in and passing through the state, including requirements for shipping, containers, and labeling.
	CHP and Caltrans	These two state agencies are primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies.
Occupational Safety	Cal/OSHA	Cal/OSHA has primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the Code of Federal Regulations (CFR). Cal/OSHA standards are generally more stringent than federal regulations.

TABLE 3.7-2 (CONTINUED)
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Occupational Safety (cont.)	Cal/OSHA regulations (8 CCR)	Concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.
	California Office of Statewide Health Planning and Development	The Office of Statewide Health Planning and Development serves as the regulatory building agency for all hospitals and nursing homes in California. Its primary goal in this regard is to ensure that patients in these facilities are safe in the event of an earthquake or other disaster, and to ensure that the facilities remain functional after such an event in order to meet the needs of the community affected by the disaster.
Construction Storm Water General Permit (Construction General Permit; Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ)	RWQCB	Dischargers whose project disturbs one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one of more acres, are required to obtain coverage under the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). Construction activity subject to this permit includes clearing, grading, grubbing, and other disturbances to the ground such as excavation and stockpiling, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility. The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific Best Management Practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving offsite into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area.
Municipal Separate Storm Sewer System (MS4) Permit NPDES No. CAS000004 and Order No. R5-2013-0001	RWQCB	The MS4 permit requires permittees (in this case, the City of Eureka) to reduce pollutants and runoff flows from new development and redevelopment using BMPs to the maximum extent practical. The MS4 permittee also has its own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification element. The MS4 permit requires specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.
Industrial Storm Water General Permit Order No. 2014-0057-DWQ	RWQCB	Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ (IGP). The IGP regulates discharges associated with certain defined categories of industrial activities including manufacturing facilities; hazardous waste treatment, storage, or disposal facilities; landfills, land application sites, and open dumps; cement manufacturing; fertilizer manufacturing; petroleum refining; phosphate manufacturing; recycling facilities; steam electric power generating facilities; transportation facilities; and sewage or wastewater treatment works. The IGP requires the implementation of best management practices, a site-specific Storm Water Pollution Prevention Plan (SWPPP), and monitoring plan. The IGP also includes criteria for demonstrating no exposure of industrial activities or materials to storm water, and no discharges to waters of the United States.

TABLE 3.7-2 (CONTINUED)
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Underground Infrastructure	California Government Code Section 4216-4216.9	Section 4216-4216.9 "Protection of Underground Infrastructure" requires an excavator to contact a regional notification center (e.g., Underground Services Alert or Dig Alert) at least two days prior to excavation of any subsurface installations. Any utility provider seeking to begin a project that could damage underground infrastructure can call Underground Service Alert, the regional notification center for southern California. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area.

Summary of Hazardous Building Materials Regulations

From the above-listed regulations, federal and state citations to specific hazardous materials relevant to the demolition and renovation of structures are listed below.

- **Asbestos Containing Materials (ACM):** California Code of Regulations (CCR) Title 8, Division 1, Chapter 4, Article 4, Sections 1529 and 5208
- **Lead Based Paint (LBP):** CCR Title 8, Division 1, Chapter 4, Article 4, Section 1532.1
- **Polychlorinated Biphenyl (PCB):** RCRA: 4 CFR 7610; TSCA: 15 USC 2695; California: CCR Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24
- **Mercury and/or PCBs in light tubes and switches:** CCR Title 22, Division 4.5, Chapter 12, Article 1, Sections 66262.11; 66273 et sec; and CCR Title 22, Division 4.5, Chapter 42, Sections 67426.1 through 67428.1
- **Freon (chlorofluorocarbon and hydrochlorofluorocarbon refrigerants):** California Health and Safety Code, Division 20, Chapter 6.5, Section 25143.2 and 25143.9

Details for specific hazardous building materials are provided below.

California Construction Safety Orders for Asbestos-Containing Materials

CCR Title 8, Section 1529 and 5208 establishes the requirements for any construction worker who may be exposed to ACM during demolition or salvage, removal or encapsulation, new construction, and cleanup activities. The construction safety orders define ACM as any material with more than one percent of ACM. In addition, the construction safety orders establish an action level of 0.1 fiber per cubic meter of air calculated over an 8-hour time-weighted average without regard for the use of a respirator, meaning this is the limit where safety protocols must be initiated, such as use of a respirator. Under no circumstances may a worker be exposed to 1.0 fiber per cubic centimeter of air as averaged over a sampling period of 30 minutes. These regulations require implementation of engineering and work practice controls such as respiratory protection, protective clothing, housekeeping, hygiene practices, and signage requirements to meet worker exposure limits. Survey and cleanup must be conducted by state-certified consultants and contractors. Medical monitoring and training requirements are also identified.

The North Coast Unified Air Quality Management District is the regulatory agency that oversees and enforces compliance in the County of Humboldt and the City of Eureka.

California Construction Safety Orders for Lead

CCR Title 8, Section 1532.1, Lead, establishes the requirements for any construction worker who may be exposed to lead during demolition or salvage, removal or encapsulation, new construction, and cleanup activities. The construction safety orders establish an action level of 30 micrograms of lead per cubic meter ($\mu g/m^3$) of air calculated over an 8-hour time-weighted average without regard for the use of a respirator, meaning this is the limit where safety protocols must be initiated, such as use of a respirator. Under no circumstances may a worker be exposed to 50 $\mu g/m^3$ over an 8-hour weighted period. These regulations require implementation of engineering and work practice controls such as respiratory protection, protective clothing, housekeeping, hygiene practices, and signage requirements to meet worker exposure limits. Survey and cleanup must be conducted by state-certified consultants and contractors.

Prior to the issuance of a grading permit or demolition permit, the entity performing the work is required to show proof that a Certified Lead Inspector/Assessor, as defined in Title 17, CCR Section 35005, and in accordance with all applicable laws pertaining to the handling and disposal of lead-based paint, has been retained to perform demolition and removal of all existing on-site structures identified to contain lead-based materials. Lead-based materials exposure is regulated by Cal OSHA. Title 8 CCR Section 1532.1 requires testing, monitoring, containment, and disposal of lead-based materials so that exposure levels do not exceed Cal OSHA standards.

California's Universal Waste Rule

California's Universal Waste Rule (22 CCR 66261.9, 66273.1 through 66273.20) allows individuals and businesses to transport, handle and recycle certain common hazardous wastes, termed universal wastes, in a manner that differs from the requirements for most hazardous wastes. The more relaxed requirements for managing universal wastes were adopted to ensure that they are managed safely and are not disposed of in the trash.

Universal wastes are hazardous wastes that are widely produced by households and many different types of businesses. Universal wastes include televisions, computers and other electronic devices as well as batteries, fluorescent lamps, mercury thermostats, and other mercury containing equipment, among others. Fluorescent light tubes, ballasts, and switches may contain PCBs and/or mercury, especially older fixtures.

Conditionally Exempt Small Quantity Universal Waste Generators are exempt from most of the requirements of the universal waste regulations provided they comply with certain conditions (22 CCR 66273.8). The trigger quantity for PCBs and/or mercury-containing materials would be less than 100 kilograms (220 pounds) as a RCRA hazardous waste, including universal waste that is RCRA universal waste and less than one kilogram of acutely hazardous waste in a calendar month. (RCRA hazardous waste is hazardous waste that is regulated under the hazardous waste regulations adopted by the U.S. Environmental Protections Agency.) Handlers who qualify for these exemptions are not required to obtain an EPA ID number or otherwise notify DTSC, keep records of shipments or provide annual reports to DTSC, or to label their universal waste.

A Conditionally Exempt Small Quantity Universal Waste Generator may not send universal waste to a municipal solid waste (garbage) landfill or a non-hazardous waste recycling center. All handlers of universal waste must relinquish their universal waste to one of the following:

1. Another handler (typically a business that specializes in collecting, storing, accumulating and shipping universal wastes). Examples include a household hazardous waste (HHW) facility, a "Take-it-Back Partner" such as a retailer or manufacturer, or a collection event.
2. A universal waste transporter. Examples include a curbside HHW collection program, a package service (e.g., postal service, UPS), or a destination facility that offers a pick-up service.
3. A universal waste destination facility (generally, a facility with a permit to treat, store, or dispose of hazardous waste).

Search engines available to find locations accepting universal waste in the local area include E-Recycle.org; Earth911.org; the CalRecycle database; DTSC; and HHW list.

Local

Airport Land Use Compatibility Plans

Murray Field

The County of Humboldt manages Murray Field, which is a general aviation airport located within the City limits, approximately three miles east of downtown Eureka. The County's Airport Land Use Compatibility Plan (ALUCP) was adopted in March, 1993. An effort to update the ALUCP is currently underway. The ALUCP provides methods, policies, and procedures for working with the County or City to assess compatibility of airport operations with nearby land uses, and identifies the Airport Influence Area (AIA) and the Safety Zones associated with the airport. These areas are delineated based on an assessment of aviation risk. Land uses are permitted in each area based on compatibility and proximity to airport runways and aircraft flight paths. Non-conforming land uses or major new development projects are subject to review by the County's Airport Land Use Commission.

Samoa Field Airport

The City of Eureka owns Samoa Field Airport, which is located outside of the City limits but within the Study Area, about two miles west of downtown Eureka on the Samoa Peninsula. An ALUCP has not been prepared for Samoa Field, but the County ALUCP update effort noted above may include Samoa Field as part of the County's update process.[10]

City of Eureka 1997 General Plan

The City's 1997 General Plan contains policies and implementation measures relevant to hazards and hazardous materials. Specifically, the 1997 General Plan includes policies that regulate the use, storage, and disposal of hazardous materials within the City limits. Upon approval of the

[10] County of Humboldt. 2017. Resolution by the Board of Supervisors and Resolution by the Airport Land Use Commission Regarding Updating the Airport Land Use Compatibility Plan. Adopted March 23, 2017.

proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded.

Health and Safety Element

Hazardous Materials and Toxic Contamination

Goal 7.E: To minimize the risk of loss of life, injury, serious illness, damage to property, and economic and social dislocations resulting from the past or future use, transport, treatment, and disposal of hazardous materials and hazardous materials wastes.

Policies

7.E. l: The City shall ensure that the use and disposal of hazardous materials in the Eureka area complies with local, state, and federal safety standards.

7.E.2: The City shall discourage the development of residences or schools near known hazardous waste disposal or handling facilities. Conversely, the City shall discourage the development of hazardous waste disposal or handling facilities near residences or schools.

7.E.3: The City shall require secondary containment and periodic examination for all storage of toxic materials.

7.E.4: The City shall ensure that industrial facilities are constructed and operated in accordance with current safety and environmental protection standards.

7.E.5: The City shall require that new industries that store and process hazardous materials provide a buffer zone between the installation and the property boundaries sufficient to protect public safety. The adequacy of the buffer zone shall be determined by the City.

7.E.6: The City shall require that applications for discretionary development projects that will generate hazardous wastes or utilize hazardous materials include detailed information on hazardous waste reduction, recycling, and storage.

7.E.7: The City shall require that any business that handles a hazardous material prepare a plan for emergency response to a release or threatened release of a hazardous material.

7.E.8: The City shall encourage the State Department of Health Services and the California Highway Patrol to review permits for radioactive materials on a regular basis and to promulgate and enforce public safety standards for the use of these materials, including the placarding of transport vehicles.

7.E.9: The City shall identify sites that are inappropriate for hazardous material storage, maintenance, use, and disposal facilities due to potential impacts on adjacent land uses and the surrounding natural environment.

7.E.10: The City shall work with local fire protection and other agencies to ensure an adequate countywide response capability to hazardous materials emergencies.

7.E.11: The City shall work with owners of property affected by toxic contamination to identify cost effective approaches to remediation of contaminated soils. In particular, the City shall focus its efforts on developing unified strategies to addressing cleanup of large areas (e.g., the Westside Industrial Area, the waterfront area) so as to reduce the unit cost of remediation.

7.E.12: The City shall work with the Regional Water Quality Control Board and Humboldt County to identify and mitigate groundwater contamination caused by past disposal of toxic materials along the waterfront and in industrial areas.

Emergency Response

Goal 7.F: To ensure the maintenance of an Emergency Management Program to effectively prepare for, respond to, recover from, and mitigate the effects of natural or technological disasters.

Policies

7.F.1: The City shall systematically and regularly review all accident contingency plans which relate to Eureka.

7.F.2: The City shall work with Caltrans and Humboldt County to identify a less congested route through Eureka to be used for the transportation of heavy, as well as hazardous materials.

7.F.3: The City shall attempt to ensure that major access corridors be available and unobstructed in case of major emergency or disaster.

7.F.4: The City shall cooperate with the Humboldt County, State Office of Emergency Services, and the Federal Emergency Management Agency in developing and operating a coordinated emergency response program that best utilizes the resources of each agency in assisting citizens and visitors in coping with and responding to a major emergency or disaster.

City of Eureka Municipal Code

Chapter 94: Health and Sanitation

Hazardous Substances

Section 94.45 Underground Storage of Hazardous Substances. Chapter 4 of Division 8 of Title III of the Humboldt County Code, adopted by Ordinance No. 1625, which Chapter 4, prescribes regulations relating to underground storage of hazardous substances, is hereby adopted by reference as the Underground Storage of Hazardous Substances Code of the City. The regulations include requiring a construction permit and an operating permit with the Humboldt DEH, overfill prevention and containment equipment, annual leak detection testing.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), codified in Health and Safety Code Sections 25404 et seq., requires the administrative consolidation of six hazardous materials and waste programs under one agency, a Certified Unified Program Agency (CUPA). The following programs are consolidated under the unified program:

- Hazardous Materials Release Response Plans, and Inventory (also referred to as Hazardous Materials Business Plans)
- California Accidental Release Program

- Underground Storage Tanks
- Aboveground Petroleum Storage Spill Prevention Control and Countermeasures
- Hazardous Waste Generation and Onsite Treatment
- Uniform Fire Code Plans and Inventory Requirements

The State Secretary for Environmental Protection designated the Hazardous Materials Program of the Humboldt County Division of Environmental Health (Humboldt DEH) as the CUPA. The CUPA is charged with the responsibility of conducting compliance inspections of over hazardous materials facilities in Humboldt County, including the City of Eureka. These facilities handle hazardous materials, generate or treat a hazardous waste, and/or operate underground storage tanks. The CUPA uses education and enforcement to minimize the risk of chemical exposure to human health and the environment. The CUPA forwards important facility information to local fire prevention agencies that enables them to take appropriate protective action in the event of an emergency at regulated facilities. In order to legally store and use hazardous materials above the trigger quantities, users must apply for permits and demonstrate satisfactory compliance with regulations. The quantities that trigger disclosure are based on the maximum quantity on site at any time:

- 55 gallons, 500 pounds, or 200 cubic feet for 30 days or more at any time in the course of a year
- Any amount of hazardous waste
- Category I or II pesticides
- Explosives
- Extremely hazardous substances above the threshold planning quantity

Asbestos NESHAP Regulations - Building Demolitions & Renovations

The National Emission Standards for Hazardous Air Pollutants (NESHAP) are a series of pollutant specific regulations which are designed to minimize the public's exposure to hazardous chemicals through use of specific types of control equipment, and the implementation of various control methods or procedures. The North Coast Unified Air Quality Management District (District) has been delegated by the U.S. Environmental Protection Agency to enforce the NESHAP provisions within its tri-county jurisdiction, which includes the City of Eureka. The District administers all of the NESHAP regulations including the sections applicable to the demolition and renovation of building structures which utilized ACM in their construction.

The Asbestos NESHAP regulations pertains to all public and commercial structures, and applies to residential properties consisting of five or more dwelling units. Many of these buildings, regardless of their age, utilized asbestos containing materials (ACM) in their construction. Examples of ACM include, but are not limited to, paper backing of linoleum, spray-on acoustic ceilings, and duct wrap on pipes and boilers. When these types of materials are disturbed during demolition or renovation activities, asbestos fibers may be released into the air which can create a significant health hazard.

The Asbestos NESHAP (40 CFR Part 61, Subpart M) and District Rules and Regulations require persons, agencies, and companies to determine if ACM is present in structures prior to renovation or demolition activities. An evaluation, or survey, must be performed to determine if asbestos is present. According to State law, only surveys prepared by California State Certified Asbestos Consultants (CAC) are accepted by the District. Testing for asbestos can be done by a recognized Asbestos Testing Lab.

If asbestos is found to be present, the District must receive written notification at least 10 business days prior to beginning work. In order to minimize the release of asbestos fibers, certain work practices are required to be used. Persons who may be exposed to fibers are required to wear personal protective equipment. The Asbestos Compliance Advisory and Requirement Flow Chart provide general guidance, but are not meant as a substitute for advice from asbestos professionals or legal counsel.

Compliance with the Asbestos NESHAP includes the following actions:

- Inspect the area that will be disturbed for ACM. The survey must be performed by a California State CAC, or a person assigned by the CAC who operates under the control and responsibility of the CAC. The survey results must be thoroughly documented in a signed report from the CAC.
- Notify the District if more than 260 linear feet, 160 square feet, or 35 cubic feet of Regulated Asbestos Containing Material (RACM) is going to be disturbed; or if Category I or II material will be rendered friable by the work methods employed.
- The District will not accept asbestos surveys that do not include: A project drawing denoting the area being renovated or demolished, the numbered location, on the project drawing, of every asbestos sample, the CAC's OSHA Certification Number, date when the CAC's current OSHA Certification expires.
- Notify the District at least 10 working days prior to any demolition, even if no RACM is present.
- Employ the use of proper work practices outlined in the asbestos NESHAP.
- Comply with worker safety requirements (Cal OSHA).

3.7.3 Analysis, Impacts, and Mitigation

Significance Criteria

The criteria used to determine the significance of impacts related to hazards and hazardous materials are based on Appendix G of the CEQA Guidelines. The General Plan Update would result in a significant impact relative to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the area;
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires including where wildlands.

Methodology and Assumptions

Information for this assessment of impacts to workers, the public, or the environment relative to hazards and hazardous materials is based on a review of information from hazardous materials databases, maps showing airports, schools, and fire hazard zones, and City and County plans, including the *Eureka General Plan Community Background Report*[11] and the *Draft Eureka 2040 General Plan*.[12]

The project would be regulated by the various laws, regulations, and policies summarized in the Regulatory Framework. Compliance by the project with applicable federal, state, and local laws and regulations is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. It should be noted that compliance with many of the regulations is a condition of permit approval.

The potential impacts to the public or the environment through the routine transport, use, or disposal of hazardous materials, and through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment have been combined because the same set of regulations apply to both, as discussed below in Impact 3.7-1.

A significant impact would occur if, after considering the features described in Chapter 2, *Project Description*, including the proposed updates to the City's General Plan, and the required compliance with regulatory requirements, a significant impact would still occur. For those impacts considered to be significant, mitigation measures are proposed to reduce the identified impacts.

[11] City of Eureka. 2015. *Eureka General Plan Community Background Report.*
[12] City of Eureka. 2017. *Draft Eureka 2040 General Plan.*

Issues Not Discussed in Impacts

Due to the nature of the project, there would be no impact related to the following topics for the reasons described below:

- ***Private airports or airstrips.*** The project would not be located within two miles of a private airport or airstrip. Therefore, there would be no impact related to private airports or airstrips.

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are specifically relevant to hazards and hazardous materials within the Planning Area.

Health and Safety Element

Hazardous Materials and Toxic Contamination

Goal HS-4: Safe production, use, storage, transport, treatment, and disposal of hazardous materials and hazardous waste. (Modified 1997 General Plan Goal 7.E)

Policies

HS-4.1 Regulatory Compliance. Ensure that the use and disposal of hazardous materials in Eureka complies with local, State, and federal safety standards.

HS-4.2 Site Identification. Participate in efforts to identify former and current sites involving hazardous materials storage and disposal to reduce the risk of exposure.

HS-4.3 Remediation. Continue to work with property owners affected by toxic contamination to identify cost-effective approaches to remediation of contaminated soils and develop unified strategies to address the cleanup of large areas (e.g., the Westside Industrial Area).

HS-4.4 Known Areas of Contamination. Require the development of projects near or within known hazardous waste disposal or handling facilities, or known areas of contamination to perform comprehensive soil and groundwater contamination assessments. If contamination exceeds regulatory levels, require remediation procedures consistent with county, regional, State, and federal regulations prior to any site disturbance or development.

HS-4.5 Buffering. Require new industries that store and process hazardous materials provide a buffer between the installation and the property boundaries sufficient to protect public safety. The adequacy of the buffer zone shall be as determined by the City.

HS-4.6 Disclosure. Require applications for discretionary development projects that will generate hazardous wastes or utilize hazardous materials to include detailed information on hazardous waste reduction, recycling, and storage, consistent with local, regional, and State regulations.

HS-4.7 Best Management Practices. Encourage industries, businesses, and residents to incorporate best management practices and technologies to minimize the hazardous material use and hazardous waste generation.

HS-4.8 Disposal. Collaborate with Humboldt Waste Management Authority, other local agencies, businesses, and residents to encourage household hazardous waste and E-waste disposal at special events and the Eureka Recycling Center.

HS-4.9 Public Education. Promote education efforts regarding the proper use, storage, and disposal of hazardous materials.

HS-4.10 Financial Support. Financial Support. Continue to provide financial assistance for the Humboldt/Del Norte Hazardous Material Response Team (HMRT), as a member agency of the Humboldt/Del Norte Hazardous Materials Response Authority, to ensure adequate countywide response capability to hazardous materials emergencies.

HS-4.11 Safe Homes. Promote and improve the quality of residential properties by ensuring compliance with housing and property maintenance standards including the use and removal of hazardous materials such as lead based paint, and asbestos.

Emergency Response

Goal HS-4: Adequate community response to effectively prepare for, respond to, recover from, and mitigate the effects of natural or technological disasters and emergencies.

Policies

HS-5.1 Emergency Services Planning. Regularly review and update all documents which relate to emergency services planning within Eureka and adjacent areas.

HS-5.2 Emergency and Disaster Preparedness. Continue to cooperate with Humboldt County and other relevant agencies in conducting disaster-preparedness exercises, and developing and operating a coordinated response program for major emergencies or disasters.

HS-5.3 Humboldt Operation Area Hazard Mitigation Plan. Continue to participate in, and ensure that new development and infrastructure are consistent with, the Humboldt Operational Area Hazard Mitigation Plan.

HS-5.4 Tsunami Readiness. Continue to enhance the City's tsunami awareness program, in coordination with Humboldt County and other local agencies, to ensure that Eureka residents and visitors are informed about the threat of tsunami and inundation.

HS-5.5 Evacuation Routes. Continue to work with Humboldt County, and appropriate state and federal agencies, to identify major emergency transportation corridors for use during disasters and emergencies. In particular, the City should ensure safe access routes to communication centers, hospitals, airports, staging areas, and fuel storage sites.

HS-5.6 Critical Facilities. Ensure the continued function of critical facilities such as hospitals, fire stations, police stations, and emergency command centers following a major disaster to facilitate post-disaster recovery. Locate such facilities outside of identified hazard areas.

HS-5.7 Emergency Access. Require adequate road standards, driveway widths, and road clearances around structures consistent with local and State requirements to ensure adequate emergency access.

HS-5.8 Emergency Communication. Ensure government has the ability to communicate with each critical facility and level of government.

HS-5.9 Alternative Energy Sources. Identify alternative sources of energy (i.e., fueled generators, solar, wind) for use in the event energy supplies are interrupted as a result of an emergency.

HS-5.10 Wildland Fire Preparedness. Continue to work with Humboldt County, CALFIRE, the U.S. Forest Service, and other regional cooperators to plan for and mitigate the potential for wildland fire.

Impacts and Mitigation Measures

Impact 3.7-1: The Eureka 2040 General Plan would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

The potential impacts from encountering contaminated soil and/or groundwater are analyzed further below in Impact 3.7-3.

During the construction phase of a project, construction equipment and materials would include fuels, oils and lubricants, solvents and cleaners, cements and adhesives, paints and thinners, degreasers, cement and concrete, and asphalt mixtures, which are all commonly used in construction. The routine use or an accidental spill of hazardous materials could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment. In addition, the construction activities may require the demolition of structures that include hazardous building materials, such as ACM, LBP, PCBs, mercury, and/or Freon. The potential impacts from encountering hazardous materials are discussed below.

Construction activities would be required to comply with numerous hazardous materials regulations designed to ensure that hazardous materials are transported, used, stored, and disposed of in a safe manner to protect worker safety, and to reduce the potential for a release of construction-related fuels or other hazardous materials into the environment, including stormwater and downstream receiving water bodies. Contractors would be required to prepare and implement HMBPs that would require that hazardous materials used for construction would be used properly and stored in appropriate containers with secondary containment to contain a potential release. In Humboldt County, HMBPs are submitted to the local CUPA, the Hazardous Materials Program of the Humboldt County Division of Environmental Health, for their review for compliance with hazardous materials regulations. The California Fire Code would also require measures for the safe storage and handling of hazardous materials, which are included in the CUPA review of HMBPs. The proposed 2040 Eureka General Plan includes Goal HS-4, which includes policies for the safe production, use, storage, transport, treatment, and disposal of hazardous materials and hazardous waste.

As discussed in Section 3.6, *Geology, Soils, Mineral Resources, and Paleontological Resources*, construction contractors would be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) for construction activities according to the National Pollutant Discharge Elimination System (NPDES) General Construction Permit requirements. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction; describe spill prevention measures, equipment inspections, equipment and fuel storage; protocols

for responding immediately to spills; and describe BMPs for controlling site runoff. The SWPPP would be submitted to the RWQCB, which would review both SWPPP and the required inspection reports for compliance with the Construction General Permit.

In addition, the transportation of hazardous materials would be regulated by the USDOT, Caltrans, and the CHP. Together, federal and state agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release.

Finally, in the event of a spill that releases hazardous materials at a project site, a coordinated response would occur at the federal, state, and local levels. The Humboldt Bay Fire Department is the local hazardous materials response team. In the event of a hazardous materials spill, the police and fire departments would be simultaneously notified and sent to the scene to respond and assess the situation.

The required compliance with the numerous laws and regulations discussed above that govern the transportation, use, handling, and disposal of hazardous materials would limit the potential for creation of hazardous conditions due to the use or accidental release of hazardous materials, and would render this impact **less than significant**.

Implementation of some projects may include the demolition and removal of existing buildings and structures. As discussed in the Environmental Setting, some buildings and structures may include hazardous building materials, such as ACM, LBP, PCBs, mercury, and Freon. If improperly managed, the demolition activities could result in exposures to construction workers, the public, and the environment.

Numerous existing regulations require that demolition and renovation activities that may disturb or require the removal of materials that consist of, contain, or are coated with ACM, LBP, PCBs, mercury, Freon, and other hazardous materials must be inspected and/or tested for the presence of hazardous materials. If present, the hazardous materials must be managed and disposed of in accordance with applicable laws and regulations. Compliance with existing regulations is a condition of demolition and construction permits. The Regulatory Framework discusses the pertinent regulations.

In the case of ACM and LBP, all work must be conducted by a State-certified professional, which would ensure compliance with all applicable regulations. If ACM and/or LBP are determined to exist onsite, a site-specific hazard control plan must be prepared detailing removal methods and specific instructions for providing protective clothing and equipment for abatement personnel. A State-certified LBP and/or an ACM removal contractor would be retained to conduct the appropriate abatement measures as required by the plan. Wastes from abatement and demolition activities would be disposed of at a landfill permitted to accept such waste. Once all abatement measures have been implemented, the contractor would conduct a clearance examination and provide written documentation to the appropriate regulatory agency documenting that testing and abatement have been completed in accordance with all federal, state, and local laws and regulations.

Equipment and materials with PCBs, mercury, and Freon, are managed thru the Universal Waste Rule. In the case of PCBs, electrical transformers and older fluorescent light ballasts not previously tested and verified to not contain PCBs must be tested. If PCBs are detected above action levels, the materials must be disposed of at a licensed facility permitted to accept the materials. In the case of mercury in fluorescent light tubes and switches, the identification, removal, and disposal of the materials must be removed without breakage and disposed of at a licensed facility permitted to accept the materials. In the case of Freon or other refrigerants, the refrigerants must be directed to licensed recycling and reuse facilities permitted to handle the refrigerants.

The required compliance with the numerous laws and regulations discussed above that govern the transportation, use, handling, and disposal of hazardous materials would limit the potential for creation of hazardous conditions due to the use or accidental release of hazardous materials, and would render this impact **less than significant**.

Once constructed, projects operating within the City may use chemicals associated with their particular business, some of which may be hazardous materials. The routine use or an accidental spill of hazardous materials could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment.

Businesses that use hazardous materials would be required to prepare and implement a HMBP that would require that hazardous materials used in operations be used properly, stored in appropriate containers with secondary containment to contain a potential release, and disposed of at facilities permitted to accept the waste. All hazardous materials are required to be stored and handled according to manufacturer's directions and local, state and federal regulations. The California Fire Code would also require measures for the safe storage and handling of hazardous materials. In addition, businesses would be required to comply with the local MS4 permit development standards, which would reduce pollutants and runoff flows from new developments using BMPs and LID/post-construction standards. The proposed 2040 Eureka General Plan includes Goal HS-4, which includes policies for the safe production, use, storage, transport, treatment, and disposal of hazardous materials and hazardous waste.

The required compliance with the numerous laws and regulations discussed above that govern the transportation, use, handling, and disposal of hazardous materials would limit the potential for creation of hazardous conditions due to the use or accidental release of hazardous materials, and would render this impact **less than significant**.

<u>Mitigation Measure</u>

None required.

Impact 3.7-2: Implementation of the proposed Eureka 2040 General Plan would not create hazardous emissions or hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

As discussed in the Environmental Setting, there are numerous schools within the City limits, and many projects associated with the General Plan Update would likely be located within one-quarter mile of one or more schools. The construction and operations activities discussed in Impact 3.7-1 could include the use of hazardous materials. If the site using hazardous materials is located within one-quarter mile of a school, a release could adversely affect a school. However, as discussed in Impact 3.7-1, the required compliance with the numerous laws and regulations that govern the transportation, use, handling, and disposal of hazardous materials would limit the potential for creation of hazardous conditions due to the use or accidental release of hazardous materials, and would render this impact **less than significant**.

Mitigation Measure

None required.

Impact 3.7-3: Implementation of the proposed Eureka 2040 General Plan could include a project located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

As discussed in the Environmental Setting, both active and closed hazardous materials investigation and cleanup sites are located within the City limits. Active sites are currently undergoing investigation and cleanup. If a project is located on or near an active site, the construction activities may encounter soil and/or groundwater with chemical concentrations above screening levels that could adversely affect workers, the public, and the environment. In addition, although the closed sites would not be anticipated to have chemicals in soil and/or groundwater at concentrations above screening levels, construction activities may encounter residual levels of chemicals. Finally, construction activities could also encounter currently unknown hazardous materials that are not currently listed, but would be upon their discovery.

The impact of encountering hazardous materials would be reduced to less than significant through the implementation of proposed General Plan Policy HS-4.4, which requires remediation of hazardous materials conditions to applicable County, regional, State, and federal standards. Compliance with this policy and the applicable regulations would ensure that plans would be in place that provide procedures for the testing, handling, disposal, and remediation of hazardous materials. Therefore, the impact would be **less than significant**.

Mitigation Measure

None required.

Impact 3.7-4: Implementation of the proposed Eureka 2040 General Plan would not result in a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport that would result in a safety hazard for people residing or working in the Plan Area.

As discussed in the Environmental Setting, Murray Field and Samoa Field Airport are the only airports located within two miles of the Eureka City limits. Murray Field's Master Plan was updated in 2008, during which time it was determined that existing land uses surrounding the airport were compatible with normal airport activities and did not conflict with the safety compatibility criteria established in the County's ALUCP.[13] Per the requirements of the facility's ALUCP, new non-conforming land uses or major new development projects would be subject to review for compatibility by the County's Airport Land Use Commission. The ALUCP contains designated zones within which certain off-airport activities would be deemed incompatible, such as the construction of structures that exceed certain heights, facilities that could attract birds and other wildlife that could pose a hazard to aviation, and the construction of uses that would be at risk in the event of an aviation accident (schools, hospitals, etc.). By law, the Commission is vested with the legal authority to require modification of proposed projects that could conflict with safe and efficient airport operations. Accordingly, if any off-airport projects are proposed within these designated zones, they would be required to undergo review and approval by the Commission, and a determination of consistency with the ALUCP would have to be made. As such, new projects in the vicinity of the airport would need to be consistent with the ALUCP, and safety hazards for people working and/or residing in the area would be avoided. The impact would therefore be **less than significant**.

Samoa Field Airport does not have an adopted ALUCP, though plans are underway to include the facility in the County's comprehensive update of selected ALUCP's within the County. In general, however, the airstrip is oriented in a north-south direction, and approach and departure flight paths occur over Humboldt Bay to the south or the Pacific Ocean to the north. As such, approaches and departures to and from the facility do not occur over populated areas. Accordingly, development associated with the General Plan Update would not place people or structures in such a manner as to create a safety hazard. The impact would therefore be **less than significant**.

Mitigation Measure

None required.

Impact 3.7-5: Implementation of the proposed Eureka 2040 General Plan would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The proposed 2040 Eureka General Plan includes Policies HS-5.1, *Emergency Services Planning*, HS-5.2, *Emergency and Disaster Preparedness*, HS-5.5 *Evacuation Routes*, and HS-5.7,

[13] County of Humboldt Division of Aviation. 2008. Murray Field Airport Master Plan Update Environmental Assessment

Emergency Access, which would require the City to ensure emergency planning, designated evacuation routes, safe access routes to communication centers, hospitals, airports, staging areas, and fuel storage sites, and to require projects to provide adequate road standards, driveway widths, and road clearances around structures consistent with local and State requirements to ensure adequate emergency access. New projects would be required to be consistent with these policies. Therefore, the impact relative to proximity to an emergency response or evacuation would be **less than significant**.

Mitigation Measure

None required.

Impact 3.7-6: Implementation of the proposed Eureka 2040 General Plan would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

As shown in Figure 3.7-3, some portions of the City are located within moderate to high fire hazard severity zones. Consequently, these areas have a greater potential for wildfire within the City limits.

All construction activities would be required to comply with all applicable fire protection and prevention regulations specified in the California Fire Code, Hazardous Materials Transportation regulations, and Cal/OSHA regulations. These requirements include various measures such as accessibility of firefighting equipment, proper storage of combustible liquids, no smoking in service and refueling areas, and worker training for firefighter extinguisher use. In addition, proposed General Plan Policy HS-5.7, *Emergency Access*, requires accessibility for firefighting equipment in the event of an emergency. Compliance with all applicable regulations and plans would further minimize the potential for construction activities to cause a wildland fire. Impacts during construction would be **less than significant**.

The proposed General Plan Update includes Policy HS-5.10, *Wildland Fire Preparedness*, which requires the City to work with area cooperators and stakeholders to better prepare the City and surrounding areas for wildland fire. This new policy would encourage greater cooperation in avoiding and minimizing the potential for wildland fire in fire prone areas of the City. In addition, facilities that use or store hazardous and flammable materials would be required to comply with all applicable fire codes and fire protection requirements established by the California Fire Code, Hazardous Materials Transportation regulations, and Cal/OSHA requirements. As such, the operation of projects would not substantially increase the risk of wildland fires within the project area and the impacts would be **less than significant**.

Mitigation Measure

None required.

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3.8 Hydrology and Water Quality

This section discusses hydrology and water quality in the City of Eureka and evaluates the potential impacts resulting from the location of development that would be allowed by the proposed General Plan update. Specifically, this section addresses surface and groundwater resources and quality, groundwater recharge, localized drainage, flood control facilities, and sea level rise.

During the Notice of Preparation (NOP) comment period, no comments were provided in direct relation to Hydrology and Water Quality.

3.8.1 Environmental Setting

Topography

The City of Eureka is located west of the southern end of the Klamath Mountains at the north end of the Coast Range physiographic province. Rugged mountains, scarred by numerous landslides and stream valleys with steep, narrow canyons characterize the inland topography. Local relief inland from the City, from ravine bottom to ridge top, is more than 1,000 feet. Along the coast, however, the stream valleys are broad, and elevated flat or gently rolling terraces characterize the topography.

Soils

Surface soils are mapped and classified by the U.S. Department of Agriculture Natural Resource Conservation Service. Depending on localized conditions, these general classifications are grouped into more specific soil types by location, climate, and slope. The Study Area includes alluvial soils, upland soils, marshland soils, and coastal dune sands. For much of the Study Area, there is no digital data available. In particular, surface materials within much of the City limits consists of imported fill and soils disturbed from their original conditions.[1] From the limited available information, most of the urban area is mapped as disturbed materials with less disturbed soils outside of the developed areas, consisting of a variety of silty to clayey loams.[2]

Climate Conditions

Eureka is located on the northern California coast, generally characterized by cool summers with frequent fog and mild winters with substantial rain. The ocean helps to moderate temperatures year round, with the average temperature in Eureka between 48 and 50 degrees Fahrenheit in the winter and between 55 and 57 degrees in the summer. Rainfall is commonly experienced every month, although 90 percent of seasonal total rainfall falls from October through April; seasonal totals average about 40 inches in the City.[3]

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1 Natural Resources Conservation Service. 2017. Web Soil Survey.
2 Loam is a general term for soil composed of a mix of sand, silt, and clay.
3 Humboldt Bay Municipal Water District. 2006. *Humboldt Bay Municipal Water District Groundwater Management Plan*.

Surface Water Resources

The City of Eureka is located within the Eureka Plain Hydrological Unit (HU), which drains an area of approximately 220 square miles to Humboldt Bay. This HU is comprised of the Jacoby Creek Watershed, Freshwater Creek Watershed, Elk River Watershed, Salmon Creek Watershed. Stream flow in Humboldt Bay tributaries are the highest from November through March and the largest floods in the watershed tend to occur during December and January. During the summer and fall, flow varies little and is relatively low. Rain may come late in some years, or persist longer. The magnitude, timing, and number of floods varies considerably from year to year and is not directly related to total annual rainfall, but is more closely tied to the intensity of individual storms.

Portions of the City are located in the Freshwater Creek and the Elk River Watersheds. These two watersheds – as well as Humboldt Bay - are briefly described below.

Freshwater Creek

Freshwater Creek drains approximately 31 square miles and also empties into the north portion of Humboldt Bay. The lower reaches of Freshwater Creek and its associated sloughs are tidally influenced. The floodplains in this tidal zone are also relatively level and only a few feet above water during high tide. Major tributaries of this creek include Cloney Gulch, South Fork Freshwater Creek, Little Freshwater Creek, McCready Gulch, and Graham Gulch.

Elk River

The Elk River watershed covers approximately 53 square miles and includes 209 different subbasins. The Elk River drains into the central portion of Humboldt Bay (also referred to as Entrance Bay) and is the largest freshwater tributary to Humboldt Bay.

Humboldt Bay

Humboldt Bay is 14 miles in length and ranges in width from 0.5 to 4.5 miles. Humboldt Bay has a surface area of approximately 16,000 acres (23.4 square miles) characterized by tidal flats, channels, and freshwater and salt marshes. The bay is separated from the Pacific Ocean by a sand spit that is split in the lower third by the entrance to the bay and rock jetties. Three sub-bays comprise the Humboldt Bay system.

The North Bay (or Arcata Bay) is the largest of the sub-bays, encompassing the entire northern end, and characterized as a wide, shallow bay (4.5 miles wide and 4.1 miles long), covering 9,400 acres. The North Bay is bounded on the south by the multi-span SR 255 bridge.

South Bay is located south of the South Jetty and east of what is known locally as South Spit. This sub-bay is 4.1 miles long and 2.5 miles east, covering 4,400 acres. The Humboldt Bay National Wildlife Refuge is located entirely within the South Bay. Salmon Creek is the primary tributary to the South Bay.

Central Bay connects the North and South Bays and exchanges tidal waters through the bay inlet to the ocean. The Central Bay is 2.2 miles long and 1.5 miles in width. The majority of the City of

Eureka's waterfront is located on Central Bay, along with storm drain outfalls. The City's Elk River Wastewater Treatment Plant outfall extends across Elk River Spit and into Central Bay. Elk River is the primary tributary to this portion of the bay.

Freshwater discharge into Humboldt Bay represents very little of the daily tidal exchange and probably has only a localized effect with 85 percent of the water draining to either North Bay, or to the Central Bay/North Bay channel from the Elk River. About 12 percent falls as precipitation directly on the bay and the remainder is runoff into South Bay. Humboldt Bay tides are called mixed tides because there is a major low, a minor high, a minor low, and a major high tide (not necessarily in this order) within each approximate 25-hour period. Greatest current velocities occur during changes from major high to major low or vice versa. The circulation of Humboldt Bay water is almost entirely tidally driven. South Bay's water exchange rate amounts to 60 percent of its Mean High Water (MHW) volume, and North Bay's rate of exchange averages 44 percent of its MHW volume. Measurements have shown that 75 percent of the water entering and exiting North Bay passes through the Samoa Channel. Complete water exchange estimates vary, but 14 tidal cycles, or about 7.5 days, seems likely.

Groundwater Resources

The California Department of Water Resources (DWR) defines state groundwater basins based on geologic and hydrogeologic conditions. According to DWR, the City is located within the Eureka Plain Groundwater Basin. The Eureka Plain Groundwater Basin has a surface area of 37,400 acres (58 square miles) and is bounded by the Little Salmon Fault to the south, Humboldt Bay and Arcata Bay to the west and northwest, and by Wildcat series deposits (sandstone, marine siltstone, and claystone) to the east.[4] The northeast basin boundary, shared with the Mad River Basin, is the northwest trending Freshwater Fault. It is uncertain if the basin is hydrologically contiguous with the Mad River Basin. Humboldt Bay separates the primary basin deposits from dune sand deposits to the west. The faulted southern and northern basin boundaries may extend to the near surface and form hydrologic barriers in portions of dune sand deposits.

The basin is composed of alluvium deposited over the last 1.6 million years and deposits of the Hookton Formation which are underlain by non-marine Wildcat series deposits. Alluvium in the Jacoby Creek-Freshwater Creek Area may be up to 50 feet thick and yields small quantities of water to wells. The Hookton Formation consists primarily of loosely consolidated clays, silts, sands, and gravels, interfingered with bluegray marine clay and silt. The primary water-bearing formations in the basin include the Hookton Formation and, to a lesser extent, dune sands west of Humboldt Bay and alluvial deposits southeast of Arcata Bay and along the Elk River.

The Hookton Formation underlies the alluvium in the river floodplains and is exposed surficially over approximately 70 percent of the basin. Thickness of the formation ranges up to 100 feet and is primarily fluvial in origin. In the Salmon Creek-Elk River Area, confined aquifers of the Hookton Formation yield up 800 gpm from wells about 400 feet deep. Recharge to the alluvium is from direct precipitation and seepage from local rivers and creeks. Some groundwater also moves laterally from adjacent formations and also moves upward due to differences in hydraulic

4 Department of Water Resources (DWR). 2004. *Eureka Plain Groundwater Basin*.

head between the alluvium and underlying formations. Groundwater occurs in unconfined portions of the alluvium at depths less than 10 feet. Groundwater level trends have not been formally evaluated by DWR.

Surface Water Quality

Humboldt Bay is listed on the federal Clean Water Act (CWA) Section 303(d) List of Water Quality Limited Segments for dioxin toxic equivalents and polychlorinated biphenyls (PCBs).[5] PCBs are found in electrical transformers manufactured before 1978 and are rated as a hazardous waste. Dioxins are formed as unwanted by-products in a variety of industrial and combustion processes, as well as household fires. Dioxins and PCBs have no immediate effect on health, even at the highest levels found in foods; the potential risks to come from long-term exposure to high levels. They have been shown to cause a wide range of detrimental effects, including cancer and damage to the immune and reproductive systems in certain animals.

Groundwater Quality

Groundwater in the basin is characterized as calcium magnesium type water. Total dissolved solids (TDS) range from 97- to 460- mg/L, averaging 177 mg/L.[6] Groundwater impairments include localized high boron, iron, manganese, and phosphorus.

Water Supply

The City of Eureka purchases water from wholesale supplier Humboldt Bay Municipal Water District (HBMWD or District). The District's source of water is pumped from beneath Mad River. The Department of Health Services classifies HBMWD's water as groundwater,[7] although DWR in the past has classified this source as surface water.[8] The District currently has water rights to divert 84,000 acre-feet per year which represents approximately 8 percent of the total runoff for Mad River. The City of Eureka maintains water rights to Mad River Water equivalent to 6,499 acre-feet per year.[9] Under the agreement between the District and the City of Eureka, the deliveries from the District to the City are considered to be deliveries of the City's water, emanating from its own water rights, not those of the District.

Estimates of regional groundwater extraction from the Eureka Plain Groundwater Basin are based on a survey conducted by the California Department of Water Resources in 1996.[10] The survey included land use and sources of water. Estimates of groundwater extraction for agricultural and municipal/industrial uses are 4,800 and 1,300 acre-feet respectively. Deep percolation from applied water is estimated to be 1,700 acre-feet.

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5 State Water Resources Control Board (SWRCB). 2012. Final 2012 California Integrated Report (Clean Water Action Section 303(d) List/305(b) Report).
6 Department of Water Resource (DWR). 2004. *Eureka Plain Groundwater Basin*.
7 City of Eureka. 2015. *2015 Urban Water Management Plan*. Available: https://wuedata.water.ca.gov/public/uwmp_attachments/5441739737/2015%20UWMP%20FINAL%20Approved%20City%20of%20Eureka%20with%20ERRATA%2011%2028%2016.pdf.
8 City of Eureka. 2011. *Eureka General Plan Community Background Report.*
9 City of Eureka. 2011. *Eureka General Plan Community Background Report.*
10 Department of Water Resources (DWR). 2004. *Eureka Plain Groundwater Basin*.

Flooding and Drainage

Flooding is inundation of normally dry land as a result of a rise in the level of surface waters or rapid accumulation of stormwater runoff. The Federal Emergency Management Agency (FEMA), through its Flood Insurance Rate Mapping (FIRM) program, designates areas where urban flooding could occur during 100-year and 500-year flood events (see **Figure 3.8-1**). A 100-year flood event has a one percent probability of occurring in a single year. 100-year floods can occur in consecutive years or periodically throughout a decade. A 500-year flood event has a 0.2 percent probability of occurring in a single year. Various areas throughout the City are mapped as being located within a designated 100-year flood zone, including the lower reaches of Elk River, reaches of Martin Slough (tributary to Elk River), the northeastern portion of the City around Eureka Slough and the lower reaches of Freshwater Creek, and areas in the northwestern portion of the City along the Waterfront.[11]

The City of Eureka storm drainage system consists of gutter flow by gravity that is discharged at numerous points into Humboldt Bay, sloughs and drainages in and around the City. The drainage along U.S. 101, which includes Broadway, and the Fourth Street and Fifth Street couplet, is maintained by the California Department of Transportation (Caltrans), while elsewhere it falls under the jurisdiction of the City Public Works Department.

Gulches

Gulches are characterized as generally steeper slopes in the upper ends of their watersheds where topographic relief is greater. As the gulches near the coast, the relief is less and the gulches are more open and slopes not as steep. There are five coastal gulches present in Eureka, with some containing smaller sets of tributaries and waterways. These include:

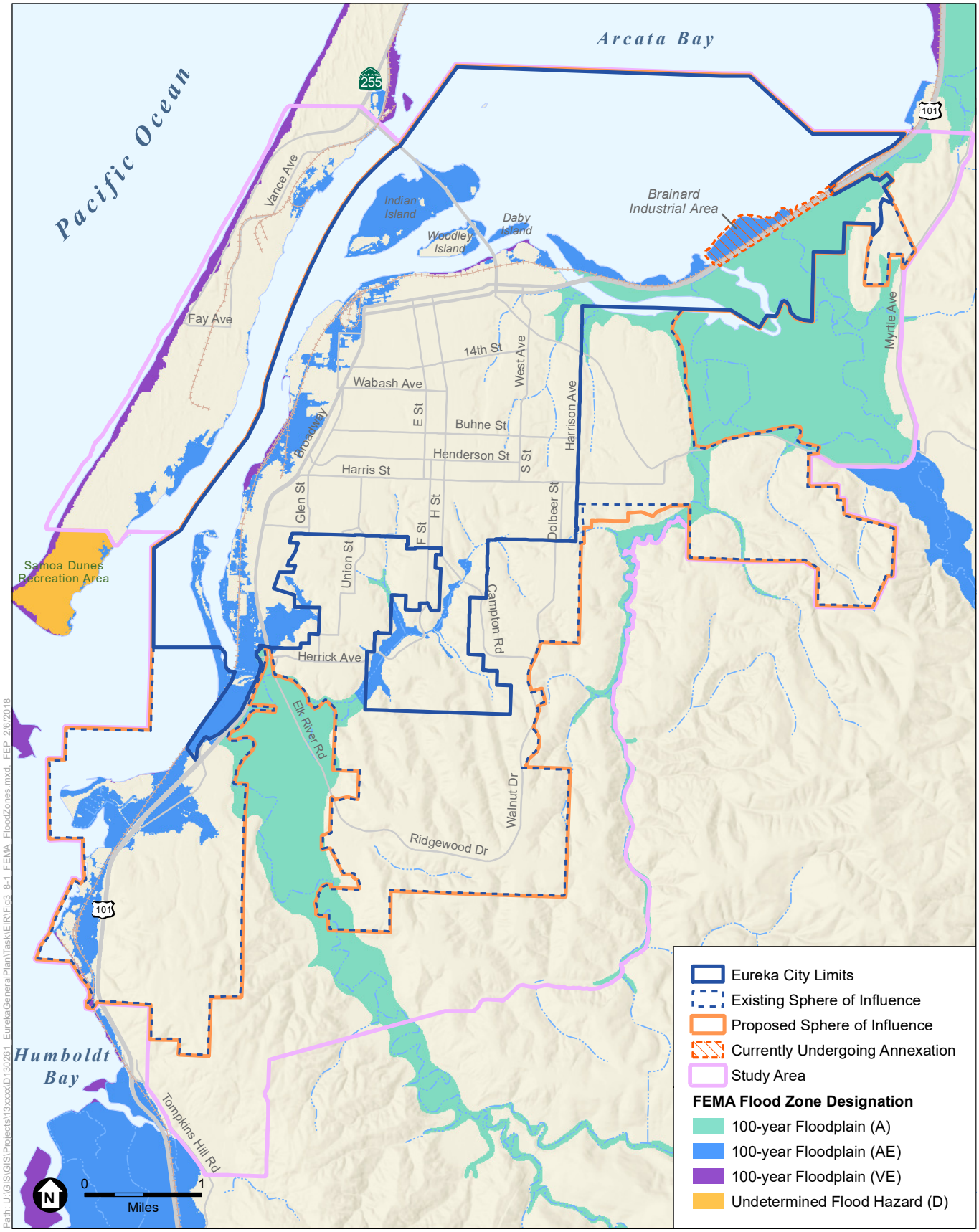
Cooper Gulch, Second Gulch, and Myrtletown Gulch. These three small gulches are located on the northern edge of the City and all drain northward directly into Eureka Slough.

The Gulches of Martin Slough. The largest gulch system within the City limits, the Martin Slough complex, is located generally south of Harris Street and to the west and east of the F and H Street corridors. Martin Slough drains toward the southwest and is a tributary to the Elk River.

The Gulches of Ryan Creek. The Ryan Creek watershed borders the eastern City limits. Ryan Creek is a relatively large watershed with many tributaries.

Currently, the existing land uses that occur along the gulches are primarily characterized by low density residential uses, with major portions of these residential parcels vacant or undeveloped land that contains the gulches and greenways themselves. Most of the gulches in the City are privately owned and consist of varying residential, commercial, rural, and agricultural uses.

[11] U.S. Federal Emergency Management Agency (FEMA). 2017. Flood Map Service Center. Available: http://msc.fema.gov/portal/search#searchresultsanchor. Accessed January 29, 2018.



Path: U:\GIS\GIS\Projects\13xxxx\D130261_EurekaGeneralPlanTask\EIR\Fig3_8-1_FEMA_FloodZones.mxd, FEP 2/6/2018

SOURCE: City of Eureka, 2018; FEMA, 2017; ESA, 2018

Eureka General Plan Update and EIR

Figure 3.8-1
FEMA Flood Zones

Tsunamis

A tsunami is a series of waves generated in a body of water by a rapid disturbance (e.g., submarine seismic, volcanic, or landslide event) that vertically displaces water. Low-lying coastal areas are susceptible to inundation or flooding due to tsunami events. Tsunami hazard areas in Eureka include all areas along Humboldt Bay, with the inundation zone extending landward of U.S 101 in several areas.[12] Tsunamis can result from sources located relatively nearby or from very distant events. Relatively local earthquakes and landslides off the California, Oregon, and Washington coast pose the greatest threat of tsunamis that can reach California's coastline in less than an hour. While it is most common for tsunamis to be generated by subduction faults such as those found in the Cascadia Subduction Zone or distant locations including Japan, tsunamis can also be generated from strike-slip faults (such as the small tsunami that was triggered by the 1906 San Francisco earthquake). The 1964 Alaska earthquake caused extensive flooding and heavily damaged coastal northern California near Crescent City and caused 14-foot wave heights at Humboldt Bay. The 2011 Honshu, Japan, earthquake caused tsunami damage in Santa Cruz, Crescent City, and Berkeley marinas but no reported damage in the Humboldt Bay area. Thirty-four tsunamis have been recorded on the northern California coast since 1933.

Due to the known seismic activity along the Cascadia subduction zone on California's northern coastline, there is a possibility that a large magnitude earthquake (M8.5+) could cause a significant tsunami to occur over the next 300 to 800 years (the inferred repeat time for such magnitude earthquakes on the subduction zone). The size of potential tsunami waves would correlate to the length of the rupture along the subduction zone, and the degree of secondary submarine landsliding. Tidal fluctuations in the north coast region may also affect the extent of tsunami inundation. Inundation risk would be greater at higher tides than at lower tides.

Available tsunami inundation modeling for the Humboldt Bay region is based on a worst case scenario of a 9 magnitude earthquake occurring on the 150 mile-long southern Cascadia subduction zone, as well as worldwide historical tsunami observations.[13] Newer inundation maps, developed from cooperative work between Humboldt State University, the California Geological Survey and the California Emergency Management Agency, incorporate the latest information. The new tsunami preparedness maps are intended to support tsunami evacuation planning and do not represent how far an actual tsunami might penetrate inland. Instead, they depict safe zones and zones that may be at risk. If a great earthquake occurred nearby, the first tsunami surges could arrive in as little as 10 minutes. There may be no time for sirens to sound or other warning messages to be disseminated before the first surges strike. However, more distant sources could allow for more warning and evacuation of high risk areas.

There is no definitive data concerning the timing or magnitude of a significant earthquake on the Cascadia subduction zone and the resulting inundation levels would be speculative. For example, there is little information on whether the Subduction Zone might rupture in pieces, or all at once.

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12 California Department of Conservation. 2009. Tsunami Inundation Map for Emergency Planning, Eureka Quadrangle. Available: http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/humboldt/Documents/Tsunami_Inundation_Eureka_Quad_Humboldt.pdf.

13 Humboldt State University (HSU). N.D. Humboldt Bay Region Tsunami Evacuation Maps. Available: http://now.humboldt.edu/news/new-tsunami-maps-plan-for-worst-case-scenarios/.

If the Subduction Zone were to rupture all at once, inundation in the region would be more likely. On the other hand, if the Subduction Zone were to rupture in pieces, the risk of inundation would be greatly reduced.

Seiches

A seiche is defined as a surface water free or standing wave oscillation that is contained within a partially or completely enclosed basin. A seiche is initiated by some event occurring within the enclosed basin – commonly meterologic (e.g., wind or pressure changes), geologic (e.g., earthquake), or other mass movement such as a surface or subsurface landslide – which results in a sloshing of water within the basin as it reflects off the perimeter of the basin. Humboldt Bay is almost fully enclosed, with a single outlet to the Pacific Ocean. Geologic-induced seiche events have not been widely documented in Humboldt Bay, and may be limited due to its relatively shallow depths.

Sea Level Rise

Sea levels are rising and are expected to rise more quickly with the effects of climate change. Globally, sea levels have risen primarily in response to thermal expansion of sea water and the melting of land ice in Greenland and Antarctica. Locally, sea levels are affected on shorter time scales by changes in atmospheric pressure, winds, ocean currents and local ocean temperatures. Vertical land motion also plays an important role in determining the impacts of sea level rise. Vertical land movement can occur due to tectonics (earthquakes, regional subsidence or uplift), sediment compaction, or subsidence caused by groundwater or oil and gas extraction. The Humboldt Bay region is experiencing relatively large tectonic vertical land motions associated with the Cascadia subduction zone (CSZ) that is causing the land to subside. Relative sea level rise is the local rate of sea level rise as determined by the global trend of sea level rise combined with the local land motion which can be pushed upwards to counteract sea level rise in areas.

Humboldt Bay has the highest relative sea level rise rate in California due to compaction, subsidence, and vertical tectonic motions.[14] Much of the development in Eureka was built on diked and drained tidelands, which means these areas are low-lying and highly vulnerable to sea level rise. Continued and accelerated sea level rise will have widespread consequences for Humboldt Bay's shoreline, developed and natural. Anticipated physical impacts of sea level rise include:

- Inundation (permanent wetting). As sea level rises, more and more low-lying areas will be permanently inundated by daily tides.
- Flooding (temporary wetting). Storms may cause flooding over larger areas because higher water levels in the bay can cause rivers or man-made outfalls to back up and cause flooding further upstream.
- Increased damage to shoreline structures. With higher sea levels, the amount of time that shoreline structures are pounded by waves at high tide (or during storms) would increase, causing greater damage and increased risk for failure.

[14] Northern Hydrology and Engineering. 2015. Humboldt Bay: Sea Level Rise, Hydrodynamic Modeling, and Inundation Vulnerability Mapping. Prepared for State Coastal Conservancy and Coastal Ecosystems Institute of Northern California.

- Increased wave heights and force. Higher water levels allow waves to propagate further inland and break closer to shore. This leads to higher wave run-up and overtopping of levees and greater wave forces on structures along the bay.
- Changes in sediment supply and movement. Sea level rise will cause changes to sediment supply and movement. Losses in sediment supply could worsen beach erosion and have adverse effects on long-term survival of coastal wetlands.
- Saline intrusion. An increase in sea level could cause salt water to intrude further into groundwater, contaminating drinking water supplies and/or increasing corrosion on buried utilities/infrastructure.

In 2010, the Humboldt Bay Sea Level Rise Adaptation Planning Project was initiated, funded by the California State Coastal Conservancy, to inform the public and local agencies of the risk that sea level rise poses to the communities and environment on Humboldt Bay, including the City of Eureka, and identify adaptation strategies and options to protect critical regional assets. As part of the Humboldt Bay Sea Level Rise Adaptation Planning Project, Northern Hydrology and Engineering (NHE) conducted detailed hydrodynamic modeling to determine average high water levels and extreme high water level event probabilities for existing sea levels and sea-level rise scenarios, and developed inundation maps of areas surrounding the bay that are vulnerable to inundation from existing and future sea levels.[15] The inundation maps identify potential inundation conditions that could occur if shoreline structures are breached or overtopped and if nothing is done to adapt to, or prepare for sea level rise. The processes causing sea-level rise and the science of projecting sea-level rise are inherently uncertain. For example, the rate of sea-level rise is highly dependent on whether global greenhouse gas emissions will continue to increase or whether global emissions will be reduced. This means that the actual rate of sea-level rise could be higher, or lower, than sea-level rise scenarios used to prepare the NHE inundation maps.

3.8.2 Regulatory Overview

Federal

Clean Water Act

The federal Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into “waters of the United States.” The CWA specifies a variety of regulatory and non-regulatory mechanisms to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. Some of these mechanisms are described below.

Section 303(d) – Total Maximum Daily Loads (TMDLs)

Section 303(d) requires states, territories, and authorized tribes to develop a list of water-quality limited segments of rivers and other water bodies under their jurisdiction. Those waters on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions

[15] Northern Hydrology and Engineering. 2015. Humboldt Bay: Sea Level Rise, Hydrodynamic Modeling, and Inundation Vulnerability Mapping. Prepared for State Coastal Conservancy and Coastal Ecosystems Institute of Northern California.

establish priority rankings for waters on the list and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality. These are action plans designed to improve the quality of water resources. As part of the TMDL process, municipalities must examine the water quality problems and identify sources of pollutants in order to create specific actions designed to improve water quality.

Section 401 – Water Quality Certification

Section 401 requires every applicant for a federal permit or license for any activity that may result in a discharge to a water body to obtain a water quality certification that the proposed activity will comply with applicable water quality standards.

Section 402 – National Pollutant Discharge Elimination System (NPDES) Program

Section 402 regulates point-source discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program. In California, the State Water Resources Control Board (State Water Board) oversees the NPDES program, which is administered by the Regional Water Quality Control Boards (RWQCBs). The NPDES program provides for both general permits (those that cover a number of similar or related activities) and individual permits. The NPDES program covers municipalities, industrial activities, and construction activities. The NPDES program includes an industrial stormwater permitting component that covers ten categories of industrial activity that require authorization under an NPDES industrial stormwater permit for stormwater discharges. Construction activities, also administered by the State Water Board as part of the NPDES Program, are discussed below.

Section 402(p) of the federal CWA, as amended by the Water Quality Act of 1987, requires NPDES permits for stormwater discharges from municipal separate storm sewer systems (MS4s), stormwater discharges associated with industrial activity (including construction activities), and designated stormwater discharges, which are considered significant contributors of pollutants to waters of the United States. On November 16, 1990, USEPA published regulations (40 CFR Part 122), which prescribe permit application requirements for MS4s pursuant to CWA 402(p). On May 17, 1996, USEPA published an Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, which provided guidance on permit application requirements for regulated MS4s. MS4 permits include requirements for postconstruction control of stormwater runoff in what is known as Provision C.3. The goal of Provision C.3 is for Permittees to use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of low impact development (LID) techniques.

Section 404 – Discharge of Dredge or Fill Material

Section 404 establishes a permit program, administered by the United States Army Corps of Engineers (USACE), to regulate the discharge of dredge or fill materials into waters of the U.S., including wetlands. Activities in waters of the U.S. that are regulated under this program include fills for development, water resource projects (such as dams and levees), infrastructure

development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. CWA Section 404 permits are issued by USACE.

Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act, administered by USACE, requires permits for all structures (such as riprap) and activities (such as dredging) in navigable waters of the U.S.

Executive Order 11988 – Floodplain Management

Executive Order 11988 directs federal agencies to avoid to the extent practicable and feasible short- and long-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. Further, this Executive Order requires the prevention of uneconomic, hazardous, or incompatible use of floodplains; protection and preservation of the natural and beneficial floodplain values; and consistency with the standards and criteria of the National Flood Insurance Program (NFIP).

National Flood Insurance Act

The U.S. Congress passed the National Flood Insurance Act (NFIA) in 1968 and the Flood Disaster Protection Act in 1973 to restrict certain types of development on floodplains and to provide for a national flood insurance program (NFIP). The purpose of these acts is to reduce the need for large, publicly funded flood control structures and disaster relief. The NFIP is a federal program administered by the Flood Insurance Administration of FEMA. It enables individuals who have property (a building or its contents) within the 100-year floodplain to purchase insurance against flood losses. Community participation and eligibility, flood hazard identification, mapping, and floodplain management aspects are administered by state and local programs and support directorate within FEMA. FEMA works with the states and local communities to identify flood hazard areas and publishes a flood hazard boundary map of those areas. Floodplain mapping is an ongoing process and flood maps must be regularly updated for both major rivers and tributaries as land uses and development patterns change.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act established the State Water Board and divided the state into nine regions, each overseen by a regional water quality control board (Regional Water Board). The nine regional boards have the primary responsibility for the coordination and control of water quality within their respective jurisdictional boundaries. The Porter-Cologne Act requires the Regional Water Boards to establish water quality objectives while acknowledging that water quality may be changed to some degree without unreasonably affecting beneficial uses. Water quality objectives are limits or levels of water quality constituents or characteristics established for the purpose of protecting beneficial uses. Designated beneficial uses, together with the corresponding water quality objectives, also constitute water quality standards under the federal CWA. Therefore, the water quality objectives form the regulatory references for meeting state and federal requirements for water quality control.

Each Regional Water Board is required to prepare and update a Basin Plan for their jurisdictional area. The North Coast (NC) Regional Water Board has jurisdiction within the region. Pursuant to the federal CWA NPDES program, the NC Regional Water Board also issues permits for point source discharges that must meet the water quality objectives and must protect the beneficial uses defined in the North Coast Basin Plan.

For the Humboldt Bay area, the assigned beneficial uses of the surface waters are:[16]

1. Municipal and Domestic Supply
2. Agricultural Supply
3. Industrial Service Supply
4. Freshwater Replenishment
5. Navigation
6. Water Contact Recreation
7. Non-Contact Water Recreation
8. Commercial and Sport Fishing
9. Cold Freshwater Habitat
10. Wildlife Habitat
11. Rare, Threatened, or Endangered Species
12. Marine Habitat
13. Migration of Aquatic Organisms
14. Spawning, Reproduction, and/or Early Development
15. Shellfish Harvesting
16. Estuarine Habitat
17. Aquaculture
18. Native American Culture

Existing and potential benefit uses of groundwater throughout the North Coast Region include:[17]

1. Municipal and Domestic Water Supply
2. Industrial Water Supply
3. Industrial Process Water Supply
4. Agricultural Water Supply
5. Freshwater Replenishment to Surface Waters

Construction General Permit

The California Construction Stormwater Permit (Construction General Permit), adopted by the State Water Board, regulates construction activities that include clearing, grading, and excavation resulting in soil disturbance of at least one acre of total land area. The Construction General Permit authorizes the discharge of storm water to surface waters from construction activities. It prohibits the discharge of materials other than storm water and authorized non-storm water discharges, and all discharges that contain a hazardous substance in excess of reportable quantities established at 40 Code of Federal Regulations 117.3 or 40 Code of Federal Regulations 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

16 North Coast Regional Water Quality Control Board. 2011. Water Quality Control Plan for the North Coast Region. Available: https://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/083105-bp/basin_plan.pdf.

17 North Coast Regional Water Quality Control Board. 2011. Water Quality Control Plan for the North Coast Region. Available: https://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/083105-bp/basin_plan.pdf.

The Construction General Permit requires that all developers of land where construction activities will occur over more than one acre do the following:

- Complete a Risk Assessment to determine pollution prevention requirements pursuant to the three Risk Levels established in the General Permit;
- Eliminate or reduce non-storm water discharges to storm sewer systems and other waters of the Nation;
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP), which specifies Best Management Practices (BMPs) that will reduce pollution in storm water discharges to the Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology standards; and
- Perform inspections and maintenance of all BMPs.

In order to obtain coverage under the NPDES Construction General Permit, the Legally Responsible Person must electronically file all Permit Registration Documents with the SWRCB prior to the start of construction. Permit Registration Documents must include:

- Notice of Intent
- Risk Assessment
- Site Map
- SWPPP
- Annual Fee
- Signed Certification Statement

Typical BMPs contained in Stormwater Pollution Prevention Plans are designed to minimize erosion during construction, stabilize construction areas, control sediment, control pollutants from construction materials, and address post construction runoff quantity (volume) and quality (treatment). The Stormwater Pollution Prevention Plan must also include a program to inspect and maintain all BMPs.

Cobey-Alquist Floodplain Management Act

The Cobey-Alquist Floodplain Management Act (California Water Code 8400-8415) and Executive Order B-39-77 give support to the National Flood Insurance Program. The Act encourages local governments to plan, adopt, and enforce land use regulations for floodplain management, in order to protect people and property from flooding hazards. The Act also identifies requirements that jurisdictions must meet in order to receive State financial assistance for flood control.

Local

Municipal Stormwater Discharge Regulations

Discharge of stormwater from municipal storm drain systems in California is subject to regulation by section 402(p) of the federal CWA, which establishes a framework for regulating non-point source stormwater discharges under the NPDES. The City of Eureka has been issued a NPDES Discharge of Storm Water from a Small Municipal Separate Storm Sewer System (Small MS4 General Permit) from the State Water Board. The Phase II stormwater NPDES Permit specifies the actions necessary to reduce the discharge of pollutants in storm water to the maximum extent practical in a manner designed to achieve compliance with water quality standards and objectives.

The 1997 City of Eureka General Plan contains a stormwater drainage policy that requires new development that would increase storm drainage runoff in a 10-year storm event more than one cubic foot per second (cfs) to provide retention/siltation basins to limit new runoff to pre-project flows. The City of Eureka also has a stormwater ordinance that aids in reducing pollutants in storm water discharges to the maximum extent practicable and also prohibits non-storm water discharges to the storm drainage facilities.

City of Eureka Construction Site Erosion Control Ordinance

The purpose and intent of City's Construction Site Erosion Control Ordinance is to protect and enhance the water quality of watercourses, water bodies and wetlands pursuant to and consistent with the federal CWA (33 U.S.C. §1251 et seq.) and the Porter Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) by minimizing, to the maximum extent practicable, the discharge of sediment into the storm drainage system as a result of construction-related activities.

1997 General Plan and Local Coastal Program

The 1997 General Plan and adopted Local Coastal Program together formalize a long-term vision for the physical evolution of Eureka, and outlines the policies, standards, and programs that guide day-to-day decisions concerning Eureka's development. The City's 1997 General Plan contains policies and implementation measures relevant to hydrology and water quality. Upon approval of the proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded.

Aquatic Resources and Marine, Wetland, and Riparian Habitat

Goal 6.A: To protect and enhance the natural qualities of the Eureka area's aquatic resources and to preserve the area's valuable marine, wetland, and riparian habitat.

Policies

***6.A.3*:** The City shall maintain and, where feasible, restore biological productivity and the quality of coastal waters, streams, wetlands, and estuaries appropriate to maintain optimum populations of aquatic organisms and for the protection of human health through, among other means, minimizing adverse effects of wastewater and stormwater discharges and entrainment, controlling the quantity and quality of runoff, preventing depletion of groundwater supplies and substantial interference with surface water flow, encouraging wastewater reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

***6.A.4*:** The City shall require that channelizations or other substantial alterations that could significantly disrupt the habitat values of rivers and streams incorporate the best mitigation measures feasible. Such channelizations and alterations shall be limited to the following:

a. Flood control projects where no other method for protecting existing structure in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development;

b. Developments where the primary function is the improvement of fish and wildlife habitat.

6.A.17: The City shall require that any uses that involve substantial alterations of streams and rivers incorporate the best mitigation measures feasible and shall be limited to the following:

a. Flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect development.

b. Developments where the primary function is the improvement of fish and wildlife habitat.

6.A.21: The City shall require that all land use activities adjacent to gulch greenways be carried out in a manner that avoids vegetative removal below the break in slope (usually those areas with a slope of 30 percent or greater) and that does not alter natural land forms and drainage patterns.

Conservation of Open Space

Goal 6.C: To support the continued protection of valuable open space resources in and around Eureka.

Policies

6.C.1: The City shall preserve vital portions of open-space areas around and within the city in their natural state in order to insure their maintenance as wildlife and fish habitat areas, natural drainage areas, agricultural areas, and areas of passive recreation and outdoor education.

6.C.5: The City shall prepare and adopt Gulch Greenway Preservation/Management Guidelines that identifies and protects the vegetation and habitat in and the hydrologic capacity of Eureka' s gulch greenways. These guidelines shall include provisions for defining the boundaries of gulch greenways, as generally indicated in Figure 6-1, identifying the boundaries of all affected parcels lying wholly or partly within the gulch greenways, ensuring new development is compatible with the environmental and public safety values of the gulch greenways, and restoring gulch vegetation and habitat as appropriate.

Wastewater Collection, Treatment and Disposal

Goal 4.C: To ensure adequate wastewater collection, treatment, and disposal.

Policies

4.C.2: The City shall continue its efforts to detect and correct infiltration/inflow (I/I) in its wastewater collection system.

4.C.3: The City shall require pretreatment of commercial and industrial wastes prior to their entering the city collection and treatment system.

4.C.4: The City shall prohibit the development of new on-site sewage treatment and disposal systems within the city limits.

4.C.5: The City shall require all new development within the city limits to connect to the City wastewater treatment system.

4.C.6: The City shall not allow extension of sewer service outside of the city limits, except in limited circumstances to resolve a public health hazard resulting from existing development, or where there is a substantial overriding public benefit.

4.C.7: The City shall identify all existing development not currently served by the City wastewater treatment system with the intent of requiring connection to the system.

Stormwater Drainage

Goal 4.D: To collect and convey stormwater in a manner that least inconveniences the public, reduces or prevents potential water-related damage, and protects the environment.

Policies

4.D.1: The City shall consider establishing an assessment district to fund citywide storm drainage improvements, including replacement, repair, or relocation of storm drain facilities.

4.D.2: The City shall encourage the use of natural stormwater drainage systems in a manner that preserves and enhances natural features.

4.D.3: The City shall support efforts to acquire land or obtain easements for drainage and other public uses of floodplains where it is desirable to maintain stream courses in a natural state.

4.D.4: The City shall consider recreational opportunities and aesthetics in the design of stormwater detention/retention and conveyance facilities.

4.D.5: The City shall promote sound soil conservation practices and carefully examine the impact of proposed urban developments with regard to water quality and effects on drainage courses.

4.D.6: The City shall improve the quality of runoff from urban and suburban development through use of appropriate and feasible mitigation measures including, but not limited to, artificial wetlands, grassy swales, infiltration/ sedimentation basins, riparian setbacks, oil/ grit separators, and other best management practices (BMPs).

4.D.7: The City shall require new development that would increase storm drainage runoff in a 10-year storm event more than one cubic foot per section to provide retention/ siltation basins to limit new runoff to prior-to-development flows.

4.D.8: The City shall encourage new project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions.

4.D.9: The City shall require new projects that affect the quantity or quality of surface water runoff to allocate land as necessary for the purpose of detaining post-project flows and/ or for the incorporation of mitigation measures for water quality impacts related to urban runoff. To the maximum extent feasible, new development shall not produce a net increase in peak stormwater runoff.

4.D.10: In the Martin Slough, drainage, the City shall cooperate with Humboldt County and affected landowners to minimize potential damage and economic loss arising from stormwater runoff, consistent with other policies of this General Plan.

Health and Safety

Goal 7.A: To minimize loss of life, injury, and property damage due to seismic hazards.

Policies

7.A.2: The City shall work with Humboldt County to develop an emergency preparedness program so Eureka Area residents and visitors are not endangered by tsunami runup and inundation.

Geological Hazards

Goal 7.B: To minimize loss of life, injury, and property damage due to geological hazards.

Policies

7.B.2: The City shall ensure that development on or near the shoreline of Elk River, Humboldt Bay, and Eureka Slough neither contributes significantly to, nor is subject to, high risk of damage from shoreline erosion over the life span of the development.

Flooding

Goal 7.D: To minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting from flood hazards.

Policies

7.D.1: The City shall prohibit high density residential and other high occupancy development, including new hospitals, schools, residential development with a gross density of 8 units per acre or more, office buildings 10,000 square feet in size or larger, or visitor-serving structural developments 5,000 square feet in size or larger, from locating in flood hazard areas, as designated on the Federal Emergency Management Agency Flood Insurance Rate Maps (FIRM), dated June l, 1982, unless they are constructed with a finished foundation that extends above the 100-year flood level and meet all applicable drainage policies of this General Plan. Other development in flood hazard areas shall incorporate mitigation measures that minimize the potential for flood damage, including development siting and use of flood proofing techniques and materials, consistent with other land use plan policies.

Hazardous Materials and Toxic Contamination

Goal 7.B: To minimize the risk of loss of life, injury, serious illness, damage to property, and economic and social dislocations resulting from the past of future use, transport, treatment, and disposal of hazardous materials and hazardous materials wastes.

Policies

7.E.12: The City shall work with the Regional Water Quality Control Board and Humboldt County to identify and mitigate groundwater contamination caused by past disposal of toxic materials along the waterfront and in industrial areas.

Coastal Zoning Regulations

The Coastal Zoning regulations, which implement the policies of the Land Use Plan portion of the adopted Local Coastal Program, are codified in Chapter 156 of the Eureka Municipal Code

(EMC); however, these regulations have not been certified and therefore the City utilizes the LCP adopted in 1997.

Other zoning Regulations of the City of Eureka are found in Chapter 155 of the EMC and are adopted pursuant to the City Charter to protect the public health, safety, peace, comfort, convenience, prosperity, and general welfare.

3.8.3 Analysis, Impacts, and Mitigation

Significance Criteria

Implementation of the 2040 General Plan would result in a significant impact if it would result in any of the following, which are adapted from CEQA Guidelines, Appendix G:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality;

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;

c. Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;

d. Create or substantially contribute to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

e. Place housing or other improvements within a 100-year flood hazard zone as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard map or impede or redirect flood flows;

f. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or

g. Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

Methodology and Assumptions

Impacts on hydrology and water quality are evaluated using the criteria listed above. Impacts are evaluated based on information included in the *Eureka General Plan Community Background Report,*[18] the *Draft Eureka 2040 General Plan*[19] and the City of Eureka Sea Level Rise Assets Vulnerability and Risk Assessment.[20]

[18] City of Eureka. 2015. *Eureka General Plan Community Background Report.*
[19] City of Eureka. 2017. *Draft Eureka 2040 General Plan*.
[20] City of Eureka. 2016. *Sea Level Rise Assets Vulnerability and Risk Assessment*.

Sea Level Rise

In *California Building Industry Association v. Bay Area Air Quality Management District* (2015), the California Supreme Court held that CEQA generally does not require a lead agency to consider the impacts of the existing environment on the future residents or users of a project; in that case, the Supreme Court also determined that if a project exacerbates a condition in the existing environment, the lead agency is required to analyze the impact of that exacerbated conditions on the environment, which may include future occupants of the project.[21] In the *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) case, the California Court of Appeals ruled that the purpose of the EIR is to identify significant effects of a project on the environment, not the significant effects of the environment on the project.[22]

Given that Eureka is located along the Humboldt Bay shoreline, the City acknowledges that future impacts of sea level rise are a major issue of concern and as such the General Plan Update includes many goals and policies related to sea level rise adaptation and response. For informational purposes, this section discloses some of the potential implications that sea level rise is projected to have on flooding risk for the City. While the projected effects of sea level rise are presented in this section, its impacts on the project are not considered environmental impacts under CEQA.

Issues Not Discussed in Impacts

The issue of dam failures is not further analyzed in this section, because there are no dams located within or upstream of the City, and neither is the City within an inundation zone of any major dam as mapped in the County of Humboldt Operational Area Hazard Mitigation Plan.[23]

Additionally, the issue of mudflows is not further discussed in this section, since given the flat topography in and around the City, inundation by a mudflow event is unlikely.

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are specifically relevant to hydrology, water quality, and sea level rise within the City.

Goal NR-1: Protection, enhancement and restoration of surface water resources, and their associated riparian habitats, and groundwater, as well as improvement of water quality.

Policies

NR-1.1: Surface Water. Preserve, protect, and restore all surface water resources (including bays, rivers, streams, wetlands, and sloughs) to their natural state, to the maximum extent feasible.

NR-1.2: Groundwater Recharge Areas. Identify, map, protect, and preserve important groundwater recharge areas.

[21] California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369
[22] Ballona Wetlands Trust v. City of Los Angeles (2011) 201 Cal.App.4th 455
[23] County of Humboldt. 2014. Humboldt Operational Area Hazards Mitigation Plan.

NR-1.3: Natural Open Space Areas. Preserve undeveloped non-urban areas that provide important groundwater recharge, stormwater management, and water quality benefits, such as undeveloped open spaces, gulches, natural habitat, riparian corridors, wetlands, and other drainage areas.

NR-1.4: Watershed Management. Manage water resources at the watershed level, to maintain high ground and surface water quality.

NR-1.5: Best Management Practices. Require the implementation of Best Management Practices (BMPs) to minimize erosion, sedimentation, and water quality degradation resulting from the construction of new impervious surfaces.

NR-1.6: Water Quality. Regulate construction and operational activities to incorporate stormwater protection measures and best management practices in accordance with the City's National Pollution Discharge Elimination System to minimize adverse effects of wastewater and stormwater discharges.

NR-1.7: Groundwater Protection. Continue to regulate the use of septic systems, encourage users to connect to City services, and regulate onsite disposal of toxic substances per local and State regulations to reduce groundwater contamination.

NR-1.8: Biological Productivity. Maintain and, where feasible, restore the biological productivity and quality of rivers, streams, and wetlands to maintain optimum populations of aquatic organisms and protect human health.

NR-1.9: Alterations to Rivers and Streams. Require channelization or other substantial alterations that could significantly disrupt the habitat or hydrologic values of rivers and streams to incorporate all feasible best management practices. Limit such activities to trails, bridges, flood control projects, and fish and wildlife habitat restoration projects.

NR-1.10: Regional Coordination. Coordinate and collaborate with agencies in the region and within the watershed to address water quality issues.

NR-1.11: Pervious Pavement. Encourage the installation of pervious pavement and surfaces.

Goal U-1: Availability of an adequate, safe, and sustainable water supply and maintenance of an efficient water system for residents and visitors.

Policies

U-1.4: Groundwater. Continue to monitor and protect the quality and quantity of groundwater.

Goal U-2: Sustainable and adequate wastewater collection, treatment, and disposal for existing and future development.

Policies

U-2.1: Adequate Infrastructure. Continue efforts to maintain and improve the City's wastewater collection and treatment system capacity to satisfy dry and wet weather conditions while also detecting and correcting infiltration/inflow (I/I) issues, in accordance with applicable discharge standards. Continue to explore the feasibility of relocation of the wastewater outfall.

U-2.2: Wastewater System Facilities Plan. Regularly review and update the City's Wastewater System Facilities Plan and other wastewater planning tools and capital improvement plans to ensure adequate wastewater collection, treatment, infrastructure, maintenance, rehabilitation, and funding.

U-2.3: New Development. Require new development to demonstrate the availability of sufficient wastewater facilities, in accordance with City plans and standards, and, except in Natural Resource and Agricultural lands, to connect to the City's wastewater treatment system. Require new development to be responsible for constructing, dedicating, and/or paying its fair-share contribution for any wastewater treatment and collection system upgrades necessary to serve the demands generated by the development.

U-2.4: Commercial and Industrial Waste Pretreatment. Continue to require pretreatment of commercial and industrial wastes prior to their entering the city collection and treatment system, consistent with applicable discharge requirements.

U-2.5: On-Site Sewage Treatment. Except in Natural Resource and Agricultural lands, continue to prohibit the development of new on-site sewage treatment and disposal systems within the City limits, but encourage the development of on-site pre-treatment systems, especially for industrial facilities.

U-2.6: Extension of Sewer Services. Prohibit extension of sewer service outside of the City limits or sphere of influence, except in limited circumstances to resolve a public health hazard resulting from existing development, or where there is a substantial overriding public benefit.

U-2.7: Best Management Practices. Identify and implement, where feasible, best practices and technologies for wastewater collection and treatment, including strategies that reduce wastewater requiring treatment, such as waterless toilets or composting garbage disposals and toilets, maintain maximum energy efficiency, and reduce costs and greenhouse gas emissions.

Goal U-3: A comprehensive stormwater collection and conveyance system that reduces or prevents flooding, and protects public safety and the environment.

Policies

U-3.1: Adequate Infrastructure. As funding allows, continue efforts to maintain and improve the City's storm drainage system so that it adequately accommodates stormwater runoff and prevents flooding.

U-3.2: Storm Drain Master Plan. Regularly review and update the City's Storm Drain Master Plan and capital improvement plans to ensure adequate capacity, infrastructure, treatment, maintenance, and, as available, funding.

U-3.3: Funding. Consider establishing a funding mechanism for storm drainage improvements, including replacement, repair, or relocation of storm drain facilities.

U-3.4: Natural Drainage. Encourage and maintain the use of natural stormwater drainage systems in a manner that preserves and enhances natural features such as the sloughs, greenways and gulches, and along the rivers and creeks, while also allowing for maximum water reclamation and reuse.

U-3.5: Manmade Drainage. Allow manmade drainage systems to be dredged, cleared, and maintained to preserve the drainage capacity for which they were designed, even those classified as wetlands.

U-3.6: Recreation Opportunities. Continue to consider recreational opportunities and aesthetics in the design of stormwater/retention and conveyance facilities.

U-3.7: Stormwater Flows along the Waterfront. Continue to use best available information to identify any necessary improvements to drainage or water control structures to effectively manage stormwater flows and quality in Old Town and along the waterfront.

U-3.8: New Development. Require new development to prepare drainage studies and to retain and infiltrate stormwater runoff in compliance with City and regional regulations, plans and standards. Ensure that new development constructs, dedicates and/or pays its fair share contribution to the storm drainage system necessary to serve the demands created by the development.

U-3.9: Low Impact Development. Encourage and incentivize opportunities to incorporate Low Impact Development in both new construction and remodeling/renovation of existing structures and sites.

U-3.10: Land Allocation and Mitigation for New Project Runoff. Require new projects to allocate land as necessary for the purpose of detaining post-project flows and consider establishing a mitigation fund to fund off site stormwater detention areas.

U-3.11: Stormwater Quality. Require new development and redevelopment to minimize stormwater runoff and pollutants entering drainage facilities and drainage courses by incorporating Low Impact Development (LID) measures and appropriate Best Management Practices (BMPs) consistent with the City's NPDES permit and the North Coast Regional Quality Control Board regulations.

U-3.12: Minimize Drainage Through Design. Encourage new project designs that minimize impervious surfaces and maintain, to the extent feasible, natural site drainage conditions, while also employing techniques aimed at retaining and reusing runoff and other water used onsite.

U-3.13: Runoff Damage Management. Cooperate with Humboldt County, affected landowners, and other stakeholders to minimize potential damage and economic loss arising from stormwater runoff, consistent with other policies of this General Plan.

Goal AG-1: Preservation of agricultural and timber lands and aquaculture and fishing operations within and surrounding Eureka, enhanced forest ecosystems, reduced land use conflicts, and a sustained yield of forest, agricultural, and fisheries products.

Policy

AG-1.3: Limit Aquaculture Impacts. Ensure that aquaculture does not adversely impact natural ecological processes or native wildlife or fisheries or their habitat in Humboldt Bay. Require applicants for new aquaculture uses to demonstrate that adequate precautions will be taken to prevent new adverse impacts to natural ecological processes.

Goal HS-1: Protection of property, critical facilities, and human life from seismic and geological hazards.

Policies

HS-1.2: Shoreline Protection. Ensure that development on or near the shoreline of Elk River, Humboldt Bay, and Eureka Slough does not create, contribute significantly to, or is subject to, high risk of damage from shoreline erosion or geologic instability over the life span of the development.

Goal HS-2: Reduced risk of loss of life, injury, damage to property and economic and social dislocations resulting from flood hazards. (Existing 1997 General Plan Goal 7.D)

Policies

HS-2.1: Development within 100-Year Floodplains. Require the construction of new residential uses, critical facilities, and large gathering places within the 100-year floodplain to be consistent with State and local regulations unless the structure and subsequent road access is elevated above the base flood elevation.

HS-2.2: Flood Protection Structures. Maintain and enlarge existing flood protection structures to protect development and sensitive habitat or species from flood hazards.

HS-2.3: Floodplain Capacity. Continue to preserve stream and river corridors to maintain existing floodplain capacity.

HS-2.4: Flood Data and Information. Utilize the most recent flood hazard data from local, regional, State, and federal sources when updating floodplain mapping and plans pertaining to land use and emergency response to facilitate informed investment and land use decisions.

HS-2.5: Climate Change. Monitor, assess, and adapt to changes in stream, river and coastal flooding characteristics that may occur due to a global climate change induced rise in sea level.

HS-2.6: National Flood Insurance Program. Continue to be a participating member of the National Flood Insurance Program and the Community Rating System.

HS-2.7: Integrated Water Management. Continue to cooperate in the implementation of regional flood management facility improvements that will promote regional self-reliance and sustainability, and will contribute to the development and implementation of an integrated water management plan, in collaboration with surrounding jurisdictions and Humboldt County.

Goal HS-3: Anticipated effects of sea-level rise are understood, prepared for, and successfully mitigated.

Policies

HS-3.1: Maintain and Enlarge Shoreline Protective Structures. Maintain and enlarge existing shoreline protective structures to protect development from sea-level rise related hazards, including storm events, wave run-up and coastal erosion.

HS-3.2: Design of Shoreline Protective Structures. Require shoreline protective structures to be designed for multiple urban purposes, connect to the public access system, ensure shore and structural stability, neither create nor contribute significantly to

erosion, cause geologic instability, limit impacts on coastal resources, incorporate soft coastal protection, and minimize aesthetic impacts.

HS-3.3: New Development. Require new development along the shoreline to assure stability and structural integrity, neither create nor contribute significantly to erosion, not cause geologic instability or destruction of the site and surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs, and ensure that risks to life and property are minimized and that new development is safe from and does not contribute to flooding.

HS-3.4: Raise Structures. Require development and substantial improvements to existing development which are located in areas not protected from coastal flooding to have raised structures to minimize risks to life and property.

HS-3.5: Natural Shoreline Areas. Encourage the preservation and habitat enhancement of natural shoreline areas as identified in the most recent shoreline mapping assessment.

HS-3.6: Protect Key Coastal Assets. Prioritize the development and implementation of adaptation measures to protect key coastal assets.

HS-3.7: Coordinated Protection System. Establish and maintain a coordinated Sea Level Rise protection system for low lying areas. Consider establishing an Assessment District to fund the maintenance and improvement of coastal flood protection measures.

HS-3.8: Protection Management Strategy. Protect developed areas and areas designated for urban uses by maintaining and enlarging existing shoreline structures, addressing gaps in the City's coastal flooding lines of defense, and periodically updating and amending sea-level rise vulnerability assessment, adaptation plans, and mapping based on best available science until such time as when the magnitude of sea-level rise is such that the protection management strategy can no longer be achieved.

HS-3.9: Fill Material in the Bay. Place safe fill material in the Bay to protect existing and planned development from flooding as well as erosion.

HS-3.10: Relocate Development. Abandon developed areas if it is determined that it is no longer feasible to construct and maintain shoreline structures from the effects of sea-level rise. Modify or remove shoreline protective structures if currently developed areas are abandoned and development is relocated outside the coastal hazard areas.

HS-3.11: Reduce Damage from Peak Tidal and Storm Events. Explore and encourage innovative solutions to reduce damage from peak tidal and storm events, including the installation of hard engineered tidal barriers, installation of temporary sea gates, pump stations and off-shore structures, construction of soft engineered islands, reefs, marshes, and living shorelines, utilization of safe local waste material to implement adaptation measures, and construction of stormwater detention basins.

HS-3.12: City Projects. Integrate resilience to anticipated sea level rise impacts into City project designs when repairing and replacing aging infrastructure.

HS-3.13: Disclose Sea-level Rise Impacts. Disclose the potential for sea-level rise impacts with the use of the following tools: zoning code requirements, sea-level rise hazard maps based on best available science, and risk disclosure requirements.

HS-3.14: Education. Work with community partners, property owners, and managers of assets at risk to enhance local understanding of sea-level rise and identify best management practices that reduce vulnerability and risk from sea-level rise hazards.

HS-3.15: Collaboration. Collaborate with stakeholder groups, other agencies, local tribes, and the public to develop local and regional strategies that collectively improve the community's ability to adapt to sea-level rise in ways that advance economic prosperity, social equality, and environmental protection.

Goal HS-5: Adequate community response to effectively prepare for, respond to, recover from, and mitigate the effects of natural or technological disasters and emergencies.

Policy

HS-5.4: Tsunami Readiness. Continue to enhance the City's tsunami awareness program, in coordination with Humboldt County and other local agencies, to ensure that Eureka residents and visitors are informed about the threat of tsunami and inundation.

Impacts and Mitigation Measures

Impact 3.8-1: Buildout of the Eureka General Plan Update would not include development that could result in a violation of water quality standards or waste discharge requirements.

Full buildout within the City under the 2040 General Plan Update would result in an increase of up to 1,886 dwelling units and a total of up to 1.6 million square feet of nonresidential uses across the 16.4-square-mile City. Construction activities would result in ground-disturbing activities such as trenching, excavation, and grading. When lands are disturbed by construction activities, the potential for soil erosion and sedimentation greatly increase. Disturbed soils are typically more susceptible to higher rates of erosion from precipitation and wind, resulting in transport of sediment in runoff which could adversely affect receiving water quality. Additionally, heavy construction equipment would be expected to be used, such as bulldozers, graders, earth movers, heavy trucks, trenchers, and other machinery. These types of machinery could contribute pollutants in runoff including but not limited to: fuels, oil, lubricants, antifreeze, or hydraulic fluid. Additionally, contaminants originating from construction sites may include larger constituents such as trash and construction debris. Sedimentation and/or contamination originating from construction sites within the City have the potential to be transported downslope to receiving bodies, including Elk River, Eureka Slough, and Humboldt Bay. Degradation of water quality could in turn affect beneficial use, and could result in exceedance of North Coast Regional Water Board standards.

Construction projects that disturb one or more acres of area would be required to obtain coverage under the NPDES Construction General Permit. Preparation of SWPPP is required to comply with the NDPES General Permit for stormwater discharges associated with ground disturbance activities. The SWPPP must describe the site, facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion control measures, maintenance responsibilities, and non-stormwater management controls. Inspection of construction sites prior to and after storms is required to evaluate stormwater discharge from construction sites and to implement control

measures as needed. The SWPPP would be implemented through the duration of construction. The SWPPP would require implementation of best management practices (BMPs) that are designed to obviate and address pollution risk that could occur as a result of construction work.

The City currently holds an NPDES permit (NPDES No. CA0024449) issued in 2016 for storing, treating, and discharging wastes from the Elk River Wastewater Treatment Plant (WWTP), which treats wastewater generated within the City and also some surrounding unincorporated areas. The current permit expires in July 2021. The City estimates that there is remaining capacity in the WWTP for projected buildout under the 2040 General Plan Update (see Section 3.14, *Utilities and Service Systems*, for further discussion of the City's wastewater collection and treatment system). Additionally, the City of Eureka has been issued a NPDES Discharge of Storm Water from a Small Municipal Separate Storm Sewer System (Small MS4 General Permit) from the State Water Board. The Phase II stormwater NPDES Permit specifies the actions necessary to reduce the discharge of pollutants in storm water to the maximum extent practicable in a manner designed to achieve compliance with water quality standards.

Goals and policies developed in the 2040 General Plan Update include provisions that would help reduce the potential that implementation of the General Plan would result in adverse effects on water quality. The proposed 2040 General Plan Update includes policies which are designed to protect water quality resources, including proposed policies NR-1.1 and NR-1.4, which aim to maintain surface water resources in their natural, high-quality state; and proposed modified Policy NR-1.6, which seeks to ensure adherence to stormwater pollution prevention measures. Moreover, as mentioned previously, new development projects associated with the 2040 General Plan Update would be subject to state and federal permitting requirements designed to protect water quality, including NPDES and the California Construction Stormwater Permit.

Existing regulatory requirements and adherence to General Plan goals and policies would ensure that any potential for violation of water quality standards or waste discharge requirements from implementation of the General Plan Update would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-2: Buildout of the Eureka 2040 General Plan would not include development that would substantially interfere with groundwater recharge or result in a lowering of the local groundwater table level.

The City has a water right to 8.0 million gallons per day from the Mad River;[24] the Humboldt Bay Municipal Water District (HBMWD) supplies this water to the City. The HBMWD draws water from the unconfined Holocene River Channel Deposits aquifer at a depth of 60 to 90 feet below the bed of the Mad River through Ranney wells situated in or in close proximity to the

[24] City of Eureka. 2015. *Eureka General Plan Community Background Report.*

Mad River.[25] Water is extracted from this aquifer instead of directly from the river since percolation through surface ground layers help to naturally filter water and improve quality of the drinking water supply. The amount of water supplied to the City under existing conditions is less than 1 percent of the annual yield of the Mad River. The HBMWD Groundwater Management Plan indicates that groundwater recharge is achieved by inundation of the recharge areas in the Mad River channel through the District's operation of Matthews Dam and Ruth Lake. As a result, additional development within the City would not have a direct impact on the volume of groundwater available to HBMWD. Additionally, the HBMWD has indicated that there is sufficient supply for currently forecasted development.

The 37,400 acre Eureka Plain Groundwater Basin lies below the City; it is unclear at this point whether this basin is hydrologically connected to the aquifer lying below the Mad River. Full buildout within the City under the 2040 General Plan Update would result in an increase of up to 1,886 dwelling units and a total of up to 1.6 million square feet of nonresidential uses across the 16.4-square-mile City. It is anticipated that associated with this buildout there would be an increase in impervious surfaces; however, this increase in impervious area would be a small portion of the overall impervious area across the City, because a focus of the General Plan Update is to encourage higher development densities within the City, including infill of vacant lots.

Any development or development resulting from the General Plan Update would need to be consistent with existing policies and regulations protecting local groundwater resources, including the Humboldt Bay Municipal Water District Groundwater Management Plan and goals and policies contained within the proposed 2040 General Plan Update. The General Plan policies that are designed to protect groundwater supply, include proposed policies NR-1.2 and U-1.4, which both aim to protect and preserve important groundwater recharge areas, and proposed Policy NR-1.11 which encourages installation of pervious pavement and surfaces. Concomitantly, the 2040 General Plan update includes policies designed to maintain existing high groundwater quality such as proposed Policy NR-1.7, which aims to reduce groundwater contamination from septic systems and onsite disposal of toxic substances, and proposed Policy U-1.4 which aims to monitoring and protect groundwater quality.

Consequently, since the General Plan Update focuses on increasing density within already developed areas and infill of vacant areas, minimizing the potential expansion of impervious surfaces, and given the policies and regulations in place to protect groundwater recharge and quality, the impact to groundwater recharge and groundwater levels from implementation of the 2040 General Plan Update would be **less than significant**.

<u>Mitigation Measures</u>

None required.

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[25] Humboldt Bay Municipal Water District. 2006. Humboldt Bay Municipal Water District Groundwater Management Plan.

Impact 3.8-3: Buildout of the Eureka 2040 General Plan would not include development that would substantially alter existing drainage patterns or result in an increase in the rate and amount of localized flooding.

A large portion of the region surrounding Humboldt Bay has undergone substantial urbanization, although the complex system of sloughs leading into the Bay are considered to be among the least impacted estuaries in California. Major natural drainages in the City include the lower Elk River along with other smaller drainage systems. The City is principally a developed, urban landscape with residential, commercial, office, mixed use, industrial, public, and open space designations. As a result, drainage patterns have likely been changed substantially compared to historical conditions as the area has been graded and paved.

The General Plan Update includes provisions to prevent alterations to natural drainage systems, thereby minimizing potential for large-scale erosion. For example, proposed policies of the 2040 General Plan Update include Policy NR-1.3 which seeks to preserve undeveloped non-urban areas such as gulches and other drainage areas; Policy NR-1.5 which requires implementation of BMPs to minimize erosion and sedimentation from construction of new imperious surfaces; Policy NR-1.9 which requires incorporation of all feasible BMPs for any project that involves substantial alterations to rivers and streams; Policy U-3.4 which calls for maintaining the use of natural stormwater drainage systems; and Policy U-3.12 which encourages new projects to minimize impervious surfaces and maintain natural site drainage conditions.

Consequently, implementation of the General Plan Update would not substantially change drainage patterns in the City and therefore would not contribute to greater localized flooding risks. Therefore, impacts due to change in drainage patterns would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-4: Buildout of the Eureka 2040 General Plan would not include development that could increase the rate and amount of runoff water which could exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

The City of Eureka storm drainage system consists of gravity-fed gutter flow that is discharged at various points into Humboldt Bay, as well as the various waterways that feed into the Bay.[26] The City's stormwater drain system is maintained by the City Public Works Department. The City is comprised of 15 separate drainage basins; topography within each of these basins is generally flat – less than two percent – with steeper gulches to the east and south. The drainage along U.S. 101 is maintained by Caltrans within the state highway right of way, and discharges to City facilities. During large flow events, proper drainage of stormwater can become a problem, with certain

[26] City of Eureka. 2005. Phase II NPDES Storm Water Management Plan

areas of the City flooding during such situations. Much of the existing storm water drainage system is considered inadequate, being both old and undersized.[27] The upper reaches depend on inadequate gutter flow and the lower reaches often have undersized pipes and poorly constructed drop inlets.

There are a number of gulches throughout the City that act as natural drainages. For the most part they are unimproved and no actual drainage easements exist. This generally does not create a deficient condition as many of them are relatively deep and have adequate capacity for a 100-year runoff event. However, a few of the gulches present challenges to adequate drainage, especially at the locations where storm drainage pipes enter the system, due to siltation at the inlets and outlets, which reduces pipe capacity and can lead to flooding. As the City developed, some gulches were filled; pipes were often installed along the gulch routes, but often no drainage easements were obtained.[28] In some cases, narrow drainage easements exist, but replacement and/or maintenance can be difficult due to a lack of access.[29]

The potential increase in impervious surfaces from implementation of the General Plan has the potential to alter drainage patterns and increase stormwater runoff, however this potential increase in impervious area would be minimized as the General Plan Update focuses on increasing development density within already developed areas and infill of vacant areas. Further, any development resulting from the General Plan Update would need to be compliant with existing regulations, further minimizing the potential effects of the project on stormwater discharges and drainage patterns and stormwater water quality. Specifically, the proposed 2040 General Plan includes policies which are designed to minimize changes to stormwater discharge levels and drainage patterns as well as water quality of stormwater from new development. These policies include proposed Policy U-3.4, which would direct use of natural stormwater drainage systems; proposed Policy U-3.8 which would require new development to prepare drainage studies to understand how stormwater runoff can be retained and infiltrated; and proposed Policy U-3.12 which encourages new projects to minimize impervious surfaces and retain natural site drainage. The 2040 General Plan also includes policies to reduce impacts to stormwater water quality including Policy U-3.11 which requires new development and redevelopment to incorporate low impact development measures and appropriate BMPs to minimize stormwater runoff and pollutants entering drainage facilities. Consequently, with the physical development that would occur under the proposed 2040 General Plan Update, the ability of the existing stormwater drainage infrastructure to deal with stormwater flows is expected to be similar as under current existing conditions.

Given the existing challenges faced by the City's existing stormwater drainage system to sufficiently process all incoming stormwater discharges, particularly during high flow events, certain policies of the 2040 General Plan Update are intended to further improve conditions of this infrastructure. For example, Policy U-3.1 seeks, as funding permits, to continue efforts to improve the storm drainage system to prevent future flooding events, while Policy U-3.2 calls for regularly updating the City's Storm Drain Master Plan to ensure adequate capacity and maintenance of the

[27] City of Eureka. 2015. Eureka General Plan Community Background Report.
[28] City of Eureka. 2005. Phase II NPDES Storm Water Management Plan.
[29] City of Eureka. 2005. Phase II NPDES Storm Water Management Plan.

stormwater system. Relatedly, Policy U-3.3 calls for consideration of establishing a new funding mechanism to pay for the aforementioned stormwater drainage improvements.

Overall, given that the physical development that would occur under the proposed 2040 General Plan would be subject to City policies and processes designed to ensure adequate capacity for stormwater drainage facilities and prevent degradation of stormwater quality within City and surrounding area, impacts to existing or planned stormwater drainage systems and water quality of runoff as a result of implementation of the General Plan Update would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-5: Buildout of the Eureka 2040 General Plan would not place housing within a designated 100-year flood hazard area in a manner that would impede or redirect flood flows.

The Federal Emergency Management Agency (FEMA) released an updated Flood Insurance Rate Maps (FIRM) for the City of Eureka in 2017. Based on these maps, there are portions of the City that would be subject to inundation during the 100-year flood event, including the southwestern portion of the City along the lower reaches of Elk River, the southern portion of the City along Martin Slough (tributary to Elk River), the northeastern portion of the City around Eureka Slough and the lower reaches of Freshwater Creek, and areas in the northwestern portion of the City along the Waterfront.[30]

The proposed 2040 General Plan update includes policies that are designed to protect the City's and residents from flooding hazards. These include proposed Policy HS-2.1, which prohibits the construction of new residential, uses, critical facilities and large gathering places within the 100-year floodplain unless the structure and subsequent road access is elevated above the base flood elevation; relatedly, proposed Policy HS-2.4 ensures that the determination of what constitutes the 100-year floodplain is based on the most recent flood hazard data available from regional, State and federal sources. Additionally, proposed Policy HS-2.7 would further continue regional cooperation with surrounding communities and the County of Humboldt in implementing flood management facility improvements. Development under the proposed 2040 General Plan would be subject to the City's development review process which would help ensure that no structures are placed within the 100-year floodplain which could interfere with flood flows.

Although implementation of the proposed 2040 General Plan would result in physical changes within the City over a 20-year period, including an increase of up to 1,886 dwelling units, adherence to policies and regulations identified above would result in preventing new housing being placed within the 100-year floodplain, unless it is elevated above base flood elevation.

[30] U.S. Federal Emergency Management Agency (FEMA). 2017. Flood Map Service Center. Available: http://msc.fema.gov/portal/search#searchresultsanchor. Accessed January 29, 2018.

Additionally, the City's development review process would ensure that any such housing that is approved within the 100-year floodplain would not interfere with flood flows. Therefore, the impact of placing housing in a flood hazard area, including the FEMA designated 100-year floodplain, is **less than significant**.

Mitigation Measures

None required.

Impact 3.8-6: Buildout of the Eureka General Plan Update would not expose people or structures to a significant risk of loss, injury or death from flooding due to levee failure, sea level rise, or inundation by seiche or tsunami.

Levee Failures

Most of the shoreline along Humboldt Bay is artificial, predominantly consisting of earthen dikes built to prevent tidal inundation of low-lying areas, often from tidal lands. Much of this artificial shoreline is highly vulnerable to breaching or being overtopped. Hydrologic modelling indicates that maintaining and shoring up these dikes as necessary is expected to provide an adequate level of flood protection through at least up to 2050 (assuming 2 feet or less of sea level rise during this time period).[31] Additionally, areas along Elk River and Martin Slough, currently protected by levees, are vulnerable to overtopping during spring high tides due to tidal backwater effects within the channel.[32] The General Plan Update include policies that will directly or indirectly ensure maintenance and improvement of levees and shoreline protection. For example, proposed Policy HS-2.2 calls for maintaining and enlarging existing flood protection structures; and proposed Policy HS-1.2 calls for ensuring that new development does not contribute to shoreline erosion.

Sea Level Rise

Future sea level rise is expected to further increase the vulnerability of portions of the City that are lower in elevation to periodic inundation events. Relative sea levels are affected by vertical land motion (VLM) rates; high rates of land subsidence in and around Humboldt Bay have led to a greater rate of sea level rise within Humboldt Bay itself than along the coastline. The VLM rates in Humboldt Bay create the highest observed relative sea level rise rates in California. As the FEMA FIRM maps do not take into consideration estimated impacts on future project from sea level rise, this analysis is informed by information from a Northern Hydrology and Engineering report. It is predicted that there would be an approximately estimated 9.9 cm (potential range of 3.9-21.3 cm) rise in sea levels along the coast in the Humboldt Bay region by 2030 and an even greater 21.4 cm (10.9-46.2cm) rise in coastal sea levels in the Humboldt Bay

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31 City of Eureka. 2016. Sea Level Rise Adaption Planning Report. Available: http://www.eureka2040gpu.com/Links/pdfs/COE%20SLR%20Adaptation%20Plan_Final_161230.pdf.

32 Redwood Community Action Agency, Natural Resources Services Division. 2006. Martin Slough Enhancement Feasibility Study, Eureka, California. Prepared by Coastal Analysis LLC, Michael Love & Associates, and Winzler & Kelly Consulting Engineers.

region by 2050.[33] By 2050 the relative sea level rise projections for the North Spit, Mad River Slough, and Hookton Slough are 33.0cm, 26.9cm, and 39.1cm, respectively.

Based on the hydrologic modeling, additional areas of the City would be inundated under a 100-year high water event when including predicted 2050 sea levels, particularly along the western edge of the City along the waterfront and, to a lesser extent, areas in the northern portion of the City near Eureka Slough. The reasons for this result are mainly because these areas of the City are largely reclaimed former tidelands that are commonly at a lower elevation than the surrounding lands in the area and the generally low elevation of levees along the Bayfront.

As stated previously, increased flooding risk resulting from future sea level rise is not an impact attributable to implementation of the 2040 General Plan Update. However, the General Plan does include policies for how the City can adapt and protect against increased flood risk posed by ongoing and future sea level rise. For example, proposed Policy HS-3.1 calls for maintaining and enlarging shoreline protective structures, while proposed Policy HS-3.2 calls for design of shoreline protective structures to achieve multiple objectives including shoreline stability, connection to public access systems, and ensuring limited impact to costal resources and aesthetics. Furthermore, proposed General Plan Policy HS-3.4 calls for raising structures of existing development that is located in areas that are not protected from coastal flooding. Finally, in the event that it is no longer feasible to construct and maintain certain shoreline structures, the General Plan Update includes proposed HS-3.10 which calls for abandoning developed areas if it is determined that it is no longer feasible to construct and maintain shoreline structures from the effects of sea-level rise.

Seiches

Geologic-induced seiche events have not been widely documented in Humboldt Bay, and may be limited due to the relatively shallow depths of the bay. The City's strategy to minimize flooding risks resulting from sea level rise is also expected to provide enhanced protection from risks from seiches. Additionally, implementation of the 2040 General Plan Update, including proposed Policy HS-2.2 which calls for maintaining and enlarging existing flood protection structures, and proposed Policy HS-3.11 which calls for encouraging innovative solutions to reduce damage from peak tidal and storm events (e.g., tidal barriers, pump stations, engineered reefs, living shorelines) is expected to minimize the impact of flooding from seiches.

Tsunamis

The study area is within a seismically active region (see Section 3.6, *Geology, Soils, Mineral Resources, and Paleontological Resources*, for more details). These faults have the potential of causing a major earthquake and as such earth-related events like tsunamis. As the City of Eureka is in a low-lying coastal area, it may be vulnerable to tsunamis. The 2040 General Plan Update includes an update to a General Plan Policy (HS-5.4) regarding continuing the City's tsunami awareness program to minimize the risk of potential damage caused by a tsunami.

[33] Northern Hydrology and Engineering. 2015. Humboldt Bay: Sea Level Rise, Hydrodynamic Modeling, and Inundation Vulnerability Mapping. Prepared for State Coastal Conservancy and Coastal Ecosystems Institute of Northern California.

Summary

With adherence to the proposed new and updated General Plan goals and policies, implementation of the General Plan Update would have a less than significant impact on flood risk from levee failure, sea level rise, seiches, and tsunamis.

Mitigation Measures

None required.

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3.9 Land Use, Population, and Housing

This section provides an overview of the land use and planning issues that may arise in connection with implementation of the proposed Eureka 2040 General Plan. This chapter describes existing and planned land uses in and adjacent to the City, including current land uses, land use designations, and zoning, and presents land use policies and land use designations proposed for the Eureka 2040 General Plan.

The City does not consider inconsistency with plan policies or codes to necessarily be indicative of significant environmental impacts. To the extent that significant environmental impacts would occur as a result of implementation of the Eureka 2040 General Plan, they are disclosed in the applicable environmental impact sections of this Draft EIR. Thus, the reader is referred to the various environmental resource evaluations presented in this Draft EIR for a discussion of potential physical/environmental effects and potential incompatibilities that may be considered in the determination of physical environmental impacts.

This section also describes existing levels and trends in population and housing in the Plan Area and the larger Study Area. It identifies the development assumptions upon which the proposed 2040 General Plan is based and analyzes projected population and housing growth in relation to City projections.

During the Notice of Preparation (NOP) comment period, no comments were provided in direct relation to Land Use, population, and Housing.

3.9.1 Environmental Setting

Land Use

Planning Boundaries

Chapter 2, Section 2.2.1, Planning Boundaries, of this draft EIR provides a number of terms that are used in this section to discuss the various planning areas that were considered during development of the 2040 General Plan Update, and the planning boundaries are shown in Figure 2-2 in Chapter 2, *Project Description*.

Existing Land Uses

Existing land uses within the Plan Area include residential, commercial, visitor-serving, industrial, public, and agriculture/timberland. Residential uses dominate the majority of the central, eastern, and southern portions of the City, represented primarily by single-family detached neighborhoods. Commercial and visitor-serving uses are located along U.S. 101 and the Downtown and Old Town areas, with various commercial centers located throughout the City serving adjacent neighborhoods. The Downtown and Old Town areas are commercial/residential mixed use areas and are home to the highest job density (jobs per acre) in the five-county region. Industrial uses are generally located at the west end of 2nd/3rd/4th Street and west of U.S. 101 along the Bay, with public uses scattered throughout the City with a considerable portion along

the Bay. Agricultural/timberland uses are found within the southeastern and most northerly portions of the City. While the Plan Area is mostly built out, vacant and underutilized lands do exist, primarily within the City's industrial and commercial areas.

Outside of the City limits, within the larger Study Area, existing land uses consist primarily of rural residential and agriculture/timberland. Commercial, industrial, and public uses also exist, primarily on the Samoa Peninsula and in portions of Myrtletown, Cutten, King Salmon, and Fields Landing.

Adopted Land Uses and Plans

Current Plans

1997 General Plan

The existing Eureka General Plan was adopted in 1997, underwent a substantial City-wide amendment in 1999, and has undergone multiple minor project-specific amendments in the subsequent 20 years. The City's adopted General Plan formalizes a long-term vision for the physical evolution of Eureka and outlines the policies, standards, and programs that guide day-to-day decisions concerning Eureka's development. The Policy Document of the General Plan contains statements of goals, policies, standards, implementation programs, and quantified objectives that constitute the formal policy of the City of Eureka for land use, development, and environmental quality. The Policy Document is divided into nine sections: Land Use and Community Design; Housing; Transportation and Circulation; Public Facilities and Services; Recreational and Cultural Resources; Natural Resources; Health and Safety; Administration and Implementation, and Historic Preservation.

In addition to policies and programs related directly to specific types of development or particular areas of the City, the adopted General Plan includes policies that promote an overall land use and development pattern that follows fundamental principles of good planning. In particular, the adopted General Plan commits the City to the following:

- Promotion of neighborhood infill development over sprawl
- Emphasis on efficient use of public facilities and resources rather than wasteful practices
- Cooperation with other agencies involved in development regulation in the region, rather than competition
- Balancing of economic development needs and environmental protection needs

Major themes of the 1997 General Plan include the following:

- Revitalization of the Core Area
- Stimulating employment and industrial development
- Redefining the role of outlying commercial areas in relation to the Core Area
- Consideration of physical expansion and annexation
- Upgrading the Highway 101 corridor to function more efficiently

General Plan land use designations identify the proposed distribution, location, and extent of planned uses to guide development within the City. The adopted General Plan land use designations provide guidelines for the type and intensity of development. General Plan adopted land use designations are not always consistent with actual existing land uses, as they are used as a tool in the planning process to guide future development. A summary of adopted General Plan land uses is presented in Table 2-1, and the adopted land use definitions from the 1997 General Plan are presented in Table 2-2 in Chapter 2, *Project Description.* The existing General Plan Land Use Diagram is provided in Figure 2-3 in Chapter 2, *Project Description*.

As shown in Table 2-1, within the Plan Area, residential land use designations comprise less than 28 percent of the total area, comprised of low density residential at just under 20 percent, and medium- and high-density residential combined at approximately 7.7 percent of all residential land use designations. Commercial and industrial land use designations combined total approximately 12.5 percent of the area within the City limits. Almost 7 percent of the total area is designated as public/quasi-public, which include school, government, park, and other similar uses. The majority of the area within the City limits, almost 51.5 percent, is designated open space. Within the open space designation, almost 40 percent of the area within the City limits is water.

The City of Eureka 2014-2019 Housing Element

The City of Eureka 2014-2019 Housing Element of the General Plan provides for the identification and analysis of existing and projected housing needs and articulates the City's official policies for the preservation, conservation, improvement, and production of housing within the City of Eureka.

Section 65302(c) of the California Government Code requires every city and county to adopt a Housing Element as a component of the General Plan. State law requires the Housing Element to include "identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, and scheduled programs for the preservation, improvement, and development of housing." State law mandates the Housing Element "shall identify adequate sites for housing, including rental housing, factory-built housing, and mobile homes, and shall make adequate provision for the existing and projected needs of all economic segments of the community." The Housing Element for the 2014-2019 planning period was prepared in compliance with State Housing Element law. It examined the City of Eureka's housing need as it then existed, and projected future housing need based on existing conditions. It set forth statements of community goals, objectives and policies concerning those identified needs, and it includes housing programs that respond to current and future needs in light of limited funding availability. The housing programs detail a five-year schedule of actions to achieve the City's goals and objectives. The City of Eureka 2014-2019 Housing Element was adopted by the Eureka City Council on June 17, 2014.

City of Eureka Local Coastal Program

The Local Coastal Program (LCP) is the foundational policy document for areas of the City located in the coastal zone. It establishes policy that forms the basis for and defines the framework by which the City's physical and economic resources in the coastal zone are to be

developed, managed, and used. The LCP is divided into two components. The first component is the LCP Land Use Plan, which is basically the General Plan for the coastal zone. It outlines the land uses and policies needed to achieve the goals of the Coastal Act. The second component of the LCP is the Implementation Plan, which includes zoning regulations and the zoning map for land in the coastal zone, and specific coastal zone ordinances necessary to implement the policies of the LCP Land Use Plan.

The California Coastal Act sets forth the following basic goals:

- Protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
- Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.
- Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

In May 1984, the City of Eureka adopted its first Local Coastal Program in accordance with the California Coastal Act; the associated Implementation Plan was passed by the City Council on December 6, 1984. In 1997, the City of Eureka updated its LCP Land Use Plan as part of the Citywide General Plan update. At that time, the City determined that the most effective way to address the separate legal requirements of State General Plan law and the California Coastal Act was to combine the goals, policies, and programs addressing these requirements (i.e., non-coastal and coastal) into a single, unified document. The current City of Eureka LCP Land Use Plan was certified by the Coastal Commission on September 9, 1998, and adopted by the City Council on February 23, 1999.

In preparing the 1997 General Plan update, the City established Citywide land use designations that essentially correspond with all of the LCP Land Use Plan designations. The Coastal Act requires LCP Land Use Plan designations to include more specificity than that required by State General Plan law. Therefore, Table B-1 in Appendix B of the 1997 General Plan Policy Document presents the more detailed purpose description and use prescriptions for the LCP Land Use Plan designations.

Eureka’s adopted LCP Land Use Plan provides policies and programs that address:

- Land Use and Community Design
- Transportation and Circulation
- Public Facilities and Services

- Recreational and Cultural Resources
- Natural Resources
- Health and Safety

The standard of review for LCP Land Use Plan amendments is found in Section 30512 of the Coastal Act. This section requires the Coastal Commission to certify an LCP Land Use Plan amendment if it finds that the amendment meets the requirements of, and is in conformity with, the policies of Chapter 3 of the Coastal Act. Specifically, Section 30512(c) states:

> (c) The commission shall certify a land use plan, or any amendments thereto, if it finds that a land use plan meets the requirements of, and is in conformity with, the policies of Chapter 3 (commencing with Section 30200). Except as provided in paragraph (1) of subdivision (a), a decision to certify shall require a majority vote of the appointed membership of the commission.

Paragraph (1) of Section 30512(a) states:

> (a) No later than 60 days after a land use plan has been submitted to it, the commission shall, after public hearing and by majority vote of those members present, determine whether the land use plan, or a portion thereof applicable to an identifiable geographic area, raises no substantial issue as to conformity with the policies of Chapter 3 (commencing with Section 30200).

The Coastal Zoning Regulations, which implement the policies of the Land Use Plan portion of the adopted LCP, were originally adopted by the City in 1984 as Eureka Municipal Code Title 10, Chapter 5, Article 29. In 1997, the City re-codified Article 29 into Chapter 156 of the Eureka Municipal Code (EMC). However, the re-codified "Zoning Regulations" were not certified by the CCC. The regulations set forth in Chapters 156 and 10-5 are largely the same. However, subsequent to City's re-codification of Sections 10-5.2901 et seq., the City made additional revisions to the Chapter 156 regulations that have yet to be certified by the CCC. As a result, City staff continues to utilize the Chapter 10-5 regulations when implementing the LCP.

Pursuant to Section 30512.2 of the Coastal Act, the Coastal Commission's decision to certify or refuse to certify a land use plan is limited to an administrative determination as to whether the submitted plan does or does not conform with the requirements of Chapter 3. In making this decision, the Commission cannot diminish or abridge the authority of the City to adopt and establish, by ordinance, the precise content of the City's land use plan. Conformance with the policies and requirements of Chapter 3 (commencing with Section 30200) are required only to the extent necessary to achieve the basic state goals specified in Section 30001.5 of the Coastal Act.

Zoning Regulations

The Eureka Municipal Code (EMC) contains the regulations and ordinances that implement land use within the Eureka City limits. The Zoning Regulations are adopted pursuant to the City Charter to protect the public health, safety, peace, comfort, convenience, prosperity, and general welfare. The zoning of individual parcels corresponds with General Plan land use designations, as well as policies in the LCP Land Use Plan.

The Zoning Regulations are found in Title XV: Land Use, Chapter 155 of the EMC. **Table 3.9-1** below lists the zoning designations that may be assigned to individual parcels within the City limits, along with uses that are permitted in those zones. Chapter 155 also contains development standards that describe allowed building densities, heights, building setbacks, open space requirements, and other requirements that apply to development on individual parcels within various zoning districts.

TABLE 3.9-1
CURRENT EUREKA MUNICIPAL CODE ZONING DISTRICTS

Symbol	Zoning Designation	Purpose
F	Flood Plain Districts	Denote areas that lie within flood plains.
U	Unclassified Districts	Promote compatible uses in submerged lands of the Humboldt Bay
A	Agricultural Districts	Permit agricultural uses and protect agricultural land from premature conversion
RS-6,000	One Family Residential Districts	Preserve and protect single-family residential land uses
RM-2,500	Multi-Family Residential Districts	Permit duplexes and multi-family developments
RM-1,000	Multi-Family Residential Districts	Provide higher densities near employment areas
OR	Office and Multi-Family Residential Districts	Provide for offices of semi-commercial character and semi-public facilities among multi-family dwellings
HM	Hospital-Medical Districts	Permit and protect major health facilities and allow for expansion
CN	Neighborhood Commercial Districts	Provide for shopping centers with retail, offices, and services for nearby residents
CP	Planned Shopping Center Commercial District	Provide for large sites with goods and services that attract regional customers
CC	Central Commercial Districts	Maintain compactness and efficiency of central business district
CS	Service Commercial Districts	Allow for commercial and industrial uses that are incompatible elsewhere and encourage mixed commercial areas
ML	Limited Industrial Districts	Allow for industrial uses that can operate in close proximity to commercial and residential uses
MG	General Industrial Districts	Allow for industrial uses that are incompatible with most other land uses
P	Public Districts	Provide for public facilities and changes to lands owned by government agencies
PD	Planned Unit Development Combining Districts	Allow well-planned developments that conform with the General Plan to deviate from certain aspects of the Zoning Code
AR	Architectural Review Combining District	Preserve historical character of certain areas and ensure harmonious development in adjacent areas
LW	Live Work Combining District	Concentrates live work use within the Eureka Business Improvement District
S	Study Districts	Provides district for unzoned or newly annexed territory
Q	Qualified Combining District	Allows for zones that may restrict certain permitted or conditional uses, that would otherwise be permissible

TABLE 3.9-3 (CONTINUED)
CURRENT EUREKA MUNICIPAL CODE ZONING DISTRICTS

Symbol	Zoning Designation	Purpose
Zoning Districts Specific to the Coastal Zone		
WC	Conservation Water District	Protect, enhance and restore valuable habitat areas and provide for limited resource dependent uses and recreation
WD	Development Water District	Provide for port and harbor related uses consistent with the Local Coastal Program Land Use Plan
NR	Natural Resources District	Protect, enhance, and restore sensitive habitat areas and allow resource dependent uses consistent with the continuance of such habitat areas
CW	Waterfront Commercial Districts	Encourage, protect and maintain coastal-dependent and coastal-related uses including recreation and visitor-serving uses
AC	Coastal Agricultural District	Protect agricultural lands, including farmed or grazed wetlands, for long-term productive agricultural and wildlife habitat uses
MC	Coastal Dependent Industrial Districts	Reserve and protect parcels adjacent to the sea for coastal-dependent and coastal-related uses
PF/M	Public Facility/Marina	Encourage, protect, and maintain, facilities and uses for commercial fishing and provide for land uses granted to the Humboldt Bay Harbor, Recreation, and Conservation District

SOURCE: City of Eureka. 2015. *Eureka General Plan Community Background Report*, p. 2-35.

Population

Population and Household Characteristics

According to the U.S. Census Bureau, the City of Eureka had 27,025 residents in 1990. The resident population declined to 26,128 residents by the year 2000. This represents a loss of nearly 900 residents, or 3.3 percent. From 2000 to 2010, the City regained the population lost during the prior period. During this time, the City grew at a rate of 0.4 percent per year, and added more than 1,000 new residents. This growth resulted in a total population of 27,191 in 2010. Although the City gained population, it did so at a rate that was slower than in the remainder of the Study Area and Humboldt County as a whole. For example, the remainder of the Study Area located outside of the City of Eureka added nearly 1,100 residents between 2000 and 2010, at a rate of 0.6 percent per year. Humboldt County added approximately 8,100 new residents, also at a rate of 0.6 percent per year.

According to the California Department of Finance (DoF), the City of Eureka lost approximately 107 residents between 2010 and 2013. This equals a loss of 0.6 percent, or 0.2 percent per year. Meanwhile, Humboldt County gained roughly 586 new residents, which equals an increase of 0.4 percent, or around 0.1 percent per year during this same period. The majority of the population growth that occurred in Humboldt County between 2010 and 2013 was concentrated in the City of Arcata, which gained an estimated 605 new residents for an increase of 3.5 percent over 2010. During this period, the unincorporated County gained only 197 new residents, which equals an increase of 0.6 percent.

Growth in the number of households in the City did not keep pace with population growth between 2000 and 2010. Over the decade, the City added only 193 new households, for an annual average growth rate of 0.2 percent. While population growth outpaced household growth, the effect on the average size of households was negligible. By comparison, household growth in the remainder of the Study Area averaged 1.0 percent per year, outpacing population growth by 0.4 percentage points per year. This resulted in a slight decrease in the average household size in the remainder of the Study Area. Household growth in Humboldt County also outpaced population growth, averaging 0.9 percent per year, which resulted in a slight decline in the average household size.

Household Composition

Household composition in the City of Eureka reflects a smaller percentage of family households, and a higher percentage of renter households, compared to the remainder of the Study Area and the County as a whole. According to the Census Bureau, the proportion of family households in the City of Eureka decreased from 53.7 percent in 2000, to 51.2 percent in 2010. However, the data suggest that the proportion of family households declined in the Study Area and County as well. This indicates that while the proportion of family households in the City is lower, it followed the same general trend as the surrounding area.

The City also has a significantly higher percentage of single-person households, compared to the County, which increased marginally over the past decade. Concurrent with the declining share of family households, both the City and the County experienced a decline in the proportion of households with children under the age of 18. In the year 2000, 28.6 percent of households in Eureka contained children, compared to 25.9 percent in 2010. Despite these trends, the average household size in both areas remained relatively stable over the period.

The City had a lower rate of home ownership, compared to the Study Area and the County as a whole, but each of these areas showed similar declines in the rate of home ownership between 2000 and 2010 of around three percentage points. For example, in the City of Eureka, approximately 46 percent of households owned their own home in 2000. This decreased to 43 percent in 2010. In the remainder of the Study Area, closer to 65 percent of households were homeowners in 2000, although that percentage declined to 62 percent by 2010. Humboldt County fell in the middle, with 58 percent of households owning homes in 2000, declining to 55 percent in 2010.

Resident Age Distribution

Overall, the City of Eureka and Humboldt County have very similar age characteristics. The population is generally concentrated among working age adults (ages 2054), which in 2010 constituted roughly 52.3 percent of the population in the City, and 48.8 percent of the population in the County. School age children (ages 5–19) also make up a relatively large share of the population in both areas. Overall, the greatest population growth between 2000 and 2010 occurred among the group of residents age 55 to 64, which increased by 67 percent, although this was marginally offset by a 9.9 percent decrease in the number of senior citizens aged 65 and over. In Humboldt County, the number of residents in the 55 to 64 age group grew by 74 percent, while the number of senior citizens age 65 and over grew by 12.4 percent. Although both the City and

County also experienced notable growth in the number of young adults (ages 20–29), this growth was somewhat offset by a decline in the number of residents of prime working age (ages 30–54). For example, the number of young adults residing in the City of Eureka increased by 19 percent over the decade. The City simultaneously lost 3.1 percent of its prime working age adults, resulting in a net gain of 491 working age adults. This difference was even more pronounced in Humboldt County, which gained 2,720 young adults (ages 20–29), but lost 2,795 residents of prime working age (ages 30–54), resulting in a small net loss of working age adults.

Household Income Distribution

Similar to most other communities in California, both Eureka and Humboldt County saw an increase in household incomes between 2000 and 2010. The City saw a decrease in the number of households with incomes of less than $35,000 per year and a corresponding increase in the number of households with incomes greater than $35,000. The largest amount of growth occurred among households with incomes between $75,000 and $149,999. In total, this category added nearly 1,340 households. According to the Census Bureau, the median income (nominal dollars) in the City increased from $25,849 in 2000 to $36,525 in 2010. This represents an increase of roughly $10,680 over the decade, or a 41.3 percent increase over the 2000 figure. Once adjusted for inflation, using the Consumer Price Index (CPI), it appears that the inflation-adjusted median income within the City increased by closer to $2,439, or 7.2 percent, over the decade.

Housing

Between 2000 and 2010, new home construction outpaced household growth in both the City of Eureka and Humboldt County. During this time period, the City added 254 new housing units, which represents a 2.2 percent increase over 2000. The County as a whole experienced much more robust growth, adding 5,647 new units, which is equal to an increase of 10.1 percent over 2000. According to Census estimates, the majority of the new housing in the County came in the form of duplex properties, with two attached housing units.

Housing Stock Characteristics

Available data on housing stock characteristics indicate that the majority of the housing units in Eureka and Humboldt County are single-family detached units. For example, as of 2010, roughly 60.9 percent of housing units in Eureka were single-family detached, while only 3.1 percent were single-family attached, and 22.0 percent were multifamily complexes with two to four units. This suggests that the multifamily housing stock within the City is highly concentrated in smaller apartment complexes. In Eureka, larger apartment complexes with more than 10 units represented only 8.1 percent of the total housing stock. Complexes with more than 50 units represented only 1.9 percent of the housing stock, reflecting a total of only 228 units within the category.

Humboldt County reflects similar characteristics with 67.8 percent of the housing stock characterized as single-family detached. Apartments located in smaller complexes, with two to four units, represented another 11.2 percent of the countywide housing stock. Mobile homes represent a notable component of the countywide housing stock that is largely absent from the City. For example, Humboldt County had more than 5,653 mobile home units in 2010, representing

9.2 percent of the housing stock. The City of Eureka, by comparison, had only 63 mobile home units, representing only 0.5 percent of the Citywide housing stock.

Housing Occupancy Status

According to the available Census estimates, housing vacancy in the City of Eureka was around 6.2 percent in 2010. This was notably lower than the 9.0 percent vacancy rate reported for the County as a whole. Housing units that were held for rent, but not yet occupied, accounted for the largest share of vacant units, with a similar proportion represented by housing units that were vacant for reasons that did not fall into the other year-round vacancy categories. A significantly smaller share was listed for seasonal use, or were for sale, but were not yet occupied. Overall, Eureka's housing vacancy rate is indicative of fairly strong demand, relative to the available supply of units.

Housing Prices and Rents

According to data presented in the Housing Element for the 2014-2019 planning period, the estimated median home value in Eureka increased by roughly 142 percent, between the 2000 Census and the 2008-2012 American Community Survey. Census estimates indicate that the median home value was $113,600 in 2000, which increased to an estimated $274,000 between 2008 and 2012. Despite this increase, the median value in the City of Eureka remained lower than the Humboldt County median home value of $309,400. The majority of the housing stock in the City, around 71.2 percent, is valued between $200,000 and $300,000. Only a little over 20 percent is valued at less than $200,000.

Additional information collected from Dataquick Information Systems, reported in the public review draft Housing Element, indicates that the median sale prices for homes sold within the City increased by 17.3 percent between September 2012 and September 2013. According to Dataquick, 41 homes sold during this period. As of September 2012, the median sales price was $194,000. This increased to $227,500 by September 2013. This rate of appreciation remains somewhat below the County average. It is, nonetheless, higher than most of the other incorporated areas, such as Arcata, Fortuna, and Rio Dell. Only McKinleyville showed a higher rate of increase in the median price, equal to 17.9 percent. In terms of absolute value, however, housing within the City of Eureka remains relatively affordable compared to other communities throughout Humboldt County. For example, the median sales price in Eureka was below the County average, and was less than the median home price reported for the communities of Arcata and McKinleyville.

Data from the California Association of Realtors also indicates that the percentage of single-family home sales that were distressed had declined from 29 percent in December of 2012 to 14 percent in December of 2013. As the housing market continues to recover, and home values once again begin to appreciate, Eureka will be in a relatively strong position to promote modest new home construction that is commensurate with projected household growth.

As reported in the Housing Element, the median gross rent in Eureka was $802 per month between 2008 and 2012. This was lower than the $869 median rental rate reported for Humboldt County, as well as the median rate for nearby Arcata, which had a median rate of $912.

Additional rental listings collected from Craigslist and Padmapper.com in October of 2013 indicate that the asking rental rate for a two-bedroom single-family home was $1,300 per month, while the rate for a two-bedroom apartment was $850 per month. Information on gross rents as a percentage of household income indicate that roughly 63.7 percent of renter households paid greater than 30 percent of their household income for housing. This suggests that there may be some additional unmet demand for lower-cost rental housing that would allow residents to avoid spending more than the recommended portion of their incomes for housing.

Anticipated Housing Need

In order to sufficiently accommodate population and household growth, as well as to ensure the availability of decent and affordable housing for households of all incomes, the State of California enacted Government Code Section 65584, which requires each Council of Governments (COG) to periodically estimate the projected need for housing within each respective region of the state. The State Department of Housing and Community Development (HCD) is then responsible for working with the regional COGs to identify the distribution of the regional housing need amongst the jurisdictions located within each region. For the 2014-2019 Housing Element planning period, the Humboldt County Association of Governments (HCAOG) provided the City of Eureka with a Regional Housing Needs Allocation (RHNA) of 609 units, including 145 units for very low-income households, 96 units for low-income households, 104 units for moderate-income households, and 264 units for above moderate-income households. A 2006 amendment to the state housing element law requires that each jurisdiction also identify the relative housing needs of extremely low-income households. For the purposes of the 2014-2019 RHNA, the City of Eureka's projected housing need for extremely low-income households is assumed to be half of the very low-income allocation, or approximately 72 housing units. Although the RHNA covers only a portion of the General Plan time horizon, it provides an indicator of the general distribution of housing affordability that would help to meet the needs of all economic segments of the community.

3.9.2 Regulatory Overview

Federal

There are no federal regulations that specifically regulate land use or land use compatibility on non-federal lands that would be applicable to the proposed General Plan Update.

State

California Coastal Commission

The California Coastal Commission is responsible for certifying local coastal programs and amendments made to local coastal programs by the governing jurisdiction. With certain exceptions, development within the Coastal Zone is subject to a coastal development permit issued either by a local government pursuant to a certified LCP or, where there is no certified LCP, by the Coastal Commission pursuant to the Coastal Act. Local government permit decisions regarding specific types of projects may be appealed to the Coastal Commission where the commission retains appeal jurisdiction. Regardless of the local jurisdiction's LCP status, the commission retains permanent jurisdiction over development on coastal zone tidelands, submerged lands, and public trust lands.

Local

Beyond the adopted General Plan and Zoning Regulations (discussed above), other land use plans and guidelines that help shape the Plan Area include:

Core Area Design Guidelines

Eureka adopted the Core Area Design Guidelines in 1997. The intent of the guidelines is to maintain and enhance the Victorian Seaport theme of the Core Area. The Core Area consists of the approximately 50 blocks within the traditional grid street stem focused on F Street and 2nd Street. This area captures most of the City's historically significant commercial and industrial structures. The guidelines not only strive to find compatibility between new buildings and the historic, but also to maintain the pedestrian friendly streets, storefronts, and public spaces.

Historic Preservation Plan

Eureka adopted the Historic Preservation Plan in 2004 as an optional element to the 1997 General Plan. The Historic Preservation Plan outlines the context of Eureka's many historic resources, and establishes detailed goals and strategies for preserving these resources. Beyond identifying local resources, the Plan's goal is to document, maintain, preserve, and acknowledge public buildings, historic rights of way and public works projects, cemeteries, prehistoric places, and the natural environment to acknowledge their importance to the well-being of Eureka's community. In doing so, the City would hope to benefit from increased investment in rehabilitation and increased tourism through heritage tourism.

Waterfront Revitalization Program

In June 1993, the City of Eureka completed the Waterfront Revitalization Program which assessed 32 projects designed to revitalize the waterfront. From that list, several projects were identified as high priority projects. The highest priority projects are those that enhance or improve commercial and recreational uses and tourism on the Eureka inner channel. This priority includes projects such as reconstructing dilapidated docks, developing a fisherman's work area and retail fish market, rehabilitating the existing small boat basin, and constructing a public berthing facility in the Eureka Inner Channel. A significant portion of the 32 assessed projects have been completed as of the publication of this Draft EIR.

3.9.3 Analysis, Impacts, and Mitigation

Significance Criteria

Implementation of the proposed 2040 General Plan would result in a significant impact if it would:

a. Physically divide an established community;

b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;

c. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);

d. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere; or

Methodology and Assumptions

The information and analysis included in this section was developed based on the *City of Eureka General Plan* (1997), the *Eureka General Plan Community Background Report*, and the *Draft Eureka 2040 General Plan*.

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are specifically relevant to land use, housing, and population within the Plan Area.

Land Use

Community Form and Character

Goal LU-1: A Community that values its unique small town charm and livability while thoughtfully advancing new prospects for growth and economic vitality.

Policies:

LU-1.1: Diverse Uses. Maintain a diverse range of compatible land uses that offer adequate flexibility to quickly respond to evolving market opportunities over time.

LU-1.2: Compact Form. Provide for a compact pattern of mixed land uses at densities/ intensities consistent with the development patterns Eureka experienced from the 1870s to the 1940s and at densities/intensities that are higher than were allowed in the past three general plan updates. Focus this compact pattern of land uses to radiate out from the Core Area, Employment Areas, Commercial Corridors, and Commercial Centers to make efficient use of the City's limited remaining developable lands and to promote walkability and urban growth.

LU-1.3: Beneficial Development. Support development that affords benefits to the community that:

a. Offers varied housing choices.

b. Provides for mixed use development.

c. Develops underutilized or vacant parcels.

d. Reuses and expands upon underutilized or dilapidated buildings.

e. Furthers the attraction and/or retention of businesses targeted in the Eureka Economic Development Strategic Plan.

f. Enhances the City's tax base.

g. Encourages people to walk, bike, or use transit.

h. Integrates development with public rights- of- way, parks, open spaces, plaza's, boardwalks, trails, and other public spaces.

i. Preserves and/or enhances valuable natural, historic, or cultural resources.

j. Applies practices that help to reduce development's carbon footprint.

k. Develops intersection corners and street frontages with buildings instead of parking lots.

l. Advances other City goals.

LU-1.4: Incompatible Uses. Facilitate the relocation of nonconforming industrial and other incompatible uses that create potential conflicts with and/or otherwise detract from the character of adjacent uses. (Modified 1997 General Plan Policy 1.B.14)

LU-1.5: Nonconforming Uses, Site Conditions and Structures. Allow existing nonconforming uses, site conditions, and structures to remain unless specifically targeted in the Zoning Code. When new development occurs, encourage non-conforming uses that are incompatible with surrounding conforming uses or are not in conformance with the General Plan or Zoning Code to become conforming, and in some cases, potentially require non-conforming uses to relocate as specified in the Zoning Code. Consider offering incentives for some nonconforming uses to either relocate or modify to become more compatible with the surrounding neighborhood.

LU-1.6: Flexible Zoning. Allow for performance-based concessions, planned use developments, and other flexible zoning incentives and standards. (New)

LU-1.7: Parcel Specific Considerations. Provide for potential variation in the application of City regulations and standards in consideration of unique parcel specific characteristics and/or limitations when new development and/or uses are proposed. Such variations may include: (1) further restricting General Plan and Zoning Code uses, policies, and standards when determined necessary to protect public health and safety and/or ensure compatibility with adjacent uses; or (2) relaxing such uses, policies, and standards when appropriate to enhance the feasibility of the proposed new development or use.

LU-1.8: Planned Development. Apply the City's Planned Development combining zone as appropriate to encourage varied and unique residential, commercial, office, mixed use, public/quasi-public and/or open space uses and designs within a comprehensively planned area. The Planned Development combining zone allows for flexibility in the application of General Plan and Zoning Code policies, standards and incentives to promote more creative and flexible uses, development types, amenities and natural resource protection than would otherwise be provided for under the strict application of the City's standard zoning and land use requirements.

LU-1.9: Existing Buildings and Sites. Support economic investment in and incentives for improvements to existing buildings and sites including facade improvements, new paint and signage, retrofitting, adaptive reuse, and upgraded landscaping and paving.

LU-1.10: Parking Standards for Existing Buildings. Protect existing sites from having to accommodate new off-street parking, including in situations when the use of a site changes.

LU-1.11: Prior Development: Encourage the new use/development of properties that have been previously used for industrial and commercial purposes and have since become vacant, overgrown with vegetation or fallen into disrepair. Where it has been determined that "wetland" characteristic have formed or other constraints exist on these properties, allow modified development standards such as variable lot widths and reduced or zero setbacks to be implemented in order to maximize the allowable areas for new use and development.

LU-1.12: Attractive Design. Preserve Eureka's unique charm and character by applying design guidance that promotes attractive and well maintained development that carefully integrates the new with the best of the old.

LU-1.13: Lighting. Minimize obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary, and requiring light for development to be directed downward to minimize spill-over onto adjacent properties and reduce vertical glare.

LU-1.14: Public Realm. Provide safe, clean and pedestrian friendly streetscapes and public spaces through careful design and active maintenance of sidewalks, street trees, landscaping, street furnishings, lighting, public art and other elements.

LU-1.15: Private Maintenance of Public Realm. Establish programs that encourage and incentivize businesses and private land owners to take pride in and to maintain the public streetscape.

LU-1.16: Public Access. Maintain and improve physical linkages from the community to the coastline, gulches, forests and Eureka's other distinct recreational resources where feasible by creating/preserving view corridors, enhancing trail and roadway connections, and providing signage and other wayfinding cues.

LU-1.17: Parking. Support coordinated "park once" strategies and allow flexibility in meeting required parking. Support coordinated, tandem, and shared parking facilities that allow users to park in one location and visit multiple destinations. Establish in the Zoning Code multiple context-based mechanisms that allow for parking reductions for new development.

LU-1.18: Parking Access. Where feasible, require off-street parking to be accessed from alleys.

LU-1.19: Pedestrian-oriented Design. In the downtown, commercial core, mixed use, and neighborhood commercial areas, promote the creation of a strong and appealing pedestrian environment by requiring the use of transparent commercial storefronts (i.e., windows and doors) and continuous and compatible building facades, while prohibiting the creation of blank walls and discontinuity in building facades.

LU-1.20: Incentives. Establish incentives to support the types of uses, development, and investments promoted by the General Plan.

Core Area

Goal LU-2: A thriving, compact, and pedestrian oriented Core Area that serves as the heart of Eureka's civic, cultural, business and visitor activity and is appealing to new investment.

Policies:

LU-2.1: Core Area Uses and Activities. Support the following uses and activities within the Core Area:

a. Mixed-use emphasizing a highly-interactive retail and service environment at the street level with office and residential uses above the first floor;

b. Evening Uses and activities that extend the hours of activity in the core area;

c. Housing including the rehabilitation and conversion of vacant upper floors of buildings and portions of buildings that do not have street frontage;

d. Incentivized live-work and mixed use spaces that allow for joint living and working quarters that are promoted through reduced or eliminated parking requirements and other incentives;

e. Neighborhood markets and other services needed to serve the residents and employees of the district;

f. Specialty and boutique shops, restaurants, and other locally-owned storefront businesses with particular focus on the creation of a distinct pedestrian oriented shopping district from C Street to I Street, and the Waterfront to 3rd Street;

g. Cultural and art related facilities and events that attract patrons with particular focus on the creation of a cultural arts/theater district and renovation of the Ingomar Theater and other historic facilities;

h. Visitor serving uses, mixed uses, and recreational activities on street frontages, and office, residential, and other compatible uses on upper floors and non-street frontages;

i. Waterfront Hotel(s) that draw new visitors to businesses in the Core Area and throughout the City (New).

j. Vacation Rentals that draw new visitors to businesses in the Core Area and throughout the City (New).

k. Professional and business services, such as attorneys, realtors, architects, engineers, investment specialists, and other professional fields that provide a daily customer base for the retail and food-related uses in the area.

l. Craftsman Shops where items such as baked goods, glass, pottery, small furniture, clocks, and other specialized items are made on site and sold onsite are strongly encouraged (New).

m. Public Spaces such as plazas, squares, parks, pocket parks, parklets, small community gardens, trails, boardwalk, piers, and public and private recreational uses including the redesign and retrofit of the Gazebo and Clark Plaza to increase their usefulness, safety and comfort;

n. Government Facilities and Services consolidated into a regional center of civic offices, services and functions.

LU-2.2: County 2nd and J Street Facilities. Work with Humboldt County to relocate the County's 2nd and J Street maintenance facilities outside of the Core Area and to redevelop the site with appropriate residential, office, commercial, cultural and/or visitor serving uses.

LU-2.3: County Jail. Coordinate with Humboldt County to define and implement measures to beautify the site and minimize the physical and visual barrier between Old Town and Downtown created by the County Jail, and to reduce loitering and criminal activities within its proximity.

LU-2.4: Non-Coastal-Dependent Uses. Promote compatible mixed use non-coastal-dependent uses along Eureka's commercial waterfront as a mechanism to make development of these high maintenance properties viable.

LU-2.5: Parking Analyses and Fundraising. Study the concept of expanding the Parking Assessment District to cover the entirety of the Core Area and collecting an assessment in the district. Initiate periodic parking studies to assess potential parking needs, capacities, and recommended actions. Actively manage public parking facilities, including the raising of funds for the development, maintenance, and operations of parking facilities as appropriate.

LU-2.6: Parking for Urban Uses. Eliminate or reduce parking requirements, including for residential uses, in the Core Area in order to increase the feasibility of new development.

LU-2.7: Incentives for Relocation. Encourage and provide incentives, where feasible, for the relocation of privately-owned industrial and automotive facilities that are non-conforming and not conducive to the City's vision for the Core Area.

LU-2.8: Homeless Services. Discourage the development of new homeless services or facilities that promote the concentration of homeless services in the Core Area. The City supports the dispersal of homeless related services and facilities throughout Humboldt County.

LU-2.9: Unreinforced Masonry Buildings. Encourage and provide incentives, where feasible, for retrofit and rehabilitation of unreinforced masonry buildings that pose and earthquake risk.

LU-2.10: Gateways and wayfinding signage. Work with the community and Caltrans to design, construct and maintain strategically placed wayfinding signage and gateway entries to the Core Area to announce arrival, welcome visitors to, and guide visitors throughout the Waterfront, Old Town and Downtown. Explore concepts to enhance and/or replace existing entries and signage.

LU-2.11: Core Area Specific Plan. Initiate a specific plan for the Core Area to create a framework to focus community efforts and enhance the ability to attract funding for reinvestment. The specific plan should solicit the active participation of property owners, investors, local business owners, and residents and address:

a. Specific strategies to attract the types of users and activities identified in Policy LU-2.1;

b. Use of vacant buildings and unused upper-story space;

c. Historic resource preservation;

d. Improvements to streetscapes and other public spaces including pedestrian scale lighting;

e. Land use strategies for key properties along the waterfront including Halverson Park and lands east of the Samoa Bridge, the waterfront properties between C and F Streets, and the property north of First Street between G and I Streets;

f. Enhanced pedestrian, bicycle, and transit connectivity and safety;

g. Parking;

h. Increased public safety and security;

i. Incentives, branding and promotional strategies; and

j. Identification of grants, associations, partnerships, financing districts and other public and private funding mechanisms to implement defined actions, improvements and maintenance.

Commercial Corridors and Centers

Goal LU-3: Active, attractive, and prosperous corridors and centers that boost Eureka's role as the regional hub of retail, professional/business services, and tourism. (New)

Policies:

LU-3.1: Variety of Commercial Uses. Provide sufficient land for a broad range of viable commercial, office and mixed uses to meet the needs of the community, capture local and visitor spending, and contribute to the City's economic vitality.

LU-3.2: Reinvestment. Support public and private efforts to reinvest in, renovate and maintain existing commercial areas to improve aesthetic appearance, elevate community image, increase economic competiveness, and integrate mixed uses.

LU-3.3: Gateways. Support efforts to create gateways at the City's southern entry along Broadway and at the north end of southbound US 101 (4th Street) west of the Eureka Slough Bridge to announce arrival and welcome visitors to Eureka. Consider other "internal" gateways, such as at the far west end of 5th Street.

LU-3.4: Corridor Plan. Coordinate with Caltrans to initiate a corridor plan for the Broadway Corridor to create a framework to focus community efforts and enhance the ability to attract funding for reinvestment. The corridor plan should solicit the active participation of local business owners and residents and address:

a. Upgrades to the visual quality and cohesiveness of development;

b. Improvements to the streetscape and other public spaces;

c. Integration of complete streets standards including enhancement of pedestrian, bicycle and transit connectivity and safety;

d. Improved access, visibility and parking for businesses;

e. The development of underutilized, dilapidated or vacant properties;

f. Uses, activities and strategies to encourage visitors and pass-through traffic to stop in Eureka;

g. Incorporation of upper floor residential uses and mixed use nodes;

h. Disposition and adaptive reuse of older hotels;

i. Increased public safety and security;

j. Incentives, unique branding, and promotional strategies that give each district/ corridor a unique image and sense of identity; and

k. Identification of grants, associations, partnerships, financing districts and other public and private funding mechanisms to implement defined actions, improvements and maintenance.

LU-3.5: Henderson Center. Support the continued vitality and upgrading of Henderson Center as a unique neighborhood shopping district. As part of this effort explore establishment of a parking assessment district and initiate periodic parking studies to assess potential parking needs, capacities and recommended actions and encourage the addition of pedestrian scale lighting.

LU-3.6: Henderson Center Visioning. Support the Henderson Center Merchant's Association efforts to solidify a Henderson Center "brand"; enhance the look and feel of the district; strengthen Henderson Center as a prime retail shopping district; boost the district's status as a neighborhood commercial center; increase the real and perceived traffic safety of the district; and stimulate economic growth within the district.

LU-3.7: Small Neighborhood Commercial Centers. Support the growth and revitalization of the small neighborhood commercial centers on Wabash Avenue, Harris Avenue, and Myrtle Avenue.

LU-3.8: Marina District. Support the activities necessary to expedite the comprehensive planning, restoration, remediation and development of the Marina District (formerly known as the Balloon Track) with an integrated mix of uses and associated infrastructure that act as an extension of the Core Area, link to the waterfront, and enrich Eureka's economy.

LU-3.9: Measure N. Consider efforts to repeal ballot Measure N (November 2010) should it become an impediment to the desired development of the Marina District (formerly known as the Balloon Track).

Other Employment Areas

Goal LU-4: A wide range of quality industries that provides job opportunities for Eureka's residents. (New)

Policies:

LU-4.1: Variety of Industrial Uses. Provide sufficient land for a broad range of viable Industrial uses to attract new industries and retain and expand existing uses.

LU-4.2: Protect Industrial Lands. Protect industrially-designated lands from encroachment by incompatible uses and activities that could conflict with or limit industrial activities.

LU-4.3: Westside Industrial Area. Maximize development potential and intensity within the Westside Industrial Area to accommodate new industrial growth and the relocation of non-conforming industrial uses from elsewhere in the City. (New + Modified 1997 General Plan Policy 1.M.2)

LU-4.4: Hinge Area. Encourage development of an industrial park in the Hinge Area roughly defined by Broadway and C Streets, making individual parcels and rehabilitated buildings available for small-scale industrial users.

LU-4.5: Hospital Medical District. Modify district's zoning and development regulations as needed to expand the healthcare sector and establish Eureka as a destination for healthcare.

LU-4.6: Brainard Industrial Park. Create custom zoning, development standards, and/or overlay zones that would facilitate the development of a high-end industrial park, auto-mall, and/or other job-creating uses and facilitate small business incubation in the Brainard Annexation Area.

LU-4.7: Woodley Island. Support uses and activities that enhance the long-term economic vitality of Woodley Island in a manner that is compatible with and enhances the commercial fishing industry.

LU-4.8: Fishing Industry. Support the fishing industry and other related and compatible uses north of the railroad tracks between Commercial Street and C Street.

Residential Neighborhoods

Goal LU-5: Safe, walkable, and well maintained neighborhoods that provide a diversity of quality housing choices.

Policies:

LU-5.1: Range of Densities. Provide sufficient land in a range of residential densities to enable citizens from a wide array of economic levels and stages of life to live in Eureka, and to accommodate the existing and future workforce.

LU-5.2: Parking Access for Residential Uses. Where feasible, require off-street parking for residential uses to be accessed from alleys and in the rear of the parcel.

LU-5.3: High Density Housing. Support increased development of high density housing to balance the City's housing inventory and enhance affordability.

LU-5.4: Location. Encourage the location of high density housing in close proximity to commercial and community services, employment opportunities, major transportation corridors, and where City infrastructure can accommodate increased densities.

LU-5.5: Existing Neighborhoods. Protect and enhance the integrity of Eureka's existing neighborhoods by:

a. Retaining unique and/or historic residences and architecture;

b. Supporting efforts to improve and maintain neighborhood appearance and the existing housing stock;

c. Promoting and supporting the development of Accessory Dwelling Units, while striving to ensure that such development does not deteriorate the quality of life or home values in any single-family residential neighborhoods;

d. Infilling gaps and upgrading substandard sidewalks and streetscapes where needed and including pedestrian scale lighting on private property and public sidewalks where feasible;

e. Implementing traffic calming as appropriate; and

f. Ensuring that new or renovated structures are compatible with the established character, development form, and function of the neighborhoods.

g. Encouraging solar powered systems and lighting.

LU-5.6: New Residential Neighborhoods. Encourage, support, and look for ways to incentivize new residential neighborhoods that incorporate the following:

a. A variety of lot sizes and alternating architectural styles;

b. A pedestrian friendly scale with interconnected streets, sidewalks, pedestrian scale lighting, and pedestrian and bicycle facilities linking multiple destinations within and between neighborhoods;

c. Integrated parks, playgrounds, open space, schools, neighborhood markets, community gardens, and other gathering and activity areas within convenient walking and bicycling distance of residents;

d. Units oriented to the primary street frontage with extensive tree canopies, attractive landscaping and designs that minimize the visual prominence of garages to enhance neighborhood character;

e. Preservation of significant topography, drainages, gulches, biological, visual and other resources as appropriate;

f. Solar powered systems and lighting; and

g. Encourage parking to be accessed from an alley or rear of the residence.

LU-5.7: Neighborhood Services. Support the retention, upgrading and expansion of small neighborhood markets, restaurants and services that are compatible with the residential environment and provide for the daily needs of nearby neighborhoods.

LU-5.8: Safety and Empowerment. Seek incentives to improve neighborhood safety and empower residents.

Growth and Expansion

Goal LU-6: New growth and annexation areas that are carefully planned, efficient, and contribute positively to the community.

Policies:

LU-6.1: Development Regulations and Standards. Modify City regulations and standards in commercial zones to allow for greater intensities and building heights than have been allowed in the past and create zoning standards that allow for context-based flexibility of intensities, densities, building heights, and other standards.

LU-6.2: Infill First. Promote development of vacant infill properties and redevelopment/reuse of economically underutilized sites and buildings to accommodate new growth and internal densification prior to considering potential annexation.

LU-6.3: Zoning Incentives. Consider a "Zoning Incentives and Concessions Program" (which may include flexible development standards, shared parking, fast-track processing, specific plans, and pre-permitting etc.) to facilitate development or re-use of chronically vacant, underutilized, or other key sites by high-employment generating uses, uses that generate significant city revenue, and/or high value-added businesses and development projects.

LU-6.4: Pre-Annexation Development Proposals. Coordinate with Humboldt County to ensure that land use and development proposals considered by the County within the City's SOI prior to annexation by Eureka do not conflict with the City's long term plans and development standards.

LU-6.5: Annexation proposals. Support only those annexation proposals that:

a. Are contiguous to and provide for the orderly and logical expansion of the City;

b. Provide for the efficient extension and upgrading of City infrastructure, services and capacities; and

c. Contribute positively to the City's fiscal viability and quality of life.

LU-6.6: Fiscal Impact Analysis. Require all annexation proposals to prepare a fiscal impact analysis documenting short-term or long-term cumulative impacts on the City's fiscal condition. It is the City's objective that all annexations generate the revenue required to fully fund the urban services and infrastructure necessary to serve the area with no added costs, or decline in service levels, to existing residents and businesses within the City.

LU-6.7: Regional Planning. Participate in regional planning efforts with surrounding jurisdictions, the Harbor District, Humboldt County Association of Governments, and other local and regional agencies to ensure that the City's issues and interests are represented.

LU-6.8: Project Review. Review, comment, and coordinate on plans and projects of overlapping and neighboring agencies to ensure compatibility with the City's General Plan, and to ensure that impacts on the City are fully mitigated.

Proposed General Plan Land Use Designations

Proposed land use designations in the Land Use Element of the General Plan are broadly structured to allow for flexibility in defined land use types, densities, and intensities to account for change over time. Each land use designation is described in Table 2-3 in Chapter 2, *Project Description*, and standards for building intensities are also provided as an allowable range of residential densities and nonresidential floor area ratios (FARs) per net acre. These proposed land use designations are included for the City limits only.

Proposed Land Use Plan

Proposed 2040 General Plan land uses have been allocated considering projected future housing and employment demands. The General Plan provides capacity beyond projected needs in order to maximize opportunities for new job- and revenue-generating uses, and in recognition that not all lands will be available for development at a given time.

To estimate the amount of new growth that is anticipated to occur within the City over the next two decades, City staff considered a range of factors, including community desires, physical or environmental limitations, existing infrastructure constraints, and socioeconomic trends. Based on this analysis, the City developed the proposed 2040 General Plan Land Use Diagram. The Land Use Diagram represents the desired type, amount, and arrangement of future land uses within the City. The land use plan forms the basis for the General Plan policies and the environmental documentation.

The acreage of each proposed land use designation within the City Limits is shown on Table 2-4 in Chapter 2, *Project Description*. Figure 2-5 in Chapter 2 shows the proposed 2040 General Plan Land Use Diagram.

Impacts and Mitigation Measures

Impact 3.9-1: Implementation of the proposed Eureka 2040 General Plan would not physically divide an established community.

The land use policies included in the Land Use Element of the proposed 2040 General Plan are intended to provide for a pattern of mixed land uses at densities/intensities consistent with the development patterns Eureka experienced from the 1870s to the 1940s and at densities/intensities that are higher than were allowed in the past three general plan updates. The intent of the proposed 2040 General Plan is to focus this pattern of land uses to radiate out from the Core Area, Employment Areas, Commercial Corridors, and Commercial Centers to make efficient use of the City's limited remaining developable lands and to promote walkability and urban growth.

The City of Eureka consists of established neighborhoods and districts that the City wants to protect, maintain, and in some cases, expand. As a result, future growth and change would be directed primarily into areas that are not achieving their full potential and that would benefit from enhancement, revitalization, or redevelopment in a manner that complements and enhances Eureka's character and livability.

Proposed 2040 General Plan land use policies provide for strategic growth and change that preserves existing viable neighborhoods and targets new development primarily to infill areas that are vacant or underutilized. These policies focus on enhancing the quality of life through improved connectivity with other parts of the City, greater access to amenities, enhanced safety, and greater housing and employment choices. Proposed Policy LU-1.2 encourages a compact pattern of mixed land uses at densities/intensities that make efficient use of the City's limited remaining developable lands and to promote walkability and urban growth. Proposed Policy LU-5.3 encourages increased development of high-density housing to balance the City's housing inventory and enhance affordability. Proposed Policy LU-5.4 encourages the location of high-density housing in close proximity to commercial and community services, employment opportunities, major transportation corridors, and where City infrastructure can accommodate increased densities. Proposed Policy LU-6.2 promotes the development of vacant infill properties and redevelopment/reuse of economically underutilized sites and buildings to accommodate new growth and internal densification.

The proposed 2040 General Plan growth policies strengthen and expand the framework of neighborhoods, centers, and corridors throughout Eureka, ensuring compatible transitions between established neighborhoods and future development. Therefore, the proposed Eureka 2040 General Plan has been designed as a cohesive plan that builds upon existing neighborhoods and developed areas and would not physically divide an existing established community. This is a **less-than-significant** impact.

Mitigation Measures

None required.

Impact 3.9-2: Implementation of the proposed Eureka 2040 General Plan would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Several regionally and locally adopted land use plans and policies that regulate potential effects of projects on the environment would be applicable to development under the proposed 2040 General Plan. These include the Eureka Municipal Code, the City of Eureka Local Coastal Program, the City of Eureka Core Area Design Guidelines, and the City of Eureka Historic Preservation Plan. Also included are the policies, regulations, and requirements of the California Coastal Conservancy, the California State Lands Commission, the California Coastal Commission, the Airport Land Use Commission, the Humboldt Bay Harbor Recreation and Conservation District, the Humboldt County Local Agency Formation Commission, the North Coast Unified Air Quality Management District, and the Humboldt County Association of Governments.

As discussed at the beginning of this section, the City does not consider inconsistency with plan policies or codes to necessarily be indicative of a significant environmental impact. To the extent that significant environmental impacts would occur as a result of implementation of the Eureka

2040 General Plan, they are disclosed in the applicable environmental impact sections of this Draft EIR. Thus, the reader is referred to the various environmental resource evaluations presented in this Draft EIR for a discussion of potential physical/environmental effects and potential incompatibilities that may be considered in the determination of physical environmental impacts.

As discussed above, proposed 2040 General Plan land use policies provide for strategic growth and change that preserves and enhances existing viable neighborhoods and targets new development primarily to infill areas that are vacant or underutilized. The proposed 2040 General Plan includes policies designed to ensure its implementation is consistent and compatible with applicable land use plans, policies, and regulations of agencies with jurisdiction over the Plan Area and adjacent lands. Proposed Policy LU-6.7 directs the City to participate in regional planning efforts with surrounding jurisdictions, including the Harbor District, the Humboldt County Association of Governments, and other local and regional agencies. Proposed Policy LU-6.8 directs the City to review, comment, and coordinate on plans and projects of overlapping and neighboring agencies to ensure compatibility with the City's General Plan, and to ensure that impacts are fully mitigated. The proposed 2040 General Plan has been designed to reflect local and regional principles and strategies to mitigate potential impacts to the environment. The proposed General Plan would therefore not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project or violate the terms of any of the aforementioned plans, policies, or regulations. This is a **less-than-significant** impact.

Mitigation Measures

None required.

Impact 3.9-3: Implementation of the proposed Eureka 2040 General Plan would not induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

As discussed above, proposed 2040 General Plan land uses have been allocated considering projected future housing and employment demands. To estimate the amount of new growth that is anticipated to occur within the City over the next two decades, City staff considered a range of factors, including community desires, physical or environmental limitations, existing infrastructure constraints, and socioeconomic trends.

Based on current market conditions and growth projections for the region, the City used density/ intensity assumptions and persons per household estimates for new growth that are expected to occur within the timeframe of the General Plan, consistent with historic growth patterns and reflecting a foreseeable buildout scenario. Table 2-5 in Chapter 2, *Project Description* shows how much additional development could be built under the proposed 2040 General Plan, and corresponding population growth and employees generated, are also shown in the table.

Buildout of the 2040 General Plan provides for a total increase of up to 1,886 dwelling units resulting in a population increase of approximately 3,683 residents. The 2040 General Plan also

provides for a total of up to 1.6 million square feet of nonresidential uses. Implementation of the 2040 General Plan would result in gradual physical changes within the Plan Area over a 20-year period. These changes would be distributed broadly and incrementally across the 16.4-square-mile City. While the proposed 2040 General Plan would accommodate population growth in the Plan Area by increasing the number of residential units and businesses, the growth would be anticipated to occur incrementally over a 20-year period and would not be considered substantial in comparison to existing population levels in the Plan Area. As discussed above, the physical effects of increased population levels in the Plan Area are addressed in the applicable technical sections of this Draft EIR. This is a **less-than-significant** impact.

Mitigation Measures

None required.

Impact 3.9-4: Implementation of the proposed Eureka 2040 General Plan would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

The City of Eureka consists of established neighborhoods and districts that the City wants to protect and maintain. Proposed 2040 General Plan land use policies provide for strategic growth and change that preserve and enhance existing viable neighborhoods and targets new development primarily to infill areas that are vacant or underutilized. As a result, future growth and change would be directed primarily into areas that are not achieving their full potential and would benefit from enhancement, revitalization, or redevelopment in a manner that complements and enhances Eureka's character and livability. Proposed Policy LU-1.2 encourages a compact pattern of mixed land uses at densities/intensities that make efficient use of the City's limited remaining developable lands and to promote walkability and urban growth. Proposed Policy LU-5.3 encourages increased development of high-density housing to balance the City's housing inventory and enhance affordability. Proposed Policy LU-5.4 encourages the location of high density housing in close proximity to commercial and community services, employment opportunities, major transportation corridors, and where City infrastructure can accommodate increased densities. Proposed Policy LU-6.2 promotes the development of vacant infill properties and redevelopment/reuse of economically underutilized sites and buildings to accommodate new growth and internal densification.

Goals and policies designed to support infill development would not displace substantial numbers of people and existing housing, necessitating the construction of replacement housing elsewhere. This is a **less-than-significant** impact.

Mitigation Measures

None required.

Cumulative Impacts

Impact 3.9-5: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development in Humboldt County, would not result in significant impacts related to land use, population, or housing.

A significant cumulative impact related to land use, population, or housing would result if the combination of impacts of the proposed project (i.e., buildout of the Eureka 2040 General Plan) and the impact from the growth projections in adopted plans within Humboldt County were significant when combined together, even if not independently significant. The City of Eureka and every city within Humboldt County, as well as the County itself, have developed general plans to comprehensively guide future development, manage growth, and to plan responsibly in their respective communities. Policies in the various general plans within Humboldt County, including Eureka, are structured to be consistent with adopted local and regional plans. Each of the general plans contains similar development policies to encourage development in designated areas, preserve open space, and protect valuable resources. Therefore, with implementation of the proposed project and policies from other regional general plans, this cumulative impact would be **less than significant**.

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3.10 Noise and Vibration

This section evaluates potential noise and vibration impacts associated with the development of the City's proposed 2040 General Plan. The environmental setting presents background and terminology with respect to noise and vibration, and provides a summary of known noise sources in the City. The regulatory setting provides a description of applicable federal, state, and local regulatory policies. A description of the potential impacts of the proposed project is also provided and includes the identification of feasible mitigation (where applicable) to avoid or lessen the impacts.

The information and analysis included in this section was developed based on data provided in the *Eureka General Plan Community Background Report*,[1] the *Draft Eureka 2040 General Plan*,[2] Federal Highway Administration (FHWA) *Road Construction Noise Mode*l,[3] and the Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment.*[4] The Community Background Report (CBR) is included with this Draft EIR as Appendix B.

During the Notice of Preparation (NOP) comment period, no comments were provided in direct relation to noise and vibration.

Technical Background and Noise Terminology

Noise can be generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Figure 3.10-1**.

1 City of Eureka. 2015. *Eureka General Plan Community Background Report.*
2 City of Eureka. 2017. *Draft Eureka 2040 General Plan*.
3 Federal Highway Administration (FHWA), 2006. FHWA Roadway Construction Noise Model User's Guide. January 2006.
4 Federal Transit Administration (FTA), 2006. Transit Noise and Vibration Impact Assessment. May 2006.

COMMON OUTDOOR ACTIVITIES	NOISE LEVEL (dBA)	COMMON INDOOR ACTIVITIES
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70	Garbage disposal at 3 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

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SOURCE: Caltrans, 2013a

Eureka General Plan Update and EIR

Figure 3.10-1
Typical Noise Levels

ESA

Noise exposure is a measure of noise over a period of time. Noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual receptor. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts.

This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

L_{eq}: the energy-equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level, which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{max}: the instantaneous maximum noise level for a specified period of time.

L_{dn}: is a 24-hour day and night A-weighted noise exposure level, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night (“penalizing” nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dB to take into account the greater annoyance of nighttime noises.

CNEL: similar to L_{dn}, the Community Noise Equivalent Level (CNEL) adds a 5-dB “penalty” for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dB penalty between the hours of 10:00 p.m. and 7:00 a.m.

As a general rule, in areas where the noise environment is dominated by traffic, the L_{eq} during the peak-hour is generally within one to two decibels of the L_{dn} at that location.[5]

Effects of Noise on People

When a new noise is introduced to an environment, human reaction can be predicted by comparing the new noise to the ambient noise level, which is the existing noise level comprised of all sources of noise in a given location. In general, the more a new noise exceeds the ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

[5] California Department of Transportation (Caltrans), 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013.

- except in carefully controlled laboratory experiments, a change of 1-dB cannot be perceived;
- outside of the laboratory, a 3-dB change is considered a just-perceivable difference;
- a change in level of at least 5-dB is required before any noticeable change in human response would be expected; and
- a 10-dB change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

The perceived increases in noise levels shown above are applicable to both mobile and stationary noise sources. These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence, the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dB for hard sites and 7.5 dB for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dB (per doubling distance) is normally assumed for soft sites. Line sources (such as traffic noise from vehicles) attenuate at a rate between 3 dB for hard sites and 4.5 dB for soft sites for each doubling of distance from the reference measurement.[6]

Noise levels may also be reduced by intervening structures, such as a row of buildings, a solid wall, or a berm located between the receptor and the noise source.

Fundamentals of Vibration

As described in the FTA's *Transit Noise and Vibration Impact Assessment*, groundborne vibration can be a serious concern for nearby neighbors, causing buildings to shake and rumbling sounds to be heard.[7] In contrast to airborne noise, groundborne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, buses and heavy trucks on rough roads, and construction activities such as blasting, sheet pile-driving, and operation of heavy earth-moving equipment.

6 California Department of Transportation (Caltrans), 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013.
7 Federal Transit Administration (FTA), 2006. Transit Noise and Vibration Impact Assessment. May 2006.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal, which is measured in inches per second (in/sec). The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to express RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration assessment include structures (especially older masonry structures), people who spend a lot of time indoors (especially residents, students, the elderly and sick), and vibration sensitive equipment such as hospital analytical equipment and equipment used in computer chip manufacturing.

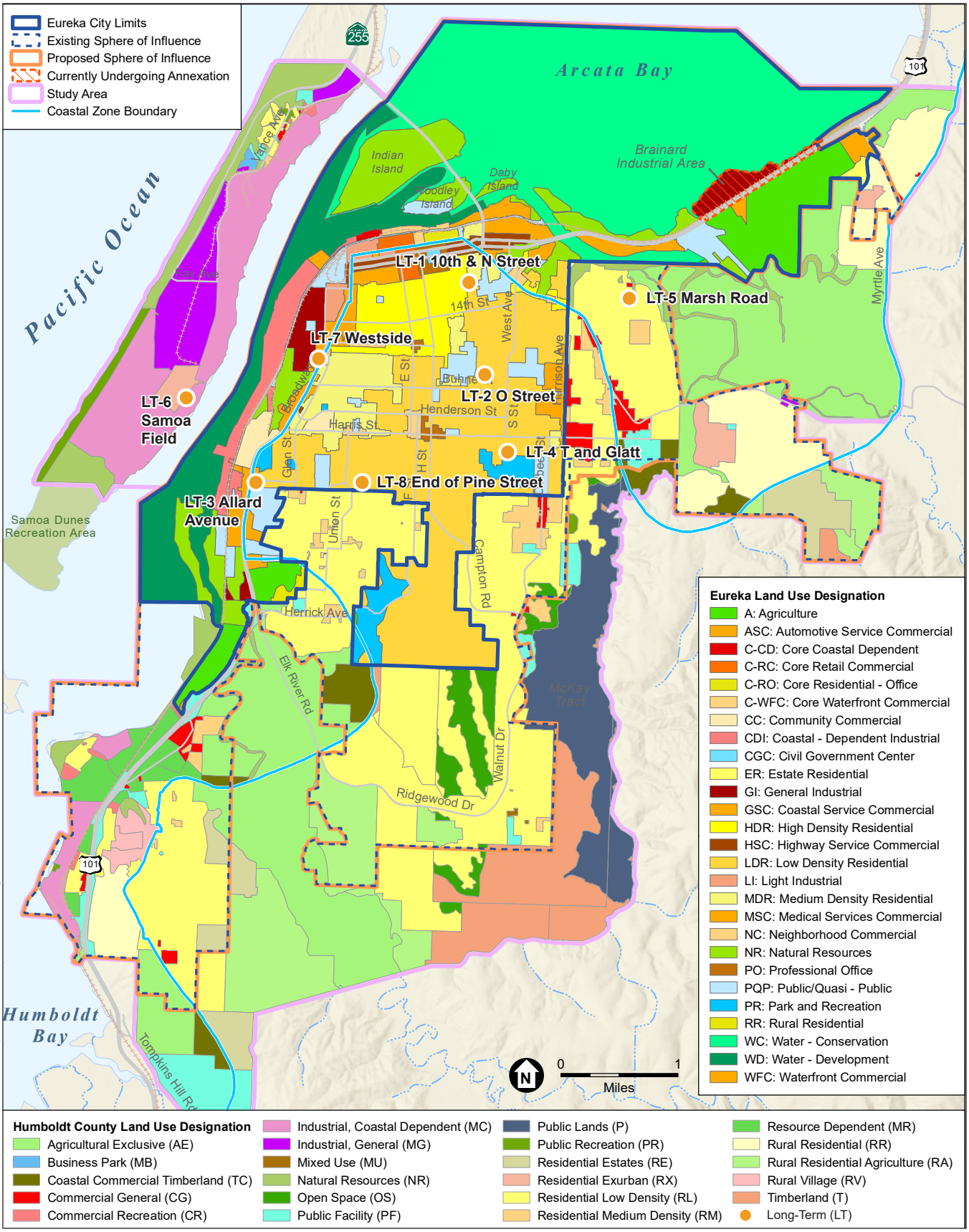
The effects of groundborne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin.

3.10.1 Environmental Setting

Existing Noise-Sensitive Land Uses

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given these effects, some land uses are considered more sensitive to noise levels than others due to the duration and nature of time people spend at these uses. In general, residences are considered most sensitive to noise as people spend extended periods of time in them, including the nighttime hours. Therefore, noise impacts to rest and relaxation, sleep, and communication are highest at residential uses. Schools, hotels, hospitals, nursing homes, and recreational uses are also considered to be more sensitive to noise as activities at these land uses involve rest and recovery, relaxation and concentration, and increased noise levels tend to disrupt such activities. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate, are also sensitive to noise but due to the limited time people spend at these uses, impacts are usually tolerable. Commercial and industrial uses are considered the least noise-sensitive.

Figure 3.10-2 presents the location of land uses in the City of Eureka that are currently in effect under the City's existing General Plan. As shown in the figure, the portions of the City of Eureka that are designated as medium and low density residential are primarily located east of Broadway, south of 14th Street and east of the City's south-eastern most boundary. Areas of the City designated as high density residential are generally located north and south of 14th Street.



SOURCE: Caltrans, 2013a, City of Eureka, 2017; ESA, 2018

Eureka General Plan Update and EIR

Figure 3.10-2
Noise Measurement Locations and Existing General Plan Land Use Diagram

ESA

Existing Noise Environment

The noise environment in and around the City is influenced by vehicular traffic, such as along US-101 and along roadways such as Myrtle Avenue, Harris Street and Henderson Street. Other noise sources in the vicinity consist of industrial operations and aircraft overflights from Murray Field and Samoa Field. To quantify the existing ambient noise levels, ESA conducted a noise survey within the City limits and in several peripheral areas. The noise survey began on January 26, 2014, and consisted of eight 24-hour long-term measurements. Figure 3.10-2 illustrates the location of the long-term noise measurement sites. The results of the short-term noise survey are presented in **Table 3.10-1**. All long-term noise measurements were conducted using a Metrosonics dB-308 sound analyzer. The noise meters were calibrated before and after each noise measurement.

TABLE 3.10-1
24-HOUR LONG-TERM AMBIENT NOISE MONITORING RESULTS

Measurement Location	Average Daytime Hourly L_{eq}	Average Nighttime Hourly Leq	L_{max}	L_{dn}
LT-1: 10th Street between N and O Street (Cooper Gulch Community)	48	44	72	51
LT-2: N Street south of Del Norte Street	50	44	71	52
LT-3: Allard Avenue East of US-101 (Bayview Community)	65	60	84	67
LT-4: T Street between at Glatt Street	57	50	92	59
LT-5: Harrison Avenue south of Myrtle Avenue (Myrtletown Community)	58	50	94	59
LT-6: Lindstrom Avenue Samoa Peninsula	51	49	81	56
LT-7: Wabash Avenue East of US-101 (Westside Community)	65	59	98	67
LT-8: California Street south of New Street	53	42	94	53

NOTES: Measurements started January 26, 2014 and concluded January 29, 2014.

SOURCE: Environmental Science Associates (ESA), 2014 Ambient Noise Survey for the City of Eureka General Plan Update. February 26, 2014.

As shown in Table 3.10-1, residential areas nearest to major roadways such as US-101 and Myrtle Avenue experience the highest ambient noise while most other locations within the City are relatively quiet. Although there is a lumber mill and airport on the Samoa peninsula, residential areas on the peninsula also experience relatively quiet ambient noise levels.

Existing Traffic Noise Environment

One of the primary contributors to the ambient noise environment within the City is vehicular traffic. There is also an existing North Coast Railroad Authority (NCRA) rail line that runs parallel to US-101. However, in 2001 use of the line was suspended due to the deteriorating condition of railway infrastructure. There are currently no operational rail lines within the City. To evaluate the existing traffic noise levels in and around the City, traffic noise levels under Existing conditions were calculated using the FHWA's traffic noise prediction equations and traffic volumes provided by W-Trans. The results of this analysis can be found in **Table 3.10-2**, which shows the predicted traffic noise levels in terms of L_{dn} at a standardized distance of 50 feet from the centerlines of the existing roadways segments and distances to existing traffic noise contours. These contours include distances to the 75, 70, 65 and 60 dBA L_{dn}.

TABLE 3.10-2
EXISTING (2016) TRAFFIC NOISE LEVELS AND DISTANCES TO ROADWAY CONTOURS

Roadway Segment	L_{dn} @ 50 ft.[1]	Distance to L_{dn} Contours (ft)			
		75 dBA	70 dBA	65 dBA	60 dBA
Broadway, from Henderson Av to Wabash Av	68	10	35	110	350
Broadway, from Wabash Av to 16th St	68	10	30	95	305
Broadway, north of 14th St	68	10	30	95	310
H St, from Hodgson St to Harris St	64	<5	10	40	125
H St, from Harris St to Henderson St	62	<5	10	25	75
H St, from Henderson St to Buhne St	64	<5	10	35	120
H St, from Buhne St to 14th St	64	<5	10	35	115
H St, from 14th St to 7th St	62	<5	10	25	85
H St, from 7th St to 6th St	62	<5	10	25	80
H St, from 6th St to 5th St	62	<5	5	25	70
H St, from 5th St to 4th St	62	<5	10	25	80
H St, south of Hodgson St	64	<5	10	40	120
I St, from Harris St to Henderson St	67	5	25	75	235
I St, from Henderson St to Buhne St	66	5	20	65	200
I St, from Buhne St to 14th St	66	5	20	65	200
I St, from 14th Street to 7th St	65	5	15	55	170
I St, from 7th St to 6th St	64	<5	15	45	140
I St, from 6th St to 5th St	64	<5	10	40	120
I St, from 5th St to 4th St	60	<5	5	15	55
S St, south of Harris St	63	<5	10	30	100
S, St, from Harris St to Buhne St	65	<5	15	50	155
S St/West Av, from Bhune St to Myrtle Av	66	5	20	60	190
Dolbeer St, from Walnut Dr to Harris St	64	<5	10	35	115
Harrison Av, from Harris St to Myrtle Av	65	5	15	50	160
Myrtle Av, east of Harrison Av	67	5	25	70	225
Myrtle Av, from West Av to Harrison Av	68	10	30	95	300
Myrtle Av, from West Av to 5th St	66	5	20	60	190
Harris St, west of Union St	64	<5	15	45	135
Harris St, from Union St to E St	66	5	20	60	195
Harris St, from E St to F St	66	5	20	65	200
Harris St, from F St to H St	67	5	25	75	235
Harris St, from H St to I St	68	10	30	100	315
Harris St, I St to S St	67	5	25	75	235
Harris St, from S St to Dolbeer St	67	5	20	70	225
Harris St, from Dolbeer St to Harrison Av	66	5	20	65	200
Henderson St, from Broadway to Spring St	66	5	20	70	215

TABLE 3.10-2 (CONTINUED)
EXISTING (2016) TRAFFIC NOISE LEVELS AND DISTANCES TO ROADWAY CONTOURS

Roadway Segment	L_{dn} @ 50 ft.[1]	Distance to L_{dn} Contours (ft)			
		75 dBA	70 dBA	65 dBA	60 dBA
Henderson St, from Spring St to E St	63	<5	10	35	110
Henderson St, from E St to F St	64	<5	15	45	140
Henderson St, from F St to H St	64	<5	15	45	140
Henderson St, from H St to I St	64	<5	10	35	115
Wabash Av, from Broadway to California St	62	<5	10	25	85
Wabash Av, east of California St	62	<5	5	25	75
7th St, from E St to H St	62	<5	10	25	80
7th St, from H St to I St	62	<5	5	20	70
7th St, east of I St	62	<5	5	25	70
6th St, E St to H St	62	<5	10	25	85
6th St, H St to I St	63	<5	10	35	110
6th St, east of I St	65	<5	15	45	145
5th St, west of H St	64	<5	15	40	125
5th St, from H St to I St	65	<5	15	50	155
5th St, from I St to R St	66	5	20	60	185
4th St, west of H St	67	10	25	80	250
4th St, from H St to I St	66	5	20	60	195
4th St, from I St to R St	67	10	25	80	255
4th St, from R St to V St	68	10	30	90	285

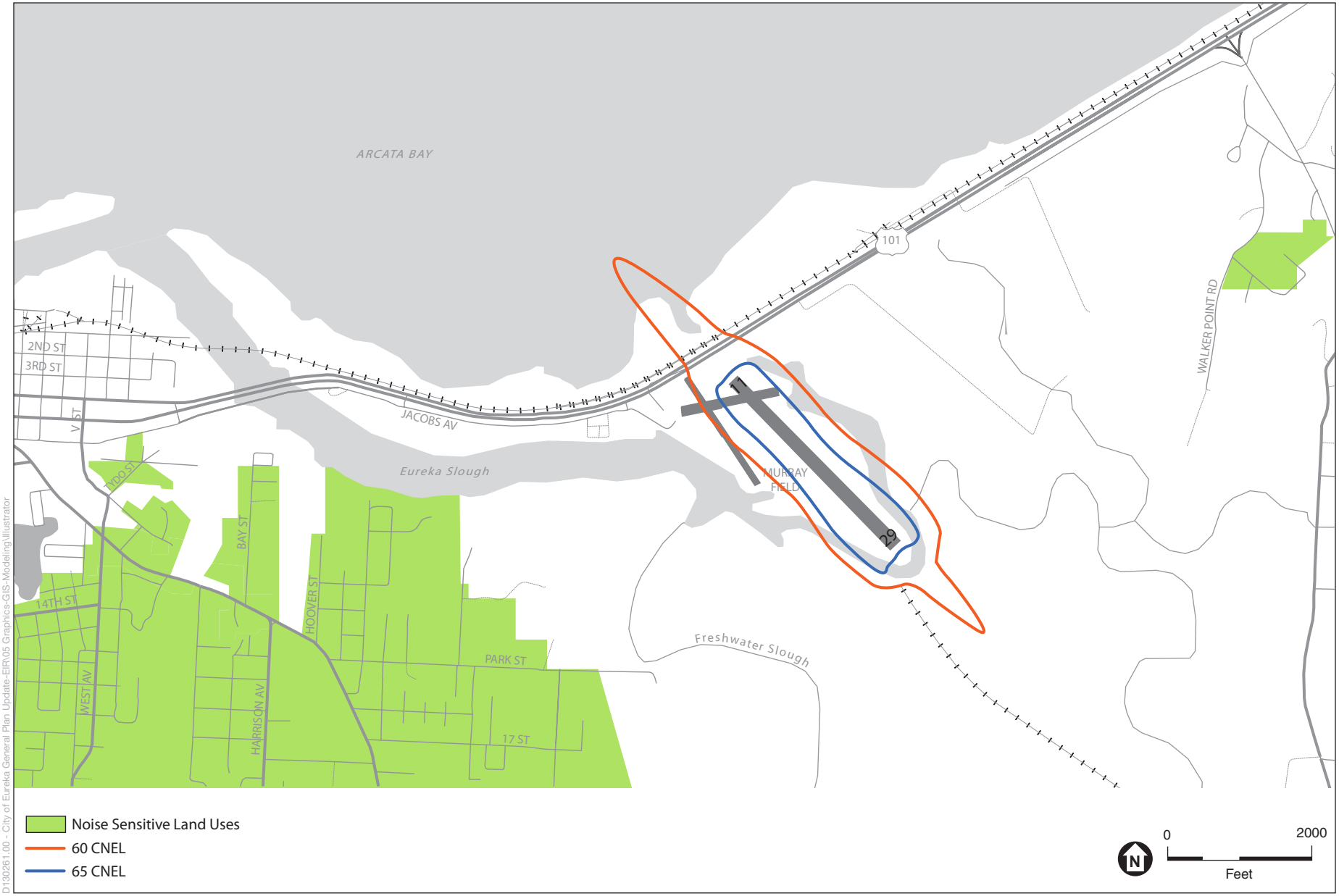
SOURCE: Traffic Noise Modeling by ESA, 2018

Existing Aircraft Noise Environment

Murray Field and Samoa Field are the only two airports located within two miles of the City. Murray Field is a County-owned public airport located within the far northeast corner of the City limits, three miles northeast of downtown Eureka. Most of its use is general aviation, but FedEx Express flights stop for package delivery. **Figure 3.10-3** presents the Noise Contours for the Airport as presented in the Murray Field Master Plan.[8]

The Samoa Field Airport, formerly known as the Eureka Municipal Airport, is a City-owned, public airport located on Samoa Peninsula in Humboldt Bay in Humboldt County, California, about one mile west of the Eureka City Limits. The airport is a general aviation (non-commercial) airport. There have been no noise contours prepared for Samoa Field, but aircraft approaches and departures associated with the airport primarily pass over Humboldt Bay and the Pacific Ocean, with minimal overflights occurring over the populated portions of the City.

8 Humboldt County, Murray Field Airport Master Plan Report, January 2007.



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SOURCE: Murray Field Airport Master Plan Report, 2006; and ESA, 2006

Eureka General Plan Update and EIR

Figure 3.10-3
Murray Field 2025 Noise Contours

ESA

3.10.2 Regulatory Overview

Federal

Noise Control Act

In 1972, the Noise Control Act was established to address the concerns of noise as a growing danger to the health and welfare of the Nation's population, particularly in urban areas. In 1974, in response to the Noise Control Act, the U.S. Environmental Protection Agency (EPA) published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.[9] **Table 3.10-3** summarizes U.S. EPA findings for residential land uses.

TABLE 3.10-3
SOUND LEVELS THAT PROTECT PUBLIC HEALTH (DBA)

Category	Measure of Exposure	Indoor			Outdoor		
		Activity Interference	Hearing Loss	To Protect Against Both Effects	Activity Interference	Hearing Loss	To Protect Against Both Effects
Residential with Outside Space	L_{dn}	45	70	45	55	70	55
Residential with No Outside Space	L_{dn}	45	70	45	-	-	-

NOTES: Sound levels are yearly average equivalent in decibels; the exposure period which results in hearing loss at the identified level is a period of forty years.

SOURCE: U.S. Environmental Protection Agency, Information of Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an adequate Margin of Safety, 1974.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration (OSHA) aims to ensure worker safety and health in the United States by working with employers and employees to create better working environments. With regard to noise exposure and workers, OSHA regulations set forth accepted criteria to protect the hearing of workers exposed to occupational noise. Noise exposure regulations are listed in 29 CFR Section 1910.95. Most applicable to this project, 1910.95(c)(1) states that an employer shall administer a hearing conservation program whenever noise exposure levels equal or exceed an 8-hour time-weighted average sound level of 85 dBA.

Federal Aviation Administration

The Federal Aviation Administration (FAA) has published guidelines for land use compatibility in 14 Code of Federal Regulations (CFR) Part 150. For aviation noise analyses, the FAA has determined that the 24-hour cumulative exposure of individuals to noise resulting from aviation activities must be established in terms of L_{dn} as FAA's primary metric. However, the FAA

[9] U.S. Environmental Protection Agency (U.S. EPA), 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an adequate margin of Safety. March 1974.

recognizes CNEL as an alternative metric for assessing aircraft (e.g., helicopters) noise exposure in California.

Based on FAA standards, a significant noise impact would occur if analysis shows that the project would cause noise sensitive areas to experience an increase in the aircraft noise level of 1.5 dB CNEL or more when aircraft levels are 65 dBA CNEL or higher. In addition, a significant noise impact would occur if noise sensitive land uses would be newly exposed to levels of 65 dBA CNEL or higher as a result of a project. For example, a 1.5 dB increase at an aircraft noise level of 63.5 dBA CNEL that brings the aircraft noise level to 65 dBA CNEL would be considered a significant impact.

According to Chapter 65 of Title 42 of the United States Code, and Articles 3 and 3.5 of Chapter 4 of Division 9 of the Public Utilities Code of the State of California, local enforcement of noise regulations and land use regulations related to noise control of airports (e.g., helistops) are preempted by the FAA.

State

Title 24

Title 24 of the California Code of Regulations codifies Sound Transmission Control requirements, which establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 24 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA CNEL in any habitable room of new dwellings.

Department of Industrial Relations

The Division of Occupational Safety and Health (DOSH) protect workers and the public from safety hazards through its California Divisions of Occupational Safety and Health (Cal/OSHA) program. The Cal/OSHA Program is responsible for enforcing California laws and regulations pertaining to workplace safety and health and for providing assistance to employers and workers about workplace safety and health issues. DOSH enforces noise standards in the workplace in conjunction with OSHA through the CAL/OSHA program.

Local

City of Eureka 1997 General Plan

The City's 1997 General Plan contains policies and implementation measures relevant to noise and vibration. Specifically, the 1997 General Plan includes policies that regulates noise within the City limits. Upon approval of the proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded. Therefore, they are not included in this analysis.

Health and Safety Element

Residential Noise Exposure

> **Goal 7.E: To protect Eureka residents from the harmful and annoying effects of exposure to excessive noise.**

Policies

7.G.1: The City shall prohibit new development of noise-sensitive uses where the noise level due to non-transportation noise sources will exceed the noise level standards of Table 7-1 as measured immediately within the property line of the new development, unless effective noise mitigation measures have been incorporated into the development design to achieve the standards specified in **Table 3.10-4**.

TABLE 3.10-4
NOISE LEVEL PERFORMANCE STANDARDS
NEW PROJECTS AFFECTED BY OR INCLUDED NON-TRANSPORTATION SOURCES

Noise Level Descriptor	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly L_{eq}, dBA	50	45
Maximum level, dBA	70	65

NOTES: Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

7.G.2: The City shall require that noise created by new proposed non-transportation sources be mitigated so as not to exceed the noise level standards of Table 3.10-4 as measured immediately within the property line of lands designated for noise-sensitive uses, as listed in Table 3.10-4.

7.G.3: The City shall not subject existing dwellings and new single-family dwellings to the standards presented in Table 3.10-4. As a consequence, such dwellings may be constructed in areas where noise levels exceed these standards and it shall not be the responsibility of the City to ensure that such dwellings meet these standards or the noise standards imposed by lending agencies such as HUD, FHA and Cal Vet. If homes are located and constructed in accordance with the policies of this section, it is expected that the resulting exterior and interior noise levels will conform to the HUD/FHA/Cal Vet noise standards.

For the purposes of compliance with the provisions of this section, the City defines transportation noise sources as traffic on public roadways, railroad line operations, and aircraft in flight. Control of noise form these sources is preempted by federal and state regulations. Other noise sources are presumed to be subject to local regulations, such as a noise control ordinance. Non-transportation noise sources may include industrial operations, outdoor recreation facilities, HVAC units, and loading docks.

7.G.4: Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table 3.10-4 at existing or planned noise-sensitive uses, the City shall require an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design. The acoustical analysis shall meet the following requirements:

a. It shall be the financial responsibility of the applicant.

b. It shall be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.

c. It shall include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.

d. It shall include estimates of existing and projected cumulative (20 years) noise levels in terms of L_{dn} or CNEL and /or the standards of Table 3.10-4, and compare those levels to the policies of this General Plan

e. It shall recommend appropriate mitigation to achieve compliance with the policies and standards of this General Plan, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers of structural modifications to buildings which contain noise-sensitive land uses. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.

f. It shall include estimates of noise exposure after the prescribed mitigation measures have been implemented.

g. It shall describe a post-project assessment program which could be used to evaluate the effectiveness of the proposed mitigation measures.

7.G.5: The City shall evaluate the general feasibility of proposed projects with respect to existing and future transportation noise levels shown in **Table 3.10-5**.

TABLE 3.10-5
FEASIBILITY OF DEVELOPMENTS WITH RESPECT TO TRANSPORTATION NOISE

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE - L_{dn} or CNEL (dBA)													
	50		55		60		65		70		75		80	
Residential, Theaters, Auditoriums, Music Halls, Meeting Halls, Churches														
Transient Lodging- Motels, Hotels														
Schools, Libraries, Museums, Hospitals, Nursing Homes, Child Care Facilities														
Playgrounds, Neighborhood Parks														
Office Buildings, Retail Commercial														

	Feasible	Specified land use is satisfactory. No noise mitigation measures are required.
	Probably Feasible	Use should be permitted only after careful study and inclusion of protective measures as needed to satisfy the policies of the General Plan
	Usually Not Feasible	Development is usually not feasible in accordance with the goals and policies of the noise section of the General Plan

SOURCE: City of Eureka, 1997. *City of Eureka General Plan*. Adopted February 27, 1997.

7.G.6: The City shall prohibit new development of noise-sensitive land uses in areas exposed to existing or projected levels of noise from transportation noise sources which exceed the levels specified in **Table 3.10-6**, unless the project design includes effective mitigation measures to reduce exterior noise and noise levels in interior spaces to the levels specified in Table 3.10-6.

TABLE 3.10-6
MAXIMUM ALLOWABLE NOISE EXPOSURE TRANSPORTATION NOISE SOURCES

Land Use	Outdoor Activity Areas[1] L_{dn}/DNEL, dB	Interior Spaces	
		L_{dn}/CNEL, dB	L_{eq}, dB[2]
Residential	60[3]	45	--
Transient Lodging	60[3]	45	--
Hospitals, Nursing Homes	60[3]	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60[3]	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

NOTES:
1 Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. For residential uses with front yards facing the identified noise source, an exterior noise level criterion of 65 dB L_{dn} shall be applied at the building façade, in addition to a 60 dB L_{dn} criterion at the outdoor activity area.
2 As determined for a typical worst-case hour during periods of use.
3 Where it is not feasible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

7.G.7: The City shall ensure that noise created by new transportation noise sources is mitigated so as not to exceed the levels specified in Table 3.10-6 at outdoor activity areas or interior spaces of existing noise-sensitive land uses.

7.G.8: New roadway improvement projects may be needed to accommodate development permitted according to the Land Use Diagram. As a result, existing noise sensitive uses may be exposed to increased noise levels due to increased roadway capacity and increase in travel speed, making it impractical to achieve the noise level standards contained Table 3.10-6. As an alternative to the standards in Table 3.10-6, the City will apply the following criteria to determine the significance of increases in noise related to improvement projects:

a. Where existing traffic noise levels are less than 60 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +5 dB L_{dn} increase in noise levels due to a roadway improvement project will be considered significant; and

b. Where existing traffic noise levels range between 60 and 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +3 dB L_{dn} increase in noise levels due to a roadway improvement project will be considered significant; and

c. Where existing traffic noise levels are greater than 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +1.5 dB L_{dn} increase in noise levels due to a roadway improvement project will be considered significant.

Noise Compatibility

Goal 7.H: To protect the economic base of the city by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses.

Policies

7.H.1: Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 3.10-6 or the performance standards of Table 3.10-4, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

7.H.2: Where noise mitigation measures are required to achieve the standards of Tables 3.10-4 and 3.10-6, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.

City of Eureka Municipal Code

The City of Eureka does not currently have an adopted noise ordinance.

3.10.3 Analysis, Impacts, and Mitigation

Significance Criteria

Implementation of the 2040 General Plan would result in a significant impact if it would result in any of the following, which are adapted from CEQA Guidelines, Appendix G:

a. Exposure of persons to, or generation of, noise levels in excess of the standards established in the City's existing General Plan or applicable standards of other agencies;

b. Exposure of persons to, or generation of, excessive airborne noise levels or groundborne vibration;

c. A substantial permanent increase in noise levels relative to ambient noise levels in the project area;

d. A substantial temporary or periodic increase in noise levels relative to ambient noise levels in the project area;

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2-miles of a public airport or public use airport, where the project would expose people residing or working in the area to excessive noise levels; and

f. For a project within the vicinity of a private airstrip, where the project would exposure people residing or working in the project area to excessive noise levels.

Methodology and Assumptions

Information for this assessment of impacts relative to noise and vibration is based on a review of City and County Plans, including the *Eureka General Plan Community Background*

Report,[10] the *Draft Eureka 2040 General Plan*[11] and existing and future traffic volumes provided by W-Trans.

Roadside noise levels were calculated for the same roadways analyzed in Section 3.12, *Transportation*. The street segments selected for analysis are those expected to be most directly impacted by the proposed 2040 General Plan, which, for the purpose of this analysis, are roadways within the City that experience the highest traffic volumes. These streets are forecast to experience the greatest percentage increase in traffic generated by the 2040 General Plan. The noise levels were calculated using the FHWA traffic noise prediction equations and traffic volumes identified in Section 3.12 of this Draft EIR.

CEQA generally requires the consideration of both the Existing Plus Project condition and Cumulative Plus Project condition when evaluating whether a project would expose existing sensitive receptors to traffic noise that would result in a substantial increase over existing conditions. The analysis in Impact 3.10-5 presents the traffic noise increases along roadways within the City under the 2040 General Plan in comparison to both the Existing and cumulative and Cumulative without the 2040 General Plan conditions.

The California Supreme Court's *CBIA v. BAAQMD* decision[12] has indicated that the impact of existing environmental conditions on a project's future users or residents are generally not required to be considered in a CEQA evaluation, except when the project may exacerbate existing hazards or existing conditions. CEQA analysis is therefore concerned with a project's impact on the environment, rather than with the environment's impact on a project and its users or residents. Thus, with existing traffic noise on proposed sensitive land uses, the City is not required under CEQA to consider the effects of locating new receptors into an area where such noise levels already exist. Therefore, traffic noise exposure on existing future sensitive receptors within the City are not assessed in this Draft EIR. It should be noted, however, that *CBIA v. BAAQMD* decision does not preclude jurisdictions like the City from considering these types of impacts during its own planning and development review processes.

Issues Not Discussed in Impacts

The following topic was found to result in no impacts and were therefore not evaluated further:

- ***Expose people or structures to or generate excessive groundborne noise levels.*** The second criterion above relates to groundborne vibration and groundborne noise levels, but only the issue of groundborne vibration is relevant to the 2040 General Plan. Groundborne noise occurs when vibrations transmitted through the ground result in secondary radiation of noise. Groundborne noise is generally associated with underground railway operations and with construction activities such as blasting, neither of which are likely to result from implementation of the proposed 2040 General Plan. Future planned development within the City would not involve equipment that would produce groundborne vibration; therefore, no impacts related to the exposure of people or structures to, or the generation of, excessive

[10] City of Eureka. 2015. *Eureka General Plan Community Background Report.*
[11] City of Eureka. 2017. *Draft Eureka 2040 General Plan.*
[12] *California Building Industry Association v. Bay Area Air Quality Management District*, S213478. (A135335, A136212; 218 Cal.App.4th 1171; Alameda County Superior Court; RG10548693. Filed December 17, 2015.)

groundborne noise levels would occur in connection with project operations. The potential for construction activities to result in groundborne vibration is addressed in Impact 3.10-3.

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are specifically relevant to noise and vibration within the City.

Goal N-1: Economic vitality while limiting residential and business exposure to harmful noise and vibrations.

Policies

N-1.1: Fishing Industry Uses. Give priority to and continue to support and allow fishing-related noise along the waterfront.

N-1.2: Protect Existing Industries. Protect agricultural, fishing and industrial uses from noise complaints and allow their routine operations to continue.

N-1.3: Land Use Compatibility. Consider the compatibility of new development with the existing noise environment when reviewing discretionary proposals.

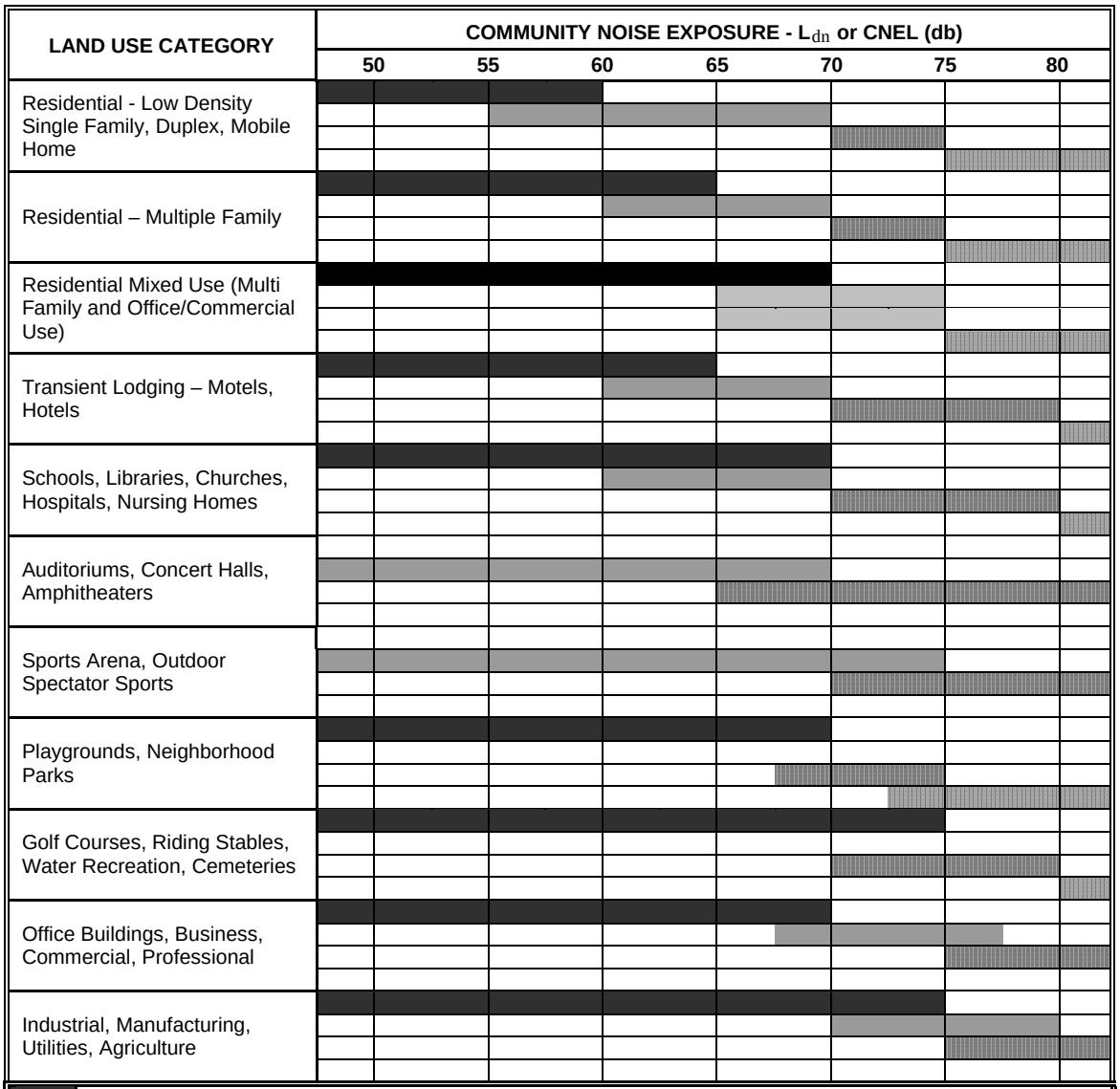
N-1.4: New Noise-Sensitive Development. Require development of new noise-sensitive land uses (such as hospitals, convalescent homes, schools, churches, and wildlife habitat) that are proposed in areas exposed to existing or projected exterior noise levels in Figure N-2 [reproduced as **Table 3.10-7**, below] or interior noise levels exceeding the levels specified in Table N-3 [reproduced as **Table 3.10-8**, below] or the performance standards of Table N-4 [reproduced as **Table 3.10-9**, below] to mitigate noise impacts.

N-1.5: New Stationary Noise Sources. Require new stationary noise sources to mitigate noise impacts on noise-sensitive uses in which exterior level noises exceed the standards in Table N-4 [reproduced as **Table 3.10-9**, below].

N-1.6: Noise Mitigation. Emphasize site planning and project design for all development requiring noise mitigation measures. Consider noise barriers only following the integration of all other practical design-related noise mitigation measures into the project.

N-1.7: Frequent, High-Noise Events. Require development of noise-sensitive uses proposed in areas subject to frequent, high-noise events (such as aircraft overflights, or truck traffic) to adequately evaluate and mitigate the potential for noise-related impacts. Mitigation shall ensure noise-related annoyance, sleep disruption, speech interference, and other similar effects are minimized using metrics and methodologies appropriate to the effect(s) to be assessed and avoided.

TABLE 3.10-7
NOISE COMPATIBILITY



	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.
	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.
	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
	Clearly Unacceptable	New construction or development generally should not be undertaken.

TABLE 3.10-8
MAXIMUM ALLOWABLE INTERIOR NOISE EXPOSURE TRANSPORTATION NOISE SOURCES

Land Use	Interior Spaces	
	L_{dn} / CNEL, dBA	L_{eq} / CNEL, dBA[2]
Residential (Single Family)	45	--
Residential (Multi Family)	45	--
Residential Mixed Use (Multi Family and Office/Commercial Use)	45	--
Transient Lodging (Hotels, Motels)	45	--
Hospitals, Nursing Homes	45	--
Theaters, Auditoriums, Music Halls	--	35
Churches, Meeting Halls	--	45
Office, Commercial	--	45
Schools, Libraries, Museums	--	45
Playgrounds, Neighborhood Parks	--	--
Industrial, Manufacturing	--	--

NOTES:
1 Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. For single family residential uses with front yards facing the identified noise source, an exterior noise level criterion of 65 dB L_{dn} shall be applied at the building facade, in addition to a 60 dB L_{dn} criterion at the outdoor activity area.
2 As determined for a typical worst-case hour during periods of use.
3 Where it is not feasible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
4 Where it is not feasible to reduce noise in outdoor activity areas to 65 dB L_{dn}/CNEL or less using a practical application of the best available noise reduction measures, an exterior noise level of up to 70 dB L_{dn}/CNEL may be allowed provided available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

SOURCE: Office of Planning and Research, State of California General Plan Guidelines, Appendix D: Noise Element Guidelines, 2017; City of Eureka, 2018.

TABLE 3.10-9
NOISE LEVEL PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq}, dBA	55	45
Maximum level, dBA	70	65

NOTES: Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

N-1.8: Acoustical Analysis. Require an acoustical analysis as part of the environmental review process for development of noise-sensitive land uses proposed in noise contour areas that are above the acceptable noise standard or for new development in noise contours that produce noise above those standards identified in Figure N-1 [reproduced as Figure 3.10-3]. This analysis shall meet the following requirements:

a. Be the financial responsibility of the applicant.

b. Be prepared by a qualified person experienced in the fields of acoustics.

c. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.

d. Estimate projected future (20-year) noise levels in terms of the Standards of Tables N-1 and N-2 [reproduced below as **Tables 3.10-10 and 3.10-11**, respectively], and compare those levels to the adopted policies of the Noise Element.

e. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.

f. Estimate interior and exterior noise exposure after the prescribed mitigation measures have been implemented.

N-1.9: Mixed Use Development. Require new mixed use developments and other uses that generate high noise levels to locate potentially incompatible noise sources away from the residential portion of the development.

N-1.10: High Noise Generating Uses. Locate new industrial uses or other high noise generating uses away from noise-sensitive land uses and minimize excessive noise through project design features that include noise control and landscaped buffers.

N-1.11: Roadway Mitigation Measures. Include noise mitigation measures in the design of any improvements along existing streets and highways. When feasible, measures should consider natural buffers or the use of setbacks between roadways and adjoining noise sensitive uses.

N-1.12: Airport Noise Compatibility. Work with airport operators and the Humboldt County Public Works Department to ensure development of sensitive uses occurs outside of the 60 dBA CNEL airport noise contour, and in accordance with adopted airport land use compatibility plans.

N-1.13: Construction Noise. Minimize construction-related noise and vibration by limiting construction activities within 500 feet of noise-sensitive uses to 7:00 a.m. to 7:00 p.m., unless further restricted through permitting.

N-1.14: Vibration. Require an assessment of vibration-induced construction activities, and development near highways and rail lines, in close proximity to historic buildings and archaeological sites to ensure no damage occurs.

TABLE 3.10-10
EXISTING (2016) TRAFFIC NOISE LEVELS AND DISTANCES TO ROADWAY CONTOURS

Roadway Segment	L_{dn} from 50 feet	Distance to L_{dn} Contours (feet)			
		75 dBA	70 dBA	65 dBA	60 dBA
Broadway, from Henderson Av to Wabash Av	68	10	35	110	350
Broadway, from Wabash Av to 16th St	68	10	30	95	305
Broadway, north of 14th St	68	10	30	95	310
H St, from Hodgson St to Harris St	64	<5	10	40	125
H St, from Harris St to Henderson St	62	<5	10	25	75
H St, from Henderson St to Buhne St	64	<5	10	35	120
H St, from Buhne St to 14th St	64	<5	10	35	115
H St, from 14th St to 7th St	62	<5	10	25	85
H St, from 7th St to 6th St	62	<5	10	25	80
H St, from 6th Street to 5th St	62	<5	5	25	70
H St, from 5th St to 4th St	62	<5	10	25	80
H St, south of Hodgson St	64	<5	10	40	120
I St, from Harris St to Henderson St	67	5	25	75	235
I St, from Henderson St to Buhne St	66	5	20	65	200
I St, from Buhne St to 14th St	66	5	20	65	200
I St, from 14th Street to 7th St	65	5	15	55	170
I St, from 7th St to 6th St	64	<5	15	45	140
I St, from 6th St to 5th St	64	<5	10	40	120
I S, from 5th St to 4th St	60	<5	5	15	55
S St, south of Harris St	63	<5	10	30	100
S, St, from Harris St to Buhne St	65	<5	15	50	155
S St/West Av, from Bhune St to Myrtle Av	66	5	20	60	190
Dolbeer St, from Walnut Dr to Harrist St	64	<5	10	35	115
Harrison Av, from Harris St to Myrtle Av	65	5	15	50	160
Myrtle Av, east of Harrison Av	67	5	25	70	225
Myrtle Av, from West Av to Harrison Av	68	10	30	95	300
Myrtle Av, from West Av to 5th St	66	5	20	60	190
Harris St, west of Union St	64	<5	15	45	135
Harris St, from Union St to E St	66	5	20	60	195
Harris St, from E St to F St	66	5	20	65	200
Harris St, from F St to H St	67	5	25	75	235
Harris St, from H St to I St	68	10	30	100	315
Harris St, I St to S St	67	5	25	75	235
Harris St, from S St to Dolbeer St	67	5	20	70	225
Harris St, from Dolbeer St to Harrison Av	66	5	20	65	200
Henderson St, from Broadway to Spring St	66	5	20	70	215
Henderson St, from Spring St to E St	63	<5	10	35	110
Henderson St, from E St to F St	64	<5	15	45	140
Henderson St, from F St to H St	64	<5	15	45	140
Henderson St, from H St to I St	64	<5	10	35	115

TABLE 3.10-10 (CONTINUED)
EXISTING (2016) TRAFFIC NOISE LEVELS AND DISTANCES TO ROADWAY CONTOURS

Roadway Segment	L_{dn} from 50 feet	Distance to L_{dn} Contours (feet)			
		75 dBA	70 dBA	65 dBA	60 dBA
Wabash Av, from Broadway to California St	62	<5	10	25	85
Wabash Av, east of California St	62	<5	5	25	75
7th St, from E St to H St	62	<5	10	25	80
7th St, from H St to I St	62	<5	5	20	70
7th St, east of I St	62	<5	5	25	70
6th St, E St to H St	62	<5	10	25	85
6th St, H St to I St	63	<5	10	35	110
6th St, east of I St	65	<5	15	45	145
5th St, west of H St	64	<5	15	40	125
5th St, from H St to I St	65	<5	15	50	155
5th St, from I St to R St	66	5	20	60	185
4th St, west of H St	67	10	25	80	250
4th St, from H St to I St	66	5	20	60	195
4th St, from I St to R St	67	10	25	80	255
4th St, from R St to V St	68	10	30	90	285

SOURCE: Traffic Noise Modeling by ESA, 2018

TABLE 3.10-11
2040 GENERAL PLAN TRAFFIC NOISE LEVELS AND DISTANCES TO ROADWAY CONTOURS

Roadway Segment	L_{dn} from 50 feet	Distance to L_{dn} Contours (feet)			
		75 dBA	70 dBA	65 dBA	60 dBA
Broadway, from Henderson Av to Wabash Av	69	15	40	130	405
Broadway, from Wabash Av to 16th St	69	10	35	115	360
Broadway, north of 14th St	69	10	35	115	355
H St, from Hodgson St to Harris St	64	<5	15	45	140
H St, from Harris St to Henderson St	62	<5	10	25	80
H St, from Henderson St to Buhne St	64	<5	15	40	130
H St, from Buhne St to 14th St	64	<5	15	45	135
H St, from 14th St to 7th St	63	<5	10	35	110
H St, from 7th St to 6th St	62	<5	10	30	90
H St, from 6th Street to 5th St	62	<5	10	30	90
H St, from 5th St to 4th St	63	<5	10	35	105
H St, south of Hodgson St	65	<5	15	45	140
I St, from Harris St to Henderson St	67	10	25	85	270
I St, from Henderson St to Buhne St	67	10	25	75	240
I St, from Buhne St to 14th St	67	5	25	75	230
I St, from 14th Street to 7th St	66	5	20	65	210
I St, from 7th St to 6th St	65	5	15	50	160

TABLE 3.10-11 (CONTINUED)
2040 GENERAL PLAN TRAFFIC NOISE LEVELS AND DISTANCES TO ROADWAY CONTOURS

Roadway Segment	L_{dn} from 50 feet	Distance to L_{dn} Contours (feet)			
		75 dBA	70 dBA	65 dBA	60 dBA
I St, from 6th St to 5th St	64	<5	15	45	140
I S, from 5th St to 4th St	62	<5	10	25	85
S St, south of Harris St	63	<5	10	35	105
S, St, from Harris St to Buhne St	65	5	15	50	165
S St/West Av, from Bhune St to Myrtle Av	66	5	20	60	195
Dolbeer St, from Walnut Dr to Harrist St	64	<5	15	40	125
Harrison Av, from Harris St to Myrtle Av	65	5	15	50	165
Myrtle Av, east of Harrison Av	67	10	25	75	240
Myrtle Av, from West Av to Harrison Av	68	10	30	100	320
Myrtle Av, from West Av to 5th St	66	5	20	65	210
Harris St, west of Union St	65	<5	15	50	155
Harris St, from Union St to E St	66	5	20	65	215
Harris St, from E St to F St	66	5	20	70	215
Harris St, from F St to H St	67	5	25	75	235
Harris St, from H St to I St	68	10	35	105	330
Harris St, I St to S St	67	5	25	75	235
Harris St, from S St to Dolbeer St	67	5	25	75	230
Harris St, from Dolbeer St to Harrison Av	66	5	20	65	205
Henderson St, from Broadway to Spring St	67	5	20	70	225
Henderson St, from Spring St to E St	64	<5	10	35	115
Henderson St, from E St to F St	65	<5	15	50	150
Henderson St, from F St to H St	65	<5	15	50	150
Henderson St, from H St to I St	64	<5	15	40	130
Wabash Av, from Broadway to California St	62	<5	10	25	85
Wabash Av, east of California St	62	<5	10	25	85
7th St, from E St to H St	62	<5	10	25	80
7th St, from H St to I St	64	<5	10	40	120
7th St, east of I St	63	<5	10	35	105
6th St, E St to H St	64	<5	15	45	140
6th St, H St to I St	64	<5	15	40	130
6th St, east of I St	65	<5	15	50	155
5th St, west of H St	64	<5	15	45	135
5th St, from H St to I St	65	5	20	55	175
5th St, from I St to R St	66	5	20	65	215
4th St, west of H St	68	10	30	95	300
4th St, from H St to I St	67	5	25	70	230
4th St, from I St to R St	68	10	30	95	305
4th St, from R St to V St	68	10	35	105	335

SOURCE: Traffic Noise Modeling by ESA, 2018

Impacts and Mitigation Measures

Impact 3.10-1: Construction activities associated with implementation of the Eureka 2040 General Plan Update would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies or result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Under the 2040 General Plan, the primary source of temporary noise within the City would be from construction. Construction activities within the City would involve both off-road construction equipment (e.g., excavators, dozers, cranes, etc.) and transport of workers and equipment to and from construction sites. **Table 3.10-12** shows typical noise levels produced by the types of off-road equipment that would likely be used during future construction areas within the City.

TABLE 3.10-12
REFERENCE CONSTRUCTION EQUIPMENT NOISE LEVELS
(50 FEET FROM SOURCE)

Type of Equipment	L_{max}, dBA	Hourly L_{eq}, dBA/Percent Use[1]
Backhoe	80	76/40
Jackhammer	85	78/20
Roller	85	78/20
Compactor	80	73/20
Paver	85	82/50
Crane	85	77/16
Grader	85	81/40
Concrete Mixer Truck	85	81/40
Loader	80	76/40
Air Compressor	80	76/40
Excavator	85	81/40

NOTES:
1 Percent used during the given time period (usually an hour – hourly L_{eq}) were obtained from the FHWA Roadway Construction Noise Model User's Guide.

SOURCE: FHWA, 2006.

Construction noise is a major source of temporary noise within the City and would continue to be so regardless of whether or not the 2040 General Plan is adopted. Noise levels near individual construction sites under the proposed 2040 General Plan would not be substantially different from what they would be under the existing 1997 General Plan. Since specific future projects within the City are unknown at this time, it is conservatively assumed that the construction areas associated with these future projects could be located within 50 feet of sensitive land uses. To quantify construction-related noise exposure at the nearest sensitive land uses, it is assumed that the two loudest pieces of construction equipment would operate within 50 feet of a sensitive receptor.

Under that scenario, Sensitive receptors located within 50 feet of an excavator or other construction equipment producing similar levels of noise could be exposed to a noise level of 85 dBA L_{max} and 84 dBA L_{eq}. However, the proposed 2040 General Plan Noise Element Goals

and Policies would ensure that adverse noise impacts associated with construction would be effectively regulated. Policy N-1.13, *Construction Noise*, of the proposed 2040 General Plan would limit construction noise to 7:00 a.m. to 7:00 p.m. when construction activities occur within 500 feet of a sensitive land use. Therefore, with implementation of Policy N-1.13, impacts associated with future construction activities conflicting with local noise standards would result in a **less than significant impact**.

Mitigation Measure

None required.

Impact 3.10-2: Stationary noise sources from development within the proposed 2040 General Plan Update area would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies or result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

The proposed 2040 General Plan would add known noise-producing uses (i.e., commercial, light industrial) to developed areas of the City. These uses would be expected to increase noise exposure at existing nearby noise-sensitive uses or affect proposed noise-sensitive uses in the vicinity.

However, the proposed General Plan contains goals and policies that would ensure that noise impacts on existing or future noise-sensitive uses from future noise-producing uses within the City would be less than significant. Proposed General Plan Policy N-1.5, *New Stationary Noise Sources*, would require new stationary noise sources (e.g., HVAC units, loading docks, generators, etc.) to mitigate noise impacts on noise-sensitive uses when the noise from that source alone exceeds exterior levels specified in the proposed Noise Element. In addition, proposed General Plan Policy N-1.8, *Acoustical Analysis*, would require that an acoustical analysis be prepared for projects that involve development of sensitive land uses to ensure noise standards specified in the proposed Noise Element are not exceeded. Based on these requirements, the impact would be **less than significant**.

Mitigation Measure

None required.

Impact 3.10-3: Implementation of the 2040 General Plan Update would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Future construction activities, as well as an increase in vehicular traffic, could occur under the proposed 2040 General Plan, which could have the potential to expose sensitive land uses within the City to groundborne vibration.

Construction activities would occur in a variety of locations throughout the City, which may require activities or use of off-road equipment know to generate excessive vibration such as blasting, impact pile driving and heavy earth-moving equipment. If these construction activities were to be located in close proximity to sensitive land uses, the implementation of the 2040 General Plan could expose sensitive receptors and buildings to vibration levels that could result in annoyance or building damage.

According to the Caltrans' *Transportation and Construction Vibration Guidance Manual*, the building damage threshold for historic and some older buildings is 0.25 PPV (in/sec) and the human annoyance vibration threshold is 80 VdB.[13] 2040 General Plan Policy N-1.14, *Vibration*, would require assessments of vibration potential when projects are proposed in the vicinity of sensitive receptors, historic buildings, and archaeological sites, and would require that all feasible mitigation measures be implemented to ensure no damage would occur. Compliance with this General Plan policy would effectively minimize or avoid potentially significant impacts related to vibration. Therefore, this impact would be **less than significant**.

Mitigation Measure

None required.

Impact 3.10-4: Transportation activities under the Eureka General Plan Update would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Vehicular traffic noise increases associated with the proposed 2040 General Plan were estimated using algorithms found in the FHWA's *Traffic Noise Model Technical Manual* and the estimated 2040 General Plan traffic volumes provided in this Draft EIR's traffic analysis. Traffic noise levels were estimated for roadway segments within the City under Existing, Cumulative and Cumulative Plus 2040 General Plan conditions. The results of the vehicular traffic noise modeling effort are summarized in **Table 3.10-13**. As there would be very little cumulative growth outside of the City (i.e., in unincorporated Humboldt County), the Existing Plus Project and the Cumulative conditions are materially indistinguishable.

According to Caltrans, a 3 dB increase in noise is considered barely perceptible to the average human.[14] As shown in Table 3.10-13, none of the sensitive land uses along roadway segments analysis would be exposed to an increase in traffic noise that would be considered perceptible. Traffic noise in the City, even with implementation of the 2040 General Plan Update, would remain essentially unchanged from existing conditions. Therefore, the increase in vehicular traffic along local roadways would not result in the exposure of adjacent existing sensitive land uses to vehicular traffic noise and the impact would be **less than significant**.

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[13] California Department of Transportation (Caltrans), 2013. *Transportation and Construction Vibration Guidance manual.* September 2013.

[14] California Department of Transportation (Caltrans), 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013.

TABLE 3.10-13
EXISTING AND PROJECTED L_{DN} TRAFFIC NOISE LEVELS ALONG STREETS
2040 GENERAL PLAN

Roadway Segment	Traffic Noise Level, dBA, L_{dn}[1]							Distance to L_{dn} Contours (feet)			
	Existing Condition (2016)[1]	2040 No General Plan Condition[1]	2040 Plus General Plan Condition[1]	2040 Plus General Plan minus Existing Conditions	2040 Plus General Plan minus 2040 No General Plan Conditions	Significant Increase (Yes or No)?[2]	General Plan Contribution Considerable (Yes or No)?[3]	75 dBA	70 dBA	65 dBA	60 dBA
Broadway, from Henderson Av to Wabash Av	68	69	69	1	0	No	No	15	40	130	405
Broadway, from Wabash Av to 16th St	68	68	69	1	1	No	No	10	35	115	360
Broadway, north of 14th St	68	68	69	1	1	No	No	10	35	115	355
H St, from Hodgson St to Harris St	64	65	64	0	-1	No	No	<5	15	45	140
H St, from Harris St to Henderson St	62	62	62	0	0	No	No	<5	10	25	80
H St, from Henderson St to Buhne St	64	64	64	0	0	No	No	<5	15	40	130
H St, from Buhne St to 14th St	64	64	64	0	0	No	No	<5	15	45	135
H St, from 14th St to 7th St	62	63	63	1	0	No	No	<5	10	35	110
H St, from 7th St to 6th St	62	62	62	0	0	No	No	<5	10	30	90
H St, from 6th Street to 5th St	62	62	62	0	0	No	No	<5	10	30	90
H St, from 5th St to 4th St	62	62	63	1	1	No	No	<5	10	35	105
H St, south of Hodgson St	64	65	65	1	0	No	No	<5	15	45	140
I St, from Harris St to Henderson St	67	67	67	0	0	No	No	10	25	85	270
I St, from Henderson St to Buhne St	66	67	67	1	0	No	No	10	25	75	240
I St, from Buhne St to 14th St	66	66	67	1	1	No	No	5	25	75	230
I St, from 14th Street to 7th St	65	66	66	1	0	No	No	5	20	65	210
I St, from 7th St to 6th St	64	64	65	1	1	No	No	5	15	50	160
I St, from 6th St to 5th St	64	64	64	0	0	No	No	<5	15	45	140
I S, from 5th St to 4th St	60	61	62	2	1	No	No	<5	10	25	85
S St, south of Harris St	63	63	63	0	0	No	No	<5	10	35	105
S St, from Harris St to Buhne St	65	65	65	0	0	No	No	5	15	50	165

TABLE 3.10-13 (CONTINUED)
EXISTING AND PROJECTED L_{DN} TRAFFIC NOISE LEVELS ALONG STREETS
2040 GENERAL PLAN

Roadway Segment	Traffic Noise Level, dBA, L_{dn}[1]										
	Existing Condition (2016)[1]	2040 No General Plan Condition[1]	2040 Plus General Plan Condition[1]	2040 Plus General Plan minus Existing Conditions	2040 Plus General Plan minus 2040 No General Plan Conditions	Significant Increase (Yes or No)?[2]	General Plan Contribution Considerable (Yes or No)?[3]	Distance to L_{dn} Contours (feet)			
								75 dBA	70 dBA	65 dBA	60 dBA
S St/West Av, from Bhune St to Myrtle Av	66	66	66	0	0	No	No	5	20	60	195
Dolbeer St, from Walnut Dr to Harrist St	64	64	64	0	0	No	No	<5	15	40	125
Harrison Av, from Harris St to Myrtle Av	65	65	65	0	0	No	No	5	15	50	165
Myrtle Av, east of Harrison Av	67	67	67	0	0	No	No	10	25	75	240
Myrtle Av, from West Av to Harrison Av	68	68	68	0	0	No	No	10	30	100	320
Myrtle Av, from West Av to 5th St	66	66	66	0	0	No	No	5	20	65	210
Harris St, west of Union St	64	65	65	1	0	No	No	<5	15	50	155
Harris St, from Union St to E St	66	66	66	0	0	No	No	5	20	65	215
Harris St, from E St to F St	66	66	66	0	0	No	No	5	20	70	215
Harris St, from F St to H St	67	67	67	0	0	No	No	5	25	75	235
Harris St, from H St to I St	68	68	68	0	0	No	No	10	35	105	330
Harris St, I St to S St	67	67	67	0	0	No	No	5	25	75	235
Harris St, from S St to Dolbeer St	67	67	67	0	0	No	No	5	25	75	230
Harris St, from Dolbeer St to Harrison Av	66	66	66	0	0	No	No	5	20	65	205
Henderson St, from Broadway to Spring St	66	67	67	1	0	No	No	5	20	70	225
Henderson St, from Spring St to E St	63	64	64	1	0	No	No	<5	10	35	115
Henderson St, from E St to F St	64	65	65	1	0	No	No	<5	15	50	150
Henderson St, from F St to H St	64	65	65	1	0	No	No	<5	15	50	150
Henderson St, from H St to I St	64	64	64	0	0	No	No	<5	15	40	130
Wabash Av, from Broadway to California St	62	63	62	0	-1	No	No	<5	10	25	85
Wabash Av, east of California St	62	62	62	0	0	No	No	<5	10	25	85

TABLE 3.10-13 (CONTINUED)
EXISTING AND PROJECTED L_{DN} TRAFFIC NOISE LEVELS ALONG STREETS
2040 GENERAL PLAN

	Traffic Noise Level, dBA, L_{dn}[1]										
								Distance to L_{dn} Contours (feet)			
Roadway Segment	**Existing Condition (2016)[1]**	**2040 No General Plan Condition[1]**	**2040 Plus General Plan Condition[1]**	**2040 Plus General Plan minus Existing Conditions**	**2040 Plus General Plan minus 2040 No General Plan Conditions**	**Significant Increase (Yes or No)?[2]**	**General Plan Contribution Considerable (Yes or No)?[3]**	**75 dBA**	**70 dBA**	**65 dBA**	**60 dBA**
7th St, from E St to H St	62	62	62	0	0	No	No	<5	10	25	80
7th St, from H St to I St	62	63	64	2	1	No	No	<5	10	40	120
7th St, east of I St	62	62	63	1	1	No	No	<5	10	35	105
6th St, E St to H St	62	64	64	2	0	No	No	<5	15	45	140
6th St, H St to I St	63	64	64	1	0	No	No	<5	15	40	130
6th St, east of I St	65	65	65	0	0	No	No	<5	15	50	155
5th St, west of H St	64	64	64	0	0	No	No	<5	15	45	135
5th St, from H St to I St	65	65	65	0	0	No	No	5	20	55	175
5th St, from I St to R St	66	66	66	0	0	No	No	5	20	65	215
4th St, west of H St	67	68	68	1	0	No	No	10	30	95	300
4th St, from H St to I St	66	66	67	1	1	No	No	5	25	70	230
4th St, from I St to R St	67	67	68	1	1	No	No	10	30	95	305
4th St, from R St to V St	68	68	68	0	0	No	No	10	35	105	335

NOTES:
1 Noise levels were determine using methodology described in FHWA's Traffic Noise Model Technical Manual.
2 Existing sensitive receptors exposed to a traffic noise increase greater than 3 dB between Existing and 2040 Plus General Plan conditions is considered a significant impact.
3 The 2040 General Plan contribution to any traffic noise increase is considered considerable if existing sensitive receptors are exposed a traffic noise increase between 2040 No General Plan and 2040 Plus General Plan conditions is greater than 3 dB.

SOURCE: ESA, 2018

Mitigation Measure

None required.

Impact 3.10-5: Implementation of the Eureka General Plan Update would not expose people residing or working within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, in the project area to excessive noise levels.

As discussed in the Environmental Setting, Murray Field and Samoa Field are the only airports located within two miles of the Eureka City limits. Murray Field's Master Plan was updated in 2008, during which time it was determined that existing land uses surrounding the airport would not be located within the 65 CNEL noise contour.[15] Since there are no sensitive land uses in the 2040 General Plan proposed within the airport's 65 CNEL contour, this impact would be **less than significant**.

Samoa Field Airport does not have an adopted Airport Land Use Compatibility Plan (ALUCP), though plans are underway to include the facility in the County's comprehensive update of selected ALUCP's within the County. In general, however, the airstrip is oriented in a north-south direction, and approach and departure flight paths occur over Humboldt Bay to the south or the Pacific Ocean to the north. As such, approaches and departures to and from the facility do not occur over populated areas, and noise impacts from airport operations to populated areas are minimal. Accordingly, development associated with the 2040 General Plan would not place people in areas near the airport that would result in excessive levels. The impact would therefore be **less than significant**.

Mitigation Measure

None required.

Cumulative Impacts

The cumulative noise setting takes into account existing development within the City, and buildout of the proposed 2040 General Plan. Development in the region would increase residential, commercial, industrial, and recreational activities, which would result in new noise generators and noise-sensitive receivers.

The following accounts for regional traffic conditions under the proposed 2040 General Plan buildout and operations by existing and future commercial/industrial uses (stationary sources) in the City. The following assumes continued/existing operations at the Murray Field and Samoa Field Airports. The future (cumulative) ambient noise environment would be affected by buildout

[15] County of Humboldt Division of Aviation. 2008. Murray Field Airport Master Plan Update Environmental Assessment.

of the proposed General Plan and planned development in surrounding communities in unincorporated Humboldt County.

Aircraft noise impacts are discussed above (Impacts 3.10-5), and incorporate cumulative effects (future noise sources not associated with proposed project) into the analysis. Therefore, a separate impact statement is not included below.

Impact 3.10-6: Implementation of the Eureka General Plan Update in combination with regional growth and traffic conditions would not result in increased traffic noise exposure at existing and proposed noise-sensitive uses within the City.

On-road traffic associated with the full build-out of the proposed 2040 General Plan would be the primary source that would contribute to the cumulative noise environment. Noise projections were made using traffic noise prediction equations found in the FHWA's *Traffic Noise Model Technical Manual* for Existing, Cumulative and Cumulative plus 2040 General Plan conditions using roadway traffic volumes. The segments analyzed and results of the modeling are shown in Table 3.10-13.

Cumulative traffic noise level significance is determined by a two-step process. First, a comparison is made of the increase in noise levels between cumulative conditions with the proposed Future plus 2040 General Plan and Existing conditions. For this analysis, traffic noise increases that would result in barely perceived increase in traffic noise would be considered a significant cumulative impact. As previously discussed, a 3 dB increase in noise is considered barely perceptible to the average human being.

The second step of the cumulative roadside noise analysis (if a cumulative noise impact is predicted) is to evaluate if the contribution of the proposed 2040 General Plan to roadside noise levels is cumulatively considerable. This second step (if necessary) involves assessing whether the proposed 2040 General Plan contribution to roadside noise levels (i.e., the difference between cumulative conditions and cumulative plus project conditions) would exceed the applied barely perceptible 3 dB threshold.

As can be seen in Table 3.10-13, none of the roadway segments analyzed under Cumulative plus 2040 General Plan conditions would experience an increase in traffic noise levels over either existing conditions and cumulative no 2040 General Plan conditions that would exceed the incremental 3 dB threshold. Consequently, the cumulative impact would be **less than significant**.

<u>Mitigation Measure</u>

None required.

3.11 Public Services and Recreation

This section of the Draft EIR examines potential impacts from the implementation of the Eureka 2040 General Plan Update on the provision of public services within the City of Eureka corporate limits. Policies provided in the proposed General Plan and standard City requirements are evaluated as to their effect on mitigating or avoiding any potentially significant effects.

Background information regarding public services and recreation is provided, and for the purposes of this Draft EIR, only public services and recreation within the Eureka City limits, or the Plan Area, will be analyzed for the purposes of understanding the existing setting, available capacity, or other potential limitations to development.

Analysis of public services and recreation includes: fire protection; law enforcement; education; parks and recreation; and other public services. The focus of the assessment is on the potential impacts to these services resulting from the implementation of the proposed General Plan Update land use diagram and policies. In addition, updated state and local regulations that govern public services and recreation at the federal, state, and local level will be provided as part of the analysis. Supplemental public services are addressed in other chapters of this Draft EIR. Specifically, public services such as water, wastewater, stormwater, and solid waste can be found in Section 3.13, *Utilities and Service Systems*. Wildland fire prevention, fire suppression, hazardous materials handling and disposal are discussed in Section 3.7, *Hazards and Hazardous Materials*.

The General Plan Update covers development within the City of Eureka limits, and this Draft EIR focuses on impacts related to that development. However, fire protection and school jurisdictional boundaries in many cases include unincorporated areas. Therefore, this Draft EIR discusses these public services in both the City and unincorporated areas where it is useful for understanding the existing setting, provider service levels, or potential facility needs.

During the Notice of Preparation (NOP) comment period, no comments were provided in direct relation to Public Services and Recreation.

3.11.1 Environmental Setting

This environmental setting applies to the 2040 General Plan Update area, which encompasses the area within the City of Eureka’s city limits.

Fire Protection

This section summarizes the existing environmental setting for municipal fire protection services in the City. Specifically, this section addresses the ability for local fire departments to provide a range of services, including fire suppression, emergency medical services, response to traffic collisions and auto extrication, technical rescue (rope, swift water, collapse, and confined space rescue), and general public assistance responses. As a result, the General Plan Update defines fire protection to include all of the aforementioned services. In responding to emergencies, local fire departments work closely with law enforcement, public utilities, and ambulance service providers. Fire departments and ambulance companies are dispatched to medical calls simultaneously. In most

cases, fire personnel arrive on scene prior to the ambulance and are expected to stabilize the patient, gather vital signs, and prepare the patient for transport to the hospital.

The City of Eureka provides fire protection services to citizens within its jurisdictional boundaries or response area, and in some instances, to citizens outside of the City boundary. Within the largest population center in Humboldt County, the agency that provides fire protection services to the City of Eureka is Humboldt Bay Fire (HBF). In some instances, the California Department of Forestry and Fire Protection (CAL FIRE), the City of Arcata, the City of Fortuna, and the Samoa Peninsula Fire Protection District (SPFPD) provide fire protection services to the City.

HBF is a full service department which provides emergency response and non-emergency public safety services to approximately 50,000 people in its service area from five fire stations located in and around Eureka. HBF was founded in 2011 through a Joint Powers Authority (JPA), which consolidated the former Eureka Fire Department with the Humboldt Fire District to provide service to the City of Eureka and Greater Eureka area. HBF employs approximately 65 full-time staff who are assisted by 15 volunteers, providing a ratio of one firefighter (paid and volunteer) per 833 inhabitants, which exceeds the national standard for ideal fire protection of one firefighter per 2,000 inhabitants. HBF has five fire stations; three are located within the City limits (Fire Stations No. 1, No. 3, and No. 4) and two Fire Stations (No. 5 and No. 2), are located on the outskirts of town within the City's Sphere of Influence (SOI). The City's Five-Year Capital Improvement Program FY 2013/14 to 2017/18 (CIP) includes several planned improvements for HBF facilities including proposals for demolition, relocation, or replacement of Fire, Emergency Operations and CPR Training Center at Station No. 1 and Fire Stations No. 3 and No. 4.[1]

In 2015, HBF responded to a total of 5,895 total calls, of which 3,758 were in the City and 61 percent were emergency/medical response calls. The average response time in 2012 was 5.23 minutes for emergency/medical response and 6.46 minutes for structural fire response.[2] In 2017, HBF responded to a total of 6,244 total calls for the entire service area, which includes the City of Eureka and areas within the SOI but outside the City. During 2017, the average response time for all call types was 5.25 minutes. Service standards recommend four- to eight-minute response times according to the National Fire Protection Agency (NFPA) 1710 recommended travel time standard.[3] In addition, HBF currently has a Class 3 Insurance Service Office (ISO) rating for portions of the service area with hydrants and a 3X rating for portions of the service area without hydrants.[4] The North Coast Emergency Medical Services Agency, which is also a Joint Powers Authority, directs the emergency management services (EMS) system on behalf of Humboldt County. The EMS service within the City of Eureka Planning Area is provided by

1 Humboldt Local Agency Formation Commission (HLAFCO), 2014. City of Eureka Municipal Service Review. Fire Protection. January 15, 2014. p. 10.

2 Humboldt Bay Fire (HBF), 2015. HBF Incident Type Report, 2015. Alarm Date Between January 1st and December 31st, 2015. http://www.hbfire.org/stats.PDF. Accessed January 30, 2018.

3 National Fire Protection Association 1710 (NFPA 1710), 2016. Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments. https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1710. Accessed February 6, 2018. p. 16.

4 Jordan, Ashleigh, Humboldt Bay Fire. Email communication with Evan Wasserman, ESA. February 6, 2018.

City Ambulance of Eureka, which serves the Eureka area and most of the area south of Eureka to the Mendocino County line and east to the Trinity County line (Service Areas III - V).

Law Enforcement

This section summarizes the existing environmental setting for municipal law enforcement services in the City. Specifically, this section addresses the ability for local police departments to provide a range of services, including a discussion of the regulatory context and planning issues relating to law enforcement.

The Eureka Police Department (EPD) provides law enforcement for residents living within the City of Eureka. EPD is headquartered at 604 C Street in downtown Eureka and has a service area of approximately 18 square miles. EPD has two divisions: Service Area 1, which consists of the south and west potions of Eureka, and Service Area 2 which consists of the north and east sections of the Eureka. Each area is managed by a police captain. In all, there are 54 sworn personnel (not fully staffed at this time, down 9 sworn positions at this time),[5] one Chief of police, and 27 civilian positions including professional staff. The department is augmented by four retired annuitants, a part time Homeless Program Manager, and 21 volunteers such as the Eureka Volunteer Patrol (EVP).

The EPD Field Operations Division includes the Patrol Section, Criminal Investigations Section (CIS), Problem Oriented Policing (POP) Unit, and Gang Suppression Unit.

The Patrol Section, when fully staffed, includes 6 sergeants and approximately 22 field officers, including one officer that is assigned to foot/bike patrol duties in the Old Town district and another officer that is assigned to the school district as a School Resource Officer. The Patrol Section is assigned to policing teams who work four ten hour watches. Currently, the department is considering the addition of two additional officers on “B watch” for a total of 24 field officers, and the two specialty assignments. In addition, two traffic officers would ideally be added in the future.

The CIS is staffed by one sergeant, two senior detectives, two rotational detectives, and a civilian evidence technician. In addition, one crime analyst and one administrative technician work out of the CIS office. This equates to 8 specialized personnel who conduct investigations into complex felony and select misdemeanor cases within Eureka, while also maintaining active roles in various county-wide specialized units.

The POP Unit addresses more specific criminal activities, providing assistance to the Patrol and Criminal Investigations Sections for street level crimes, and has one sergeant, three full time detectives, and a part time paid annuitant/reserve officer. Additionally, a detective is assigned as a special agent with the Humboldt County Drug Task Force within the POP Unit. The Gang Suppression Unit acts as an auxiliary position within the department, staffed by special interest

[5] Watson, Steve, Chief of Police, City of Eureka Police Department. Email Communication January 29, 2018.

officers who are also involved in the county's Gang Task Force, and is not considered a standalone position.

The EPD Field Support Division includes the Communications Center and Eureka Volunteer Patrol. The City of Eureka's 9-1-1 Communications Center acts as the primary Public Safety Answering Point (PSAP) for emergency and non-emergency calls for the EPD, as well as Humboldt Bay Fire and the Samoa Peninsula Fire District. The Field Support Division is also responsible for various administrative and record keeping tasks.

In 2017 EPD received a total of 54,395 calls for service. Data provided in the first quarter of 2017 shows that EPD responded to a total of 12,555 police calls for service including both dispatched (7,739) plus officer self-initiated (4,503). Average response time was 5:49 minutes, which includes all call types (including self-initiated) and across all Call Priority types (Priority 1, 2, and 3). In addition, with EPD's dispatch center dispatching across police, fire and EMS disciplines, the EPD dispatched 1,803 Humboldt Bay Fire Department/medical calls for service during this same time period.[6]

While specific data on response times can be difficult to determine for rural or semi-rural areas, within the City of Eureka the response times are referenced to industry standards. Industry standards recommend five- to ten-minute response times. The EPD has set a standard of a five-minute response to calls for service.[7]

Education

This section summarizes the existing environmental setting for educational services provided in the City of Eureka. The section first describes the Eureka City Schools District (District), and then provides information regarding the additional school districts in the area. The topics that are addressed for each district include enrollment trends, existing facilities, district performance, and funding. Discussion of the elementary school districts is lumped together for purposes of comparison. Finally, this section concludes with a discussion of the regulatory context relative to the Eureka education system.

The City of Eureka is served by several school districts, offering programs from preschool and kindergarten through 12th grade, as well as adult education courses. Eureka City Schools is the largest school district, operating several elementary schools in the City, two middle schools, and Eureka Senior High. In addition to Eureka City Schools, there are several school districts. discussed below, offering programs for elementary and middle school children, who generally transfer into the Eureka City Schools District to attend high school.

In the 2016-17 school year Eureka City Schools enrolled 3,767 students from kindergarten through 12th grade. The District has an open enrollment policy, which allows students enrolled in a Eureka City School to apply to another school in the District other than their current school or school of residence without having to re-apply for re-admission. Eureka City Schools' high

6 Watson, Steve, Chief of Police, City of Eureka Police Department. Email communication with Evan Wasserman, ESA. January 31, 2018.
7 City of Eureka. 2016. Humboldt County General Plan Environmental Impact Report.

school and junior high school receive students from the District's several small elementary schools, as well as several feeder districts in the surrounding SOI, including Cutten, South Bay, Freshwater, Garfield, Jacoby Creek, and Peninsula Union. **Table 3.11-1** shows the latest enrollment statistics for each of the District's campuses.[8]

TABLE 3.11-1
EUREKA CITY SCHOOLS ENROLLMENT

School	Grades	Enrollment 2016-17
Alice Birney Elementary	K-6	416
Grant Elementary	K-6	301
Lafayette Elementary	K-6	352
Washington Elementary	K-6	492
Winship Middle School[1]	-	345
Zane Middle School	7-8	641
Eureka Senior High	9-12	1,146
Zoe Barnum High[2]	10-12	74

NOTES:
1 Data for Winship Middle School is not available due to its closure at the end of the 2008-09 school year. The school reopened in the fall of 2013.
2 District's continuation school.

SOURCES: California Department of Education, 2018. Data Reporting System. K-12 Public School Enrollment, Eureka City Schools. https://dq.cde.ca.gov/dataquest/DQ/EnrTimeRpt.aspx?Level=District&cYear=2016-17&cname=Eureka%20City%20Schools&cCode=1275515. Accessed February 6, 2018.

Education Data Partnership, 2018. http://www.ed-data.org/district/Humboldt/Eureka-City-Schools. Accessed February 6, 2018.

Ziegler, Paul, Assistant Superintendent, Eureka City Schools. Email communication with Evan Wasserman, ESA RE: 2016-17 School Enrollment. February 8, 2018.

From 2014 and over the previous twelve years, Eureka City Schools had experienced steadily declining enrollment of about five percent per year. Declining enrollment patterns had resulted in several school closures and reductions in force, however in recent years the District has seen a slight reversal of these trends with the 2013-14 school years until the most recent 2016-17 school years, which saw an incremental increase in enrollment. With minimal enrollment increases likely, and a long-standing trend of declining enrollment for the Eureka City Schools District, the school district currently does not have issues with student enrollment exceeding capacity at any of its campuses.

Eureka City Schools operates four elementary schools, two middle schools, one comprehensive high school and one continuation high school. The District also operates a children's center, family resources center, center for independent study, and an adult education program. Winship Middle School was reopened in the fall of 2013, after declining enrollment forced its closure at the end of the 2008-09 school year. In 2014-15, the District employed 186 teachers, with a pupil-

8 Education Data Partnership, 2018. Eureka City Schools Enrollment. Available: http://www.ed-data.org/district/Humboldt/Eureka-City-Schools. Accessed February 6, 2018.

teacher ratio of 20.8 and an average class size of 24.3 students.[9] The total Full-time Equivalent (FTE) of Classified Staff for 2016-2017 is about 66 of 194 staff.[10]

There are six additional school districts that provide education for students within the City of Eureka and the unincorporated communities surrounding Plan Area, as described below.

- Cutten Elementary School District has two campuses, Ridgewood Elementary and Cutten Elementary, and generally serves residents living in the Cutten, Ridgewood, and Pine Hill communities.
- Freshwater Elementary District and Garfield Elementary District serve residents of the community of Freshwater, 7 miles east of the City of Eureka.
- Jacoby Creek School District operates the Jacoby Creek School and campus, offering kindergarten through 8th grade classes. The District's service boundary covers the area west of Humboldt Bay and immediately north of the Eureka Plan Area.
- Peninsula Union School District provides classes for students in kindergarten through 8th grade at a single campus, located on the Samoa Peninsula.

Parks and Recreation

This section summarizes the existing environmental setting for municipal parks and recreational services provided in the City of Eureka. Specifically, this section addresses the ability for local parks and recreational facilities to provide a range of services, including existing and planned facilities, City owned parks, public outdoor and indoor recreation facilities, open space and wildlife areas, and local trails.

Parks in the City of Eureka are classified as either neighborhood-serving parks or community-servings parks. Within the City limits there are approximately 133 acres of neighborhood and community parks, including seven neighborhood parks and six community park facilities maintained by the City. The seven neighborhood parks include: Clara Mae Berry Park, Lundbar Hills Park, Ross Park, Hammond Park, 20/30 Park, Carson Park, and Highland Park. The six community parks include Cooper Gulch, Eureka Skate Park, Hammond Park, Halvorsen Park, Hartman/Kennedy Ball Park, Highland Park, Jacob-Haney Ball Field, Lundbar Hills Park, Ross Park, Sequoia Park, Sequoia Garden, and Sequoia Zoo. **Table 3.11-2** indicates the location, size, and amenities of each of the neighborhood and community parks.

9 Education Data Partnership, 2018. Eureka City Schools staffing, teach ratio and class size. Available: http://www.ed-data.org/district/Humboldt/Eureka-City-Schools. Accessed February 6, 2018.

10 California Department of Education, 2018. DataQuest. Full-time Equivalent of Classified Staff 2016-17, Eureka City Schools. https://dq.cde.ca.gov/dataquest/DQ/FTEClassifiedStaff.aspx?shortyear=1617&TheYear=2016-17&ReportCode=DstClass1f&Agency=Eureka+City+Schools&CountyCode=12&DistrictCode=75515&Level=District. Accessed February 6, 2018.

TABLE 3.11-2
NEIGHBORHOOD AND COMMUNITY PARKS

Park	Location	Amenities	Size (ac)
Neighborhood Parks			
Carson Park and Playground	Bounded by Carson and Buhne Streets, and H and I Streets	Playground, restrooms, a recreation building, turf area two ball fields, a basketball court, picnic benches	3.2
Clara Mae Berry Park and Playground	Adjacent to the Humboldt County Library at 3rd and O Streets	Playground and picnic areas feature nautical theme, tot lot, sand-filled play area	0.5
Hammond Park and Playground	Bounded by 14th and 15th Streets and E and F Streets	Playground, restrooms, two tennis courts, a basketball court, a T-ball practice backstop, picnic benches, 1.4 acres of open turf area	1.4
Highland Park and Playground	Northwest corner of Highland Avenue and Glen Street	Playground, restrooms, turf area, a ball field, four tennis courts, a basketball court, picnic benches	3.4
Lundbar Hills Park	4708 Frederick Street	Open turf grass area and small grove of redwood trees	1.3
Ross Park and Playground	12th and M Streets	Playground, restrooms, picnic area, T-ball field, basketball court, restrooms, 1.5 acres of turf grass	1.5
20/30 Park	2605 Pine Street	Playground, restrooms, turf area, a basketball court, picnic benches,	2.8
Community Parks			
Cooper Gulch	Southwest of Myrtle Avenue and 8th Street	Playground, restrooms, a recreation building, turf area, two ball fields, a soccer field, picnic benches, 9-hole disk golf course, skate park, trails, unimproved areas	33
Halvorsen Park	1201 Waterfront Drive	Open turf grass area	3
Hartman/Kennedy Ball Park	3555 W Street across from Sequoia Park Zoo	Two ball fields, concession booth, dugouts, bleachers, restrooms, horseshoe pits	4.9
Sequoia Park, Zoo, and Garden	3400 W Street	Park - Playgrounds, restrooms, turf area, picnic benches with barbeques, cook shack, gazebo, a duck pond, trails through redwood forest and meadows	66.5
		Garden	0.5
		Zoo - paddock exhibits and off-exhibit holding areas as well as developed exhibits and staff facilities	10
TOTAL			**133.0 acres**

SOURCES: City of Eureka, City of Eureka General Plan Background Report, 1994;
City of Eureka, Eureka Redevelopment Final Program Environmental Impact Report 2004.

According to the current General Plan (1997), the City's neighborhood parks should each be designed to serve a population between 3,000 and 8,000, are intended to serve the needs of residents living within one-half to three-quarters of a mile from the park, should generally be between 1 and 5 acres in size, and should include both active and passive recreational uses to serve as a multi-activity neighborhood recreational center. A neighborhood park would typically include tot lots, children's play structures, and unlighted sports fields and/or courts. According to the standards established by the General Plan, a neighborhood park should be located near the

center of a neighborhood and accessible from a collector street. The General Plan specifies that neighborhood parks should have a ratio of park space to population of 1 acre per 1,000 persons.

The City's existing General Plan further provides that community parks should generally serve the needs of residents residing within three-quarters to 2 miles of the park, are intended to serve a population of between 8,000 and 20,000, should typically range from 30 to 50 acres in size, and should provide for popular forms of active and passive recreation for all age groups, and require more space than would be available in a neighborhood park. Community parks typically include large landscaped areas, restrooms, lighted sports fields, and specialized equipment and resources not found in neighborhood parks. They may also include community centers and swimming pools. For community parks, the General Plan specifies a ratio of 3 acres per 1,000 residents. Based on an existing population of about 27,226 residents, the ratio of community and neighborhood park space to residents is approximately 4.9 acres per 1,000 residents.[11]

Open Space

There are several open space and wildlife areas located within and adjacent to the Plan Area that provide the residents of Eureka and other surrounding cities with natural recreation opportunities. PALCO Marsh, located southeast of the intersection of Del Norte Street and Railroad Avenue, is a 39-acre freshwater, saltwater and brackish marsh bordered on the west by the Waterfront Trail. West of the Trail, and south of the foot of Del Norte Street is a peninsula with a trail leading from a parking lot and picnic area out to the tip of the peninsula. The Elk River Wildlife Area is 104 acres of open space located outside of the City limits at the south end of Eureka, east of U.S. 101, and consists of coastal salt marsh and riparian wetlands, and trails for hiking and viewing wildlife. Fay Slough Wildlife Area is located northeast of Eureka near Murray Field Airport, east of U.S. 101, and consists of 484 acres of restored wetlands. Portions of the Humboldt Bay National Wildlife Refuge are also located within the City limits of Eureka on Woodley Island and northwest of U.S. 101 in Humboldt Bay.

The City of Eureka is also located in close proximity to several other national and state facilities. These include Redwood National Park, Six Rivers National Forest, Patrick's Point State Park, and Humboldt Redwoods State Park. Together, these areas provide tens of thousands of acres of public recreation land. The existing City of Eureka General Plan characterizes these national and state facilities as regional parks, or parks that serve populations that can reach the facility within 1 hour of driving time.[12]

Trail Systems

The City's existing General Plan establishes the framework for the completion of a trail system along the Humboldt Bay waterfront. As of January 2018, the contiguous 6.3 mile Eureka Waterfront Trail that extends from Pound Road, south of the Wastewater Treatment Plant, generally along the shoreline of Humboldt Bay, under the Eureka Slough bridges at the east side of Eureka, and ends near the north end of Tydd Street, has been completed. The Waterfront Trail

[11] U.S. Census. 2016. American Community Survey. Population Estimates. Quick Facts. Eureka, CA. https://www.census.gov/quickfacts/fact/table/eurekacitycalifornia#viewtop. Accessed January 31, 2018.

[12] City of Eureka. 1997. Eureka General Plan Final EIR. Parks and Recreation, Environmental Setting. February 1997. p. 8-1.

is a link in the California Coastal Trail, and has been designed as a non-motorized recreation and transportation route along Humboldt Bay, with linkage to neighborhoods and gulch greenways planned for the future. There are currently several other trails within the City that total approximately 4.4 miles: the 0.7-mile Cooper Gulch Trail; the 0.5 mile PALCO Marsh Trail between Del Norte Street and Vigo Street; and the 2.2-mile Sequoia Park Trail.

One segment of the Waterfront Trail is the Hikshari' Trail, a 1.5-mile multi-use trail found in south Eureka's Elk River Access Area. The trail follows the Elk River through the Elk River Wildlife Sanctuary, providing interpretive signage that teaches visitors about the area's cultural and natural history. Activities include hiking, biking, boating, wildlife viewing and picnicking. The trail has several access points, including: Truesdale Avenue (south of the Bayshore Mall), Hilfiker Lane, and Herrick Avenue at the Park and Ride at U.S. 101.

Development of the Waterfront Trail is the result of a partnership of the City of Eureka, the Redwood Community Action Agency, California River Parkways, California State Coastal Conservancy and the Pacific Gas & Electric Company. The Humboldt Trails Council manages a Volunteer Trails Stewards Program for the Eureka Waterfront Trail, as well as the nearby Hammond Trail, Manila Dunes and Arcata Community Forest, and uses grant funding to help improve and maintain each trail.

Other Community Services

This section summarizes the existing environmental setting for additional municipal services provided in the City of Eureka. Specifically, this section addresses the ability for the City to provide access to a range of additional community services, including libraries, community centers and other civic or recreational facilities.

The Humboldt County Library System consists of eleven branches throughout the County. One of these branches, the Eureka Main Library, is considered the main branch and is located at 1313 Third Street in Eureka. In 2012, HCLS had 88,000 library card holders and estimated that 7,200 patrons used the library system each week. The Eureka Main Library features a reference desk, print collections, audio/visual materials, reference materials, special displays and community information or documents of local significance. Funding for HCLS facilities is primarily supported from funds raised by the Humboldt Library Foundation and the Friends of the Library organizations.

The City has a wide variety of recreational, civic, and cultural facilities that provide areas for activities and events for locals as well as tourists. Existing facilities are listed below, and include facilities for community gatherings or events, several museums, waterfront recreation areas and the Sequoia Park Zoo.

- Adorni Recreation Center
- Boardwalk
- Carson Memorial Building
- Clarke Plaza
- Cooper Gulch Recreation Center
- Del Norte Street Pier
- Eureka Dog Park
- Eureka Municipal Golf Course

- Eureka Municipal Auditorium
- Eureka Public Marina
- Eureka Skate Park
- Fort Humboldt State Historic Park
- F Street Plaza
- Jacobs/Haney Ball Park
- Old Town Gazebo
- Ryan Youth Activity Center
- Sacco Amphitheater (East Plaza)
- Samoa Bridge Boat Launch
- Woodley Island Marina

The Sequoia Park Zoo was established in 1907 and is the oldest zoo in the State of California. The Zoo is located at 3414 W Street next to Sequoia Park, a 67-acre facility set in the redwood forest that offers walking and bicycle trails, playgrounds, open turf, picnic tables, and other recreation opportunities and amenities. Sequoia Park Gardens is located just north of the Zoo. In 2015 the Zoo saw 109,756 visitors, approximately 32 percent of which were national or international visitors. That same year the Zoo reported 415 new memberships for a total of 2,920 members (Sequoia Park Zoo Annual Report, 2015).

The daily operations of the Zoo are funded by the City of Eureka, including animal care staffing, veterinary care, and facilities maintenance. Exhibit upgrades and zoo improvements are typically funded through the fund-raising efforts of the Sequoia Park Zoo Foundation, as well as by other donations from individuals, foundations, and businesses.

3.11.2 Regulatory Overview

Federal, state and local regulations pertaining to public services are described below and expand on the regulatory context for the various public and community services analyzed in this Draft EIR. The City of Eureka is responsible for administration and enforcement of municipal ordinances and policies for fire protection, law enforcement, education, parks and recreation, as well as other community services.

Federal

National Fire Plan

The National Fire Plan was developed under Executive Order 11246 in August 2000, with the intention of actively responding to severe wildland fires and their impacts to communities, while ensuring sufficient firefighting capacity for the future. The plan is implemented by the U.S. Forest Service and the U.S. Department of the Interior, and provides assistance to communities that have been or may be threatened by wildland fire. Agencies provide support for educating citizens and a variety of grant programs including Rural, State, and Volunteer Fire Assistance and Economic Action Programs, for projects designed to reduce the fire risks to communities. A fundamental step in achieving this goal was the identification of communities that are at higher risk of damage from wildfire due to their location within the wildland-urban interface, the area where homes and wild lands intermix. In 2001, Eureka was identified as a Community at Risk and added to the Federal Register.

State

California Master Mutual Aid Agreement

Established in 1950, the State Mutual Aid System provides assistance to local agencies during emergencies, disasters, and other unusual events. The State Office of Emergency Services (OES) coordinates all fire and rescue, law enforcement, and emergency services mutual aid systems and channels. The state is divided into six Mutual Aid Regions. Through the system, adjacent or neighboring agencies assist each other; should the event require additional assistance from outside the county, OES will arrange for additional backup.

California Code of Regulations

The California Code of Regulations, Title 5 Education Code, governs all aspects of education within the State.

Proposition 1A/Senate Bill 50

Proposition 1A/SB 50 implemented significant development fee reforms by amending the laws governing developer fees and school mitigation:

- It established the base (statutory) amount (indexed for inflation) of allowable developer fees at $1.93 per square foot for residential construction and $0.31 per square foot for commercial construction.

- It prohibited school districts, cities, and counties from imposing school impact mitigation fees or other requirements in excess of or in addition to those provided in the statute.

Proposition 1A/SB 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any “legislative or adjudicative act involving the planning, use, or development of real property” (Government Code 65996(b)). In addition, a local agency cannot require participation in a Mello-Roos for school facilities; however, the statutory fee is reduced by the amount of any voluntary participation in a Mello-Roos.

Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be “full and complete mitigation.” The law identifies certain circumstances under which the statutory fee can be exceeded, including preparation and adoption of a “needs analysis,” eligibility for State funding, and satisfaction of 2 of 4 requirements (post-January 1, 2000) identified in the law including year-round enrollment, general obligation bond measure on the ballot over the last 4 years that received 50 percent plus one of the votes cast, 20 percent of the classes in portable classrooms, or specified outstanding debt.

Assuming a district qualifies for exceeding the statutory fee, the law establishes ultimate fee caps of 50 percent of costs where the State makes a 50 percent match, or 100 percent of costs where the State match is unavailable. District certification of payment of the applicable fee is required before the City or County can issue the building permit.

Department of Education Standards

The California Department of Education published the Guide to School Site Analysis and Development to establish a valid technique for determining acreage for new school development. Rather than assigning a strict student/acreage ratio, this guide provides flexible formulas that permit each district to tailor its ratios as necessary to accommodate its individual conditions. The Department of Education also recommends that a site utilization study be prepared for the site, based on these formulas.

State Public Park Preservation Act

Under the Public Resource Code, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

Local

City of Eureka Municipal Code

Title IX Chapter 92 of the City of Eureka Municipal Code establishes fire prevention regulations for the City of Eureka through the adoption of the California Fire Code with various amendments. The Bureau of Fire Prevention in the Fire Department is responsible for code enforcement, as per Section 92.03.

The Harbor Program

The Harbor Program is responsible for overseeing the operation and maintenance of the City's Public Marina and maintenance of other waterfront property and structures including the Samoa Bridge Boat Ramp, Adorni Dock, K Street Dock, J Street Dock, F Street Dock, Dock B, the Waterfront Boardwalk, and Del Norte Street Pier. In addition, this program is responsible for maintenance at the EDA fish plant, and the Samoa Bridge Boat Ramp restrooms. The Waterfront Revitalization Program also operates out of the Harbor Program and involves planning, coordination and review of twelve waterfront projects including dock reconstructions and others. The goals of the Harbor Program are to support the water transportation needs of commercial fishing and recreational boating operations, to provide public open space and shoreline access ways throughout the Coastal Zone consistent with protecting environmentally sensitive habitats and other coastal priority land uses, to protect and enhance the natural qualities of the Eureka area's aquatic resources, and to preserve the area's valuable marine, wetland and riparian habitat.

City of Eureka 1997 General Plan

The City's 1997 General Plan contains policies and implementation measures relevant to public and recreation services. Specifically, the 1997 General Plan includes policies that identify, protect, and enhance public and recreation services that are unique to the area related to fire, law enforcement, education, parks and recreation, and other public services. Upon approval of the proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded. Therefore, they are not included in this analysis, but have been provided below as reference.

General Public Facilities and Services

Goal 4.A: To ensure the effective and efficient provision of public facilities and services for existing and new development.

Policies

4.A.10: The City shall require that new development contribute its fair share to providing all public services and infrastructure, including schools, necessary to serve that development.

Fire Protection

Goal 4.G: To protect residents of and visitors to Eureka from injury and loss of life and to protect property from fires.

Policies

4.G.1: The City shall ensure that water main size, water flow, fire hydrant spacing, and other fire facilities meet City standards.

4.G.2: The City Fire Department shall attempt to maintain an ISO (Insurance Service Organization) rating of 3.

4.G.3: The City Fire Department shall attempt to maintain an average response time of three (3) minutes for all service calls, including emergency medical service (EMS) calls.

4.G.4: The City shall require new development to develop or fund fire protection facilities, personnel, and operations and maintenance that, at a minimum, maintains the above service level standards.

4.G.5: The City shall identify key fire loss problems and design appropriate fire safety education programs to reduce fire incidents and losses.

4.G.6: The City shall implement ordinances to control fire losses and fire protection costs through continued use of automatic fire detection, control, and suppression systems.

4.G.7: The City shall cooperate with Humboldt Fire District No. 1 and the California Department of Forestry and Fire Protection (CDF) in providing adequate levels of fire protection services in the Planning Area.

4.G.8: The City shall provide a dedicated training facility for the fire department that is designed appropriately to provide fire and life safety tactics education for firefighters in order to increase personnel safety, efficiency, and effectiveness.

4.G.9: The City Fire Department shall annually inspect all residential rental units for compliance with fire safety requirements.

Law Enforcement

Goal 4.F: To provide adequate police services to deter crime and to meet the growing demand for services associated with increasing population and commercial/industrial development in the city.

Policies

4.F.1: Within the city's overall budgetary constraints, the City shall strive to maintain a staffing ratio of 2.8 personnel per 1,000 residents (1.0 non-sworn and 1.8 sworn).

4.F.2: The City Police Department shall strive to maintain an average response time of three (3) minutes for calls for service critical life-threatening emergencies.

4.F.3: Within the City's overall budgetary constraints, the City shall provide police facilities (including substation space, patrol, and other vehicles, necessary equipment, and support personnel) sufficient to maintain the above service standard.

4.F.4: The City shall annually assess police facilities and equipment needs and develop strategies that, at a minimum, maintain the above standards.

4.F.5: The City shall consider public safety issues in all aspects of commercial and residential project design, including crime prevention through environmental design.

4.F.6: The City shall continue to support creative approaches to crime prevention and problem solving through the Eureka Police Department's Community Oriented Policing and Problem Solving strategies.

Education

Goal 1.N: To ensure an adequate supply of land for community facilities and services to meet the present and future needs of Eureka.

Policies

1.N.1: The City shall encourage the retention and upgrading of elementary school facilities to serve as the focal point of each neighborhood's social, cultural, vocational and recreational, as well as educational activities. Wherever feasible, open-space, playgrounds, neighborhood parks, and other neighborhood-scale facilities should be located adjacent to elementary schools.

1.N.2: The City shall work with local school districts to ensure that school sites are relatively free from external disturbing factors such as heavy traffic, excessive noise, offensive odors and incompatible land use.

1.N.3: The City shall work with local school districts to ensure that all new schools are centrally located within the neighborhoods they serve and that new schools are sited to be compatible with surrounding neighborhood land uses. The City shall promote the development of new schools according to the following principles:

a. Elementary schools should be located close to the center of the residential areas served and away from arterial traffic routes so that children do not have to cross arterials.

b. Junior high schools should have direct access to collector streets, be located near a concentration of dwelling units, and with pedestrian walkways to provide access to and from the residential area served.

c. High schools should be centrally located so as to have direct arterial access while serving the total community.

1.N.4: The City shall work with local school districts to promote the concept of combined schools-parks whenever feasible (i.e., elementary school-neighborhood park, junior high school-community park, and high school-community park).

1.N.5: The City shall support the efforts of the school district to acquire new school sites.

Goal 4.H: To provide for the educational needs of Eureka residents.

Policies

4.H.1: The City should continue to support local school districts in providing quality education facilities that will accommodate projected changes in student enrollment.

4.H.2: The City shall encourage the provision of social, recreational, and educational services that complement and enrich those provided by public and private educational facilities.

4.H.3: The City shall work cooperatively with local school districts in monitoring housing, population, and school enrollment trends and in planning for future school facility needs, and shall assist the districts in identifying appropriate sites for new schools.

4.H.4: The City's land use planning should be coordinated with the planning of school facilities and should involve local school districts in the early stages of the land use planning process.

4.H.5: The City should plan and approve residential uses in those areas that are most accessible to school sites in order to enhance neighborhoods, minimize transportation requirements and costs, and minimize safety problems.

4.H.6: The City shall include schools among those public facilities and services that are considered an essential part of the infrastructure that should be in place as development occurs.

4.H.7: The City shall encourage school facility siting that establishes schools as focal points within the neighborhood and community.

4.H.8: The City shall encourage the location of schools in areas with safe pedestrian and bicycle access.

4.H.9: Whenever feasible, the City shall support and participate with local school districts in joint development of recreation areas, turf areas, and multi-purpose buildings.

4.H.10: The City shall support local school districts in using existing school facilities for non-school-related and child care activities.

4.H.11: The City should encourage use of schools as community centers to provide a range of services.

4.H.12: The City should require developers of new residential projects in the city to participate in providing sidewalks adjacent to arterials to ensure safe pedestrian/student travel to and from schools. The City should encourage Humboldt County to do likewise in unincorporated parts of the Planning Area.

4.H.13: The City should work with Humboldt County to provide streets and roads in the Planning Area that school buses can negotiate safely, including turn-around areas and safe passageways along embankments and grades.

Parks and Recreation

Goal 1.N: To ensure an adequate supply of land for community facilities and services to meet the present and future needs of Eureka.

Policies

1.N.6: The City shall ensure that sufficient area is provided for parks and open-space in all of Eureka's residential neighborhoods and shall plan for such uses as new residential development occurs.

1.N.7: The City shall encourage development of parks adjacent to school sites that contain facilities and equipment that enhance and are compatible with the residential character of neighborhoods.

Goal 5.A: To provide for park and recreational systems which include sufficient diversity of areas and facilities to effectively serve a population with varied characteristics, densities, needs and interests, consistent with protecting environmentally sensitive habitats.

Policies

5.A.1: The City of Eureka will work with other park and recreation service providers to ensure the availability of a park and recreational system that include sufficient diversity of areas and facilities to effectively serve the varied characteristics, densities, needs, and interests of Eureka residents and visitors. The City shall promote the development of parks according to the following principles:

a. Neighborhood parks should be located within the residential areas of the city with direct access from a collector street and should include both active and passive recreational uses in order to serve as a multi-activity neighborhood recreational center.

b. Community parks should provide for popular forms of recreation which require more space than would be available in the residential neighborhood park. Community parks should be designed to provide active and passive recreational for all age groups while being compatible with surrounding development. Community parks should have convenient access from arterial streets in order to serve the entire community.

c. Trails should meander through residential neighborhoods and/or scenic areas. Trails should connect to community parks and schools, which should provide access pints to the trails. Trails should not cross arterial streets frequently and should provide as many interesting vistas and viewpoints as feasible.

d. New parks and recreational facilities shall be developed to minimize impacts on environmentally sensitive areas such as wetlands and riparian habitat.

5.A.2: The City shall upgrade Eureka's established park system as necessary to better serve the needs of the general public.

5.A.3: The City shall strive to achieve the open space and recreation standards shown in the following table.

TABLE 3.11-3
OPEN SPACE AND RECREATION STANDARDS

Type of Facility	Radius of Service (miles)	Service Population	Site Size (Acres)	Acres per Thousand Persons	Location
Neighborhood Park	½ to ¾	3,000 to 8,000	1 to 5	1.0	Near Center of Neighborhood, Access from Collector Street
Community Park	¾ to 2	8,000 to 20,000	30 to 50	3.0	Near Boundary of Residential Area, Access from Arterial Street
Greenways and Trails	¾ to 2 to access point	25,000 to 35,000	One Trail System	10.0	Within Residential Areas and/or Scenic Areas, Access from community Parks and Schools

NOTE: Table is derived from Table 5-1 of the 1997 City of Eureka General Plan.

Goal 5.B: To provide public open space and shoreline accessways throughout the Coastal Zone, consistent with protecting environmentally sensitive habitats and other coastal priority land uses.

Policies

5.B.1: The City shall provide public open space and shoreline access through the Coastal Zone, particularly along the waterfront and First Street, through all of the following:

a. Develop Waterfront Drive from the Elk River Interchange to a terminus near Eureka Slough, with provisions for bicycle lanes, pedestrian walkways, and supporting facilities.

b. Establish a walkway system located on or near the shoreline throughout the city's waterfront Core Area.

c. Establish scenic vista points at numerous locations along the waterfront, including construction of a public access vista point at the foot of Truesdale Street.

d. Consider and protect the scenic and visual qualities of coastal areas that are visible from scenic public vista points and waterfront walkways.

e. The City, in cooperation with the Coastal Commission and Coastal Conservancy, shall provide for attractive directional signs that are meaningful on the North Coast so as to assist area residents and visitors alike in identifying visitor-serving, recreational, and historical facilities in the city.

5.B.2: On shoreline parcels where recreation or visitor-serving uses are integrated with coastal-dependent uses, the City shall ensure that the recreation or visitor-serving uses are secondary to and compatible with the coastal-dependent uses.

5.B.3: The City shall promote the maintenance of and, where feasible, shall provide, restore, or enhance facilities serving commercial and recreational boating, including party or charter fishing boats.

5.B.4: The City of Eureka shall protect and enhance the public's rights of access to and along the shoreline, consistent with protecting environmentally sensitive habitats, by:

a. Accepting offers of dedications that will increase opportunities for public access and recreation and the availability of necessary staff and funding to improve and maintain access ways and assume liability for them;

b. Actively seeking other public, community non-profit, or public agencies to accept offers of dedications and having them assume liability and maintenance responsibilities; and,

c. Allowing only such development as will not interfere with the public's right of access to the sea, where such right was acquired through use or legislative authorization.

5.B.5: For new development between the first public road and the sea, the City shall require the dedication of a vertical access easement to the mean high tide line unless:

a. Another more suitable public access corridor is available within 500 feet of the site; or

b. Access at the site would be inconsistent with other General Plan coastal policies, including existing, expanded, or new coastal-dependent industry, agricultural operations, or the protection of environmentally sensitive habitat areas; or,

c. Access at the site is inconsistent with public safety, environmental protection, or military security needs.

5.B.6: For new development between the first public road and the sea, the City shall require a lateral access easement along the shoreline unless:

a. Lateral access at the site would be inconsistent with other General Plan coastal policies, including existing expanded, or new coastal dependent industry, agricultural operations, or the protection of environmentally sensitive habitat areas; or,

b. Access is inconsistent with public safety or military security needs.

5.B.7: The City shall establish a coordinated continuous public access system throughout its Coastal Zone, consisting of pedestrian walkways, nature walks, and bikeways with necessary support facilities, as described in General Plan Table 5-2 and shown in General Plan Figure 5-1.

5.B.8: The City shall enforce the access standards and recommendations contained in the State Coastal Conservancy/Coastal Commission Report on Coastal Access (revised August 1980) as the criteria for improvement, maintenance, and management of accessways and supporting facilities proposed in this General Plan. Special attention in design and construction of accessways shall be given to minimizing maintenance requirements given the North Coast climate and to minimizing the possibilities of vandalism. Where public accessways or vista points are located near environmentally sensitive habitat areas, attractive barriers shall be provided to preclude disturbance of natural areas by off-road or all-terrain vehicles.

5.B.9: The City shall ensure that public access support facilities are distributed throughout the Eureka Coastal Zone. Off-street parking shall be provided in the waterfront area; however, it shall not be located immediately adjacent to the shoreline, unless there is no feasible alternative.

5.B.10: To the maximum extent feasible, the City shall ensure universal public access to the waterfront, including support facilities.

5.B.11: The City shall participate in the development of a facility for the Humboldt Bay Rowers Association on the waterfront.

Goal 5.C: To ensure that a range of recreation services, activities, and programs are offered which provide a desirable quality of life for all citizens of Eureka.

Policies

5.C.1: The City shall consider the needs of all age groups, abilities, disabilities, and special interest groups in its park, recreation, and community services planning.

5.C.2: The City shall encourage and support agencies that actively provide recreation and community services programs and activities.

5.C.3: The City shall ensure that a mechanism is in place to provide opportunities for participation by economically disadvantaged families and individuals.

5.C.4: The City shall provide supervision of park areas to protect the rights of the users of the parks and reduce vandalism and will work with law enforcement agencies to eliminate crime at parks and recreations facilities.

5.C.5: The City shall provide an ongoing emphasis on youth programs and services, especially those that provide positive educational and social influences for youth at risk for illegal, anti-social, or unhealthy behaviors.

5.C.6: The City shall ensure a wide range of services, activities, and programs reflecting the cultural diversity of the community.

5.C.7: The City shall ensure the provision of services and programs designed for physically and mentally challenged citizens, and make reasonable accommodations for the participation of such individuals in City programs.

5.C.8: The City shall provide opportunities for citizen input and participation in the planning of recreation and community services programs and activities.

Other Community Services

Goal 1.N: To ensure an adequate supply of land for community facilities and services to meet the present and future needs of Eureka.

Policies

1.N.8: To reinforce downtown Eureka's role as the regional center for government facilities and services, the City shall encourage and support consolidation of civic and governmental offices, services, and functions within the area designated Civic Government Center on the Land Use Diagram. This will provide a single, efficient, and readily accessible location for the public.

1.N.9: The City shall encourage the coordination of public and private facilities whenever beneficial and avoid unnecessary duplication.

1.N.10: The City shall strive to provide high quality public facilities, utilities, and services throughout the urbanized area of Eureka and shall ensure that such facilities, utilities, and services are compatible with surrounding development.

1.N.11: In considering proposals for development of places of public assembly (e.g. meeting halls, places of worship), the City shall encourage the provision of direct access to an arterial street.

1.N.12: The City shall require that all public buildings comply with the requirements of the Americans with Disabilities Act (ADA).

1.N.13: The City shall continue to support the efforts of the Humboldt County convention and Visitors Bureau to locate a community conference center within or at the edge of the Core Area.

1.N.14: The City shall promote the location of museums and regional cultural facilities within or adjacent to the Core Area.

1.N.15: The City shall work with other local, state, and federal agencies to locate governmental garages and corporation yards in heavy commercial or industrial areas. Such facilities should be adjacent to or very near an arterial street, but should not directly abut an arterial, since the ingress and egress of trucks and other equipment could slow usual arterial traffic. The yard site should also be large enough to meet reasonable future needs and be compatible with surrounding land uses. The City shall encourage Humboldt County to relocate its 2nd and "J" Street facilities to a more appropriate area.

1.N.16: The City shall ensure that fire stations are as compatible as feasible with neighboring land uses and that they relate to the City's major street system in the following manner:

a. With access to arterial streets, but not directly facing onto an arterial due to the difficulty and danger of entering traffic flow;

b. Location near, but not at, major street intersections due to possible traffic back-up.

c. Location on one-way streets should be avoided.

***1.N.17*:** The City shall work with Humboldt county to encourage the consolidation and upgrading of medical facilities in the Harrison Avenue medical corridor consistent with high standards of design, an improved circulation system, joint use of facilities, and adequate parking facilities. In doing so, the City shall ensure the protection of the surrounding residential areas from excessive traffic, noise, and congestion.

1.N.18*:* In considering proposals for development of new medical facilities and services, the City shall promote the following principles:

a. Hospital and other acute care facilities should be located with access to arterial streets and should be served by public transportation. The actual site should include space for adequate parking and future expansion.

b. Medical offices and laboratory facilities should be provided around hospital facilities and/or at the edges of commercial centers with direct arterial access.

c. Convalescent hospitals, nursing homes and related services for the elderly should be located in multi-family areas of the city, preferably near major medical facilities and public transportation.

1.N.19: The City shall work with Humboldt County to ensure that City-County library facilities are available to help fulfill the general cultural, educational, informational, and

recreational needs of the public and to allow room for expansion of service and community growth.

1.N.20: The City shall work with Humboldt County to ensure that a branch library is sited in southern Eureka to serve the southern Eureka, Cutten, Pine Hill, and South Bay areas.

3.11.3 Analysis, Impacts, and Mitigation

Significance Criteria

The significance criteria for this analysis were developed from questions presented in Appendix G of the State CEQA Guidelines and based on the professional judgement of the City of Eureka and its consultants. The proposed 2040 General Plan would result in a significant impact if it would:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: fire protection, police protection, schools, or other public facilities.

b. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

c. Require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Methodology and Assumptions

Impacts on public services and recreation are evaluated using the criteria listed above. Impacts are evaluated based on information included in the Eureka General Plan Community Background Report and the Draft Eureka 2040 General Plan.

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are specifically relevant to public services and recreation within the Plan Area.

General Public Service Infrastructure

Goal LU-1: Community that values its unique small town charm and livability while thoughtfully advancing new prospects for growth and economic vitality.

Policies

LU-1.14: Public Realm. Provide safe, clean and pedestrian friendly streetscapes and public spaces through careful design and active maintenance of sidewalks, street trees, landscaping, street furnishings, lighting, public art and other elements.

LU-1.15: Private Maintenance of Public Realm. Establish programs that encourage and incentivize businesses and private land owners to take pride in and to maintain the public streetscape.

LU-1.16: Public Access. Maintain and improve physical linkages from the community to the coastline, gulches, forests and Eureka's other distinct recreational resources where feasible by creating/preserving view corridors, enhancing trail and roadway connections, and providing signage and other wayfinding cues.

Goal LU-2: A thriving, compact, and pedestrian oriented Core Area that serves as the heart of Eureka's civic, cultural, business and visitor activity and is appealing to new investment.

Policies

LU-2.1: Core Area Uses and Activities. Support the following uses and activities within the Core Area:

a. Public Spaces such as plazas, squares, parks, pocket parks, parklets, small community gardens, trails, boardwalk, piers, and public and private recreational uses including the redesign and retrofit of the Gazebo and Clark Plaza to increase their usefulness, safety and comfort;

b. Government Facilities and Services consolidated into a regional center of civic offices, services and functions.

LU-2.2: County 2nd and J Street Facilities. Work with Humboldt County to relocate the County's 2nd and J Street maintenance facilities outside of the Core Area and to redevelop the site with appropriate residential, office, commercial, cultural and/or visitor serving uses.

LU-2.3: County Jail. Coordinate with Humboldt County to define and implement measures to beautify the site and minimize the physical and visual barrier between Old Town and Downtown created by the County Jail, and to reduce loitering and criminal activities within its proximity.

Goal E-5: Infrastructure to meet the needs of existing and future businesses and industries.

Policies

E-5.1: Access, Infrastructure and Services. Ensure that convenient access to major transportation facilities, adequate utility and telecommunications infrastructure, and sufficient public services are available and/or programmed to support commercial and industrial areas.

E-5.8: Investment in Facilities. Invest in and/or promote key facilities to support economic growth.

Goal HS-5: Adequate community response to effectively prepare for, respond to, recover from, and mitigate the effects of natural or technological disasters and emergencies.

Policies

HS-5.1: Emergency Services Planning. Regularly review and update all documents which relate to emergency services planning within Eureka and adjacent areas.

HS-5.2: Emergency and Disaster Preparedness. Continue to cooperate with Humboldt County and other relevant agencies in conducting disaster-preparedness exercises, and developing and operating a coordinated response program for major emergencies or disasters.

HS-5.3: Humboldt Operation Area Hazard Mitigation Plan. Continue to participate in, and ensure that new development and infrastructure are consistent with, the Humboldt Operation Area Hazard Mitigation Plan.

HS-5.4: Tsunami Readiness. Continue to enhance the City's tsunami awareness program, in coordination with Humboldt County and other local agencies, to ensure that Eureka residents and visitors are informed about the threat of tsunami and inundation.

HS-5.5: Evacuation Routes. Continue to work with Humboldt County, and appropriate state and federal agencies, to identify major emergency transportation corridors for use during disasters and emergencies. In particular, the City should ensure safe access routes to communication centers, hospitals, airports, staging areas, and fuel storage sites.

HS-5.6: Critical Facilities. Ensure the continued function of critical facilities such as hospitals, fire stations, and emergency command centers following a major disaster to facilitate post-disaster recovery. Locate such facilities outside of identified hazard areas.

HS-5.7: Emergency Access. Require adequate road standards, driveway widths, and road clearances around structures consistent with local and State requirements to ensure adequate emergency access.

Fire Protection

Goal CS-2: Protection of Eureka residents, visitors, property, and natural resources from injury and loss of life from fire hazards.

Policies

CS-2.1: Fire Master Plan. Work with Humboldt Bay Fire to prepare and routinely maintain a Fire Master Plan or Strategic Plan to resolve needs, goals, and priorities for fire staffing, services, facilities, and funding.

CS-2.2: Facility Standards. Ensure that water main size, water flow, fire hydrant spacing, and other fire facilities meet City standards.

CS-2.3: ISO Rating. Work with Humboldt Bay Fire to strive to maintain an Insurance Service Organization (ISO) rating of 3, which accounts for fire suppression, prevention, water distribution, and dispatch call handling capabilities.

CS-2.4: Response Time. Work with Humboldt Bay Fire to strive to maintain an average response time of three (3) minutes for all service calls, including emergency medical service (EMS) calls.

CS-2.5: Funding Strategy. Periodically review the existing Fire-related development impact fee and explore the possibility of adopting and maintaining an alternate funding mechanism for new and existing development projects to assist in funding Humboldt Bay Fire operations and facilities to maintain adequate levels of fire protection.

CS-2.6: Code Enforcement. Enforce and require compliance with all relevant codes and ordinances for existing buildings and new construction to reduce the risk of fire hazards. Require installation and continued use of automatic fire detection, control, early warning, and suppression systems as required by applicable code.

CS-2.7: Rental Unit Inspection. Annually inspect all residential occupancies as required by the California Health & Safety Code, Building and Fire Code, or as determined by the City, for compliance with fire safety requirements.

CS-2.8: Development Review. Include Humboldt Bay Fire in the development review process (when appropriate) to ensure that projects adequately address fire hazards.

CS-2.9: Weed Abatement. Continue to enforce the City's weed/hazard abatement program, while enforcing other relevant codes and ordinances designed to reduce fire hazards on private property, and continue to remove excessive/overgrown vegetation from City-owned properties.

CS-2.10: Urban/Wildland Interface. Design and construct new development proposed within or adjacent to fire hazard zones, such as the gulches and greenways, to minimize exposure to fire hazards and facilitate fire suppression efforts in the event of a wildfire.

CS-2.11: Wildland Fire Education. Educate the public about wildland fire prevention techniques that include site design, landscaping, and defensible space vegetation management practices to minimize potential wildland fire hazards.

CS-2.12: Mutual Aid. Coordinate efforts with appropriate fire protection agencies to promote regional cooperation and provide mutual aid during emergency situations.

Law Enforcement

Goal CS-1: A safe and secure Eureka, and responsive and equitable law enforcement to effectively meet the demands of an increasing population and workforce.

Policies

CS-1.1: Police Master Plan. Prepare and routinely maintain a Police Master Plan or Strategic Plan to identify needs, goals, and priorities for police staffing, services, facilities, and funding.

CS-1.2: Chief's Advisory Panel. Establish and maintain a panel of community stakeholders appointed by City Council to advise the Chief of Police.

CS-1.3: Staffing and Equipment. Within the City's overall budgetary constraints, strive to maintain a police staffing ratio of 2.8 personnel per 1,000 residents (1.0 non-sworn and 1.8 sworn), and maintain adequate supporting staff, volunteers, technology, and training capabilities, as funding allows.

CS-1.4: Response Time. Strive to maintain an average response time of three (3) minutes for calls for service critical life-threatening emergencies.

CS-1.5: Annual Assessment. Annually assess police facilities and equipment needs and develop strategies that, at a minimum, maintain the police staff and response time standards.

CS-1.6: Funding. Explore the possibility of adopting and maintaining a funding mechanism for new and existing development projects to assist in funding Eureka Police Department operations and facilities to maintain adequate levels of police protection.

CS-1.7: CPTED Principles. Promote the implementation of strategies, such as Crime Prevention Through Environmental Design (CPTED) principles, in new development projects and public improvements to minimize criminal activity and anti-social behavior.

CS-1.8: Development Review. Include Eureka Police Department in the development review process (when appropriate) to ensure that projects adequately address crime and safety.

CS-1.9: Supporting Crime Prevention. Continue to support creative approaches to crime prevention and problem solving and use tools such as the Eureka Police Department's Community Oriented Policing and Problem Solving division, the EPD and County of Humboldt Mobile Intervention and Services Team (MIST), diversion programs or other strategies, by working with the community and local organizations.

CS-1.10: Crime in Neighborhoods. Continue to work with the community to establish neighborhood watch programs, encourage public safety and other improvements by property owners, and utilize other community diversion programs to reduce crime and blight.

CS-1.11: Mutual Aid. Coordinate efforts with appropriate law enforcement agencies to promote regional cooperation and provide mutual aid during emergency situations.

CS-1.12: Graffiti. Continue to remove graffiti that is in public view and continue to develop and implement programs that prevent graffiti.

Education

Goal CS-3: Excellent educational opportunities and facilities throughout Eureka.

Policies

CS-3.1: Quality Education. Continue to support local school districts, charter schools, private schools, and higher education institutions in providing quality education and equitably distributed facilities.

CS-3.2: Joint Use. Coordinate with local school districts, charter schools, private schools, and higher education institutions to encourage joint use agreements to collocate schools with parks and other facilities. These agreements should aim to maximize the provision of community services, minimize the duplication of services, and facilitate shared financial and operational responsibilities.

CS-3.3: Facility Needs. Cooperate with local school districts in monitoring housing, population, and school enrollment and capacity trends and in planning for existing and future school facility needs, and assisting in identifying and acquiring appropriate sites for new schools, if necessary.

CS-3.4: Accessible School Sites. Plan and approve residential uses in areas that are most accessible to school sites in order to enhance neighborhoods and reduce automobile trips.

CS-3.5: New Residential Development. Ensure that new residential development, to the extent permissible under State law, fully mitigates its impact on school facilities through the payment of fees or other negotiated methods, as agreed between the developer and affected school district.

CS-3.6: Funding Sources. Cooperate with school districts in identifying and pursuing funding sources to rehabilitate, improve, and expand existing schools.

CS-3.7: School Site Reuse. Encourage reuse of former schools, and consider reopening schools when warranted by student generation.

CS-3.8: Safe Routes to Schools. Continue to coordinate with local school districts, Humboldt County, and the Humboldt County Association of Governments to install infrastructure improvements and traffic calming measures, as well as pursue funding, to ensure safe pedestrian and student travel to and from schools.

CS-3.9: Vulnerable Youth: Encourage school districts to develop and provide programs to support vulnerable (at-risk) youth.

CS-3.10: Higher Education. Continue to support the development and expansion of higher education and vocational education facilities in the City and in the region.

CS-3.11: Linkage to Higher Education. Support existing higher education institutions such as Humboldt State University and the College of the Redwoods to strengthen their links with local K-12 school districts to facilitate the transfer of students into these institutions.

Parks and Recreation

Goal E-7: Well-funded and maintained tourism-related assets, infrastructure, and events that provide year-round and multi-day activities for visitors and tourists.

Policy

E-7.2: Parks and Recreation Funding. Commit to stable funding for the Parks and Recreation Department with the intent of keeping the City's parks, trails, landscaping, street trees, and other related facilities modern and well-maintained.

Goal PR-1: A well-maintained park and recreation system that includes sufficient facilities to effectively serve the diverse needs and interests of all members of Eureka's population, while protecting environmentally sensitive resources.

Policies

PR-1.1: O***SPRC Strategic Plan***. Continue to work with the Eureka Open Space, Parks, and Recreation Commission (OSPRC) to regularly update the OSPRC Strategic Plan to manage facilities, programs, and funding for parks and recreation.

PR-1.2: Parkland Standards. Encourage a diverse and accessible parkland system through a combination of active and passive parks and recreational facilities, in accordance with the definitions and standards provided in General Plan Table PR-1. Retain flexibility in applying parks standards to best meet the existing and future needs of the community.

TABLE PR-1
OPEN SPACE AND RECREATION STANDARDS

Type of Facility	Radius of Service (miles)	Service Population	Site Size (Acres)	Acres per Thousand Persons	Location	Purpose(s)
Pocket Park	½ to ½		Less than 1		In dense urban areas on small parcels near major streets and public transportation routes	Provide space for passive recreation and maintain green space in built urban areas
Neighborhood Park	½ to ¾	3,000 to 8,000	1 to 5	1	Near Center of Neighborhood, Access from Collector Street	Include both active and passive recreational uses and community gardens in order to serve as a multi-activity neighborhood recreational center.
Community Park	¾ to 2	8,000 to 20,000	30 to 50+	3	Near Boundary of Residential Area, Access from Arterial Street	Provide for popular forms of recreation which require more space than would be available in the residential neighborhood park. Provide active and passive recreational facilities for all age groups while being compatible with surrounding development.
Greenways and Trails	¾ to 2 to access point	25,000 to 35,000	One Trail System	10	Within Residential Areas and/or Scenic Areas, Access from community Parks and Schools	Connect to community parks and schools via access points and avoid crossing arterial streets often. Provide as many interesting vistas and viewpoints as possible.

NOTES: New parks and recreational facilities shall be developed to minimize impacts on environmentally sensitive areas such as wetlands and riparian habitat. (Table based on Table 5-1 and Policy 5.A.1)

SOURCE: Table derived from Table PR-1 of the 1997 City of Eureka General Plan.

PR-1.3: Park Enhancement. Continue to upgrade and enhance the existing park system with a diverse and accessible range of parks and recreational facilities to better serve park users of all abilities.

PR-1.4: Funding. Adopt funding mechanisms for the development and ongoing maintenance and operation of parks and recreational facilities and services.

PR-1.5: Joint Use. Coordinate with local school districts to encourage combined school and park facilities where feasible. Enter into joint use agreements to maximize the provision of community services, minimize the duplication of services, and facilitate shared financial and operational responsibilities.

PR-1.6: Multi-agency Collaboration. Coordinate with the County and other agencies to provide park and recreation facilities and programs where appropriate, including within the City's Planning Area outside of City limits.

PR-1.7: Recreation Equity. Support parks and recreation services that consider the diverse needs of citizens of all ages and abilities, including youth, adult, senior, disabled, and under-represented populations.

PR-1.8: Recreation for Disadvantaged Communities. Expand outreach efforts to ensure recreational and educational opportunities for economically disadvantaged and under-represented families and individuals.

PR-1.9: Youth Engagement. Continue to provide positive educational and social influences for youth, including at risk youth, and collaborate with other organizations in Eureka to expand the range of positive opportunities.

PR-1.10: Public Engagement. Provide opportunities for citizen input and active participation throughout the planning and development process for parks, recreational programs and community service programs and activities.

PR-1.11: Park Design and Landscaping. Incorporate energy efficiency and water conservation measures into park design, development and upgrading.

PR-1.12: Sequoia Park Zoo. Continue to collaborate with the Sequoia Park Zoo Foundation to implement and regularly update the Zoo Master Plan.

PR-1.13: Resource Areas. Where possible, improve public lands and work with private landowners to provide additional accessibility and views within the gulches and greenways system, forests, coastline and Eureka's other distinct visual and natural resource areas.

PR-1.14: Park Safety. Collaborate with the Eureka Police Department and local agencies to ensure safe parks, trails, and public open spaces.

PR-1.15: Contaminated Properties. Encourage the remediation and reuse of contaminated properties for Parks and Recreation purposes. Where appropriate, consider City acquisition of private properties when the City has the ability to attract specific funding for remediation and when such a purchase is in the best interest of the City.

Goal NR-3: Protection and enhancement of valuable open space resources in and around Eureka.

Policies

NR-3.1 Preserve Open Space. Preserve unique and valuable areas within and around the city that provide visual and physical relief to the cityscape, as well as sensitive habitat, natural drainage, farming opportunities, timber extraction, passive recreation or outdoor education in their natural state to define and enhance the city's distinct character and heritage.

NR-3.5: Recreational Use and Nature Study. Within Open Space areas, develop compatible recreational uses and opportunities for nature study, such as trails, canopy walks, interpretive centers, viewing platforms, and other compatible uses, especially when such uses provide enhanced opportunities for acquisition, management, and enhancement of the City's public recreation and nature-study opportunities.

NR-3.7: Trails in Gulches and Greenways. Encourage and stimulate the development of public trails within Eureka's gulches and greenways.

Goal M-8: Water transportation facilities that serve the needs of commercial fishing and recreational boating operations, short sea shipping, and a maritime highway.

Policies

M-8.1: Fishing Facilities. Protect and, where feasible, upgrade facilities serving and supporting the commercial fishing and recreational boating industries. Participate in the design and construction of new or improved facilities to support commercial fishing and recreational boating and seek funding sources to maintain and enhance existing facilities. Such facilities shall not be reduced unless the demand for the facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, to the maximum extent feasible, be designed and located so as not to interfere with the needs of the commercial fishing industry.

Goal U-3: A comprehensive stormwater collection and conveyance system that reduces or prevents flooding, and protects public safety and the environment.

Policy

U-3.6: Recreation Opportunities. Continue to consider recreational opportunities and aesthetics in the design of stormwater/retention and conveyance facilities.

Other Community Services

Goal HCP-1: A comprehensive preservation program that identifies, recognizes, protects, and assists in the preservation of Eureka's historic resources.

Policies

HCP-1.2: City-owned Resources. Maintain City-owned historic buildings and resources, such as structures, objects, monuments, landscapes, and right of way improvements, retaining walls, granite curbs, entry monuments, light standards, street trees, and the scoring, dimensions, and patterns of sidewalks, driveways, curbs and gutters in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

HCP-1.6: Certified Local Government. Maintain adequate staffing for the continuance of the California State Office of Historic Preservation's Certified Local Government Historic Preservation Program.

Goal HCP-2: A comprehensive program that identifies, preserves, and assists in the protection of archaeological and Tribal Cultural resources.

Policy

HCP-2.10: Public Display of Resources. Encourage local universities, cultural museums, learning and interpretive centers, libraries, and curation facilities to preserve, store, protect, and/or make artifacts available for public display and study, when appropriate.

Goal AC-1: Provision of diverse programs and partnerships that meet the artistic and cultural needs of the Eureka community.

Policy

AC-1.11: Public Art Guidelines and Policies. Periodically evaluate and update the City's Public Art Guidelines and Policies to ensure the City has a clear strategic vision regarding these matters.

Goal AC-2: Effective utilization of arts and culture to stimulate events and projects that will increase City revenues and enhance Eureka's image.

Policies

AC-2.5: Private Investment in Public Spaces. Remove or minimize any City-based regulatory restrictions that would prevent private investment into public spaces, such as phantom art galleries, parklets, neighborhood-based mini-libraries, and murals on privately-owned buildings.

AC-2.6: Public Art. Continue to support public art that is consistent with the City's Public Art Guidelines and emphasizes art as an interactive pedestrian experience, allowing for a more inclusive and engaging public realm, including landscape buffers, parklets, parking lots, and other small public spaces.

AC-2.7: Joint Public-Private Partnerships. Promote cooperative arrangements with public and private agencies that allow for temporary or permanent displays of art on public or private land, such as murals on blank walls and the City's Phantom Art Program.

AC-2.9: Community Centers. Continue to maintain existing community centers and actively support the establishment of community centers in underserved areas of Eureka to meet both the civic and cultural needs of the community.

Goal CS-4: Library facilities that continually provide cultural and academic enrichment for the community.

Policies

CS-4.1: Adequate Services, Facilities, and Programs. Continue to support Humboldt County Public Library in its efforts to modernize and provide adequate and equitably distributed library services, facilities, and programs that meet the needs of all residents.

CS-4.2: Accessibility. Continue to coordinate with Humboldt County Public Library to ensure accessibility of all library facilities for pedestrians, bicyclists, transit riders, and users of other modes of transportation.

CS-4.3: Multi-Functional Uses. Support the use of libraries as multi-functional facilities, acting as gathering places, cultural centers, and venues for community events and programs throughout the City.

Goal HS-6: A consistent and well-maintained relationship with the Humboldt County Department of Health and Human Services to advocate that the County efficiently and effectively implements funding and programs dedicated to ensuring that Eureka has healthy communities and adequate human services to combat homelessness.

Policies

HS-6.1: Health Care Facilities. Continue to coordinate with public and private health care providers to develop new, and strengthen existing, health care facilities within the City in order to continue providing adequate health care services for Eureka and the surrounding communities of Humboldt Bay.

HS-6.4: Site Location. Work with Humboldt County and local organizations to identify adequate sites for health and human services facilities within the City to ensure that such facilities are easily accessible and equitably distributed throughout the City in a manner that makes the best use of existing facilities and ensures compatibility with adjoining uses.

Impacts and Mitigation Measures

Impact 3.11-1: The Eureka 2040 General Plan would not result in substantial adverse physical impacts associated with the provision of new or physically altered facilities, or create a need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

Fire Protection

As described in the setting above, the City of Eureka provides fire protection services to citizens within its jurisdictional boundaries or response area. The agency that provides fire protection services to the City of Eureka is Humboldt Bay Fire, which provides emergency response and non-emergency public safety services to approximately 50,000 people in its service area from five fire stations located in and around Eureka.

Specific data on response times can be difficult to determine for rural or semi-rural areas; within the City of Eureka the response times are referenced to industry standards. Industry standards recommend four- to eight-minute response times. While these response times do not meet the City's currently adopted response time goal, response times are within the National Fire Protection Agency (NFPA) 1710 recommended travel time standard. Future growth in accordance with buildout of the proposed project is expected to generate the typical range of service calls, including structure fires, car fires, and electrical fires. New fire facilities, vehicles, equipment, and personnel could be required to provide adequate response times to serve future growth. Therefore, the City's costs to maintain equipment and facilities and to train and equip personnel would also increase. Additionally, growth in existing rural areas would also increase the demand for fire protection services in those areas.

As the City continues to grow with implementation of the 2040 General Plan, and with the Plan Area being a largely built-up urban environment, implementation of the 2040 General Plan would likely result in gradual physical changes, occurring over the 20-year period of the General Plan. It is also anticipated that these changes would be distributed broadly and incrementally across the Plan Area and would not comprise a substantial intensification or concentration of physical development. It is anticipated that the number of additional dwelling units from development of the proposed 2040 General Plan is 1,886. Over the span of the General Plan Update planning period, sufficient fire protection services from existing facilities and resources is anticipated to continue. The City's Five-Year CIP for FY 2017/18 to 2022/23 contains several long-term

planned improvements for HBF facilities including demolition and construction of a new main fire station and CPR training center, as well as replacement of Fire Station No. 4 and the future relocation and replacement of Fire Station No. 3. If the construction of new fire protection facilities or expansion of existing facilities were to occur, such changes would likely be gradual over the 20-year period of the General Plan, and would likely be distributed broadly and incrementally. Consequently, potential new development under the General Plan would not be expected to result in substantial changes to the fire protection services within the Plan Area.

Moreover, the proposed 2040 General Plan includes policies that are designed to protect and enhance fire protection resources, including proposed Policies CS-2.1, CS-2.2, CS-2.3, and CS-2.4. Policy CS-2.1 addresses the development of a Fire Master Plan with routine maintenance to identify needs, goals, and priorities for fire staffing, services, facilities, and funding. In addition, Policy CS-2.2 look to ensure adequate facility standards for water main size, water flow, and hydrants. Policies CS-2.3 and CS-2.4 provide the framework for annually assessing fire protection services including maintaining an ISO rating of 3 or higher, and maintaining an average response time of three minutes for all service calls. An ISO rating is used to account for fire suppression, prevention, water distribution, and dispatch call handling capabilities.

Consequently, with response times and ISO ratings expected to remain at current or above target level throughout the 20-year plan period, coupled with the modest, gradual, and broadly distributed program of physical development and population growth, impacts to fire protection resources are anticipated to be minimal. For the above reasons, and in conjunction with proposed General Plan policies designed to protect and enhance fire protection systems, impacts to fire protection resources from the proposed 2040 General Plan would be **less than significant**.

Law Enforcement

As described in the setting above, the City of Eureka is a full service department which provides law enforcement services to approximately 27,226 residents and a daytime service population of roughly 45,000 to 55,000 people.[13] With a staffing level of 54 budgeted sworn personnel and 27 non-sworn professional staff, based on the resident population of 27,226, the service ratio equates to approximately 1.98 sworn personnel and .99 non-sworn staff per 1,000 City residents. As the City continues to grow with implementation of the 2040 General Plan, this ratio would be maintained with policies and implementation measures focused on addressing future law enforcement needs. Based on the estimated number of new dwelling units associated with the General Plan Update (1,886), and the subsequent increase in resident population by 3,683 persons at General Plan buildout, the City would have a population of approximately 30,908 people, requiring 62 sworn personnel in order to meet applicable standards. The City's current ratio is at the accepted standard of 2.0 officers per 1,000 residents. In addition, the current ratio is above the proposed standard of maintaining a police staffing ratio of 2.8 personnel per 1,000 residents (1.0 non-sworn and 1.8 sworn), with a ratio of 1.98 sworn and .99 non-sworn.

[13] Watson, Steve, Chief of Police, City of Eureka Police Department. Email communication with Evan Wasserman, ESA. January 31, 2018.

Policies and implementation programs included as part of the proposed 2040 General Plan Update, address the need for additional law enforcement services. Specifically, Policies CS-1.3 and CS-1.4 which address law enforcement staffing, equipment, and response times.

Implementation of the proposed 2040 General Plan Update would increase overall demand on law enforcement services in the City. Future growth in accordance with buildout of the proposed General Plan is expected to generate the typical range of service calls. Additional police facilities, vehicles, equipment, and personnel would likely be required to provide adequate response times to serve future growth. Therefore, the City's costs to maintain equipment and facilities and to train and equip personnel would also increase. However, the additional personnel and materials costs would likely be gradual, and broadly distributed throughout the Plan Area, over a 20-year planning period.

Moreover, the proposed 2040 General Plan includes policies that are designed to protect and enhance law enforcement resources, including proposed Policies CS-1.1, CS-1.2, CS-1.5, and CS-1.6. Policy CS-1.1 addresses the development of a Police Master Plan with routine maintenance to identify needs, goals, and priorities for police staffing, services, facilities, and funding. In addition, Policy CS-1.2 establishes a Chief's Advisory Panel to work with City Council appointed stakeholders to help advise the Chief of Police.

Policies CS-1.5 and CS-1.6 provide the framework for annually assessing police facilities and developing strategies that, at a minimum, maintain the police staff and response time standards while also exploring the possibility of applying a funding mechanism on new and existing development projects to assist in funding EPD operations and facilities. Future projects would be reviewed by the City on an individual basis and could be required to comply with requirements (i.e., impact fees, etc.) in effect at the time building permits are issued.

Consequently, with service ratios expected to remain at current or above target level throughout the 20-year plan period, coupled with the modest, gradual, and broadly distributed program of physical development and population growth, impacts to law enforcement resources are anticipated to be minimal. For the above reasons, and in conjunction with proposed policies designed to protect and enhance law enforcement resources, impacts to law enforcement resources from the proposed 2040 General Plan would be **less than significant**.

Education

As described in the setting above, the Eureka City Schools District (District), the South Bay Union School District (SBUSD), Jacoby Creek School District (JCSD), and Freshwater School District (FSD) are the four school districts with boundaries within the Plan Area that serve Eureka residents. The District being the largest district, and serving the majority of the student population, includes four elementary schools, two middle schools, one comprehensive high school and one continuation high school. As of the 2016 to 2017 school year, total enrolment with Eureka City Schools is 3,767 students. For the purposes of this analysis, this student population was utilized. While other school districts were found to have boundaries overlapping the Plan Area, those districts had relatively low enrollment numbers overall, and were typically districts that focused on serving areas outside of the City limits. In addition, these districts were found to

have minimal portions of their district boundaries overlapping with the City of Eureka's corporate limits. Therefore, the District was the only district included as part of this analysis.

Implementation of the General Plan Update would result in additional residents, with up to 1,886 dwelling units resulting in a population of approximately 3,683 additional residents. This increased population would result in student generation of approximately 1,320 students for the plan period ending in 2040. Student generation is based on student population projections calculated by multiplying projected peak population for the District by the statewide average Student Yield Factors from the Enrollment Certification/Projection School Facility Program form (SAB 50-01) from the California Office of Public School Construction, which are as follows: elementary school district = 0.5 students per dwelling unit; high school district = 0.2 students per dwelling unit; and unified school district = 0.7 students per dwelling unit.[14]

New or upgraded facilities and personnel could be required to provide adequate service for future growth. The continued provision of adequate funding sources, and the dedication of future school sites would be necessary to ensure continued development of future school facilities. However, in reviewing historical trends in enrollment between the 2006-2007 school year and the 2016-2017 school year, the enrollment trends have typically declined. Over the 10-year time span, the average enrollment has been approximately 3,950 students per year with a median difference of enrollment per year of about 77 less students during that time span. Therefore, projected enrollment rates utilizing the mentioned Student Yield Factors, from the California Office of Public School Construction, would likely be providing an overestimate on the number of students generated from additional dwelling units as a result of the 2040 General Plan implementation. While the Plan Area is largely a built-up urban environment, implementation of the 2040 General Plan would result in gradual physical changes within the Plan Area over a 20-year period, and changes would be distributed broadly and incrementally across the 16.4-square-mile City. Any changes during the plan period would likely not comprise a substantial intensification or concentration of physical development. Therefore, new development under the General Plan would not be expected to result in substantial changes to educational resources within the Plan Area.

Moreover, the proposed 2040 General Plan includes goals and policies that are designed to address the need for additional school services. Specific goals and policies pertaining to education include Policies CS-3.1 and CS-3.2, which focus on continuing to support local school districts, and coordinating joint uses. Policy CS-3.3 states the requirement to monitor housing and population trends to help plan for facility needs, and Policy CS-3.4 focuses on planning for accessible school sites based on residential uses. Policy CS-3.5 also addresses residential development and the mitigation of its impact on school facilities through the payment of fees or other negotiated methods. With these policies in place, the General Plan Update adequately addresses the provision of sufficient educational facilities to serve the Plan Area.

Consequently, the modest, gradual, and broadly distributed program of physical development that would occur under the proposed 2040 General Plan, combined with policies designed to protect

[14] California office of Public School Construction, 2009. Form SAB 50-01. Enrollment Certification/Projection, School Facility Program. Student Yield Factors. http://www.documents.dgs.ca.gov/opsc/Forms/SAB_50-01.pdf. Accessed February 6, 2018. p. 4.

and enhance education resources would ensure that impacts from the construction or expansion of new development on education resources would be **less than significant**.

Parks and Recreation

Future population growth expected to occur during the proposed 2040 General Plan Update planning period would likely utilize park and recreation facilities at a similar rate as the current population. In general, significant environmental affects would occur if population growth and park use outpace the improvements to parks and recreation facilities, resulting in the deterioration of existing facilities. If park and recreation facilities are not developed at a rate commensurate with population growth, the proposed General Plan Update could result in overuse and deterioration of existing parks and recreation facilities. To avoid deterioration, sufficient additional parkland acres should be provided in order to maintain or exceed the current population to parkland acreage ratio.

The proposed 2040 General Plan Update provides for development of up to 1,886 dwelling units that are anticipated to result in a population increase of approximately 3,683 additional residents in the Plan Area by 2040. These additional residents would generally utilize the existing 133 acres of neighborhood and community parks as suggested in the existing General Plan. With proposed policies of the 2040 Eureka General Plan for Parks and Recreation remaining the same for parkland standards, it is assumed that any additional park facilities would also continue to adhere to such standards.

As expressed in the environmental setting, the existing General Plan states the requirements for the City's neighborhood and community parks. The General Plan specifies that neighborhood parks should have a ratio of park space to population of 1 acre per 1,000 persons. For community parks the General Plan specifies a ratio of 3 acres per 1,000 residents. Based on an existing population of about 27,226 residents, the ratio of community and neighborhood park space to residents is approximately 4.9 acres per 1,000 residents.[15] With both neighborhood and community park ratios for park space to population above the standards set in the existing and proposed General Plan policies, it is anticipated that no additional parks and recreational facilities would be required to be developed as a result of the 2040 Eureka General Plan update. Implementation of the General Plan would not result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered parks and recreation facilities. Therefore, no construction would be necessary to maintain acceptable service ratio performance objectives for parks, and significant environmental impacts from construction would not occur.

Moreover, the proposed 2040 General Plan includes goals and policies that are designed to address the need for parks and recreation resources. Specific goals and policies pertaining to parks and recreation including Goal PR-1 which focuses on continuing to provide a well-maintained park and recreation system, with sufficient facilities to effectively serve the diverse needs and interests of all members of Eureka's population, while protecting environmentally

[15] U.S. Census. 2016. American Community Survey. Population Estimates. Quick Facts. Eureka, CA. https://www.census.gov/quickfacts/fact/table/eurekacitycalifornia#viewtop. Accessed January 31, 2018.

sensitive resources. Specific policies pertaining to this goal include Policies PR-1.1 and PR-1.2. These policies address the need to maintain and adapt parkland standards to meet the needs of the community, and to also address the development of a Strategic Plan for the Eureka Open Space, Parks, and Recreation Commission (OSPRC). With these policies in place, the General Plan Update would adequately address the provision of sufficient parkland and recreational facilities to serve the Plan Area.

Based on the modest, gradual, and broadly distributed program of physical development that would occur under the proposed 2040 General Plan, combined with policies designed to protect and enhance parks and recreational resources, impacts to parks and recreational resources would be **less than significant**.

Other Community Services

While implementation of the proposed 2040 General Plan Update could increase the overall demand on community services within the City, anticipated growth from implementation of the 2040 General Plan would likely result in gradual physical changes within the Plan Area over a 20-year period. Moreover, while library services are not directly provided through the City of Eureka, the proposed 2040 General Plan includes policies that are designed to protect library services including proposed Policies CS-4.1 through CS-4.3 which focus on continued support of the Humboldt County Public Library, facilities, programs, modernization, accessibility, and multi-functional use. In addition, the proposed 2040 General Plan includes policies that are designed to protect community services including proposed Policy PR-1.12 which focuses on regularly updating the Zoo Master Plan with the Sequoia Park Zoo Foundation; and Policy AC-2.9 which aims to maintain existing community centers and actively support the establishment of community centers in underserved areas. With implementation of the above mentioned policies, this impact would be **less than significant**.

Mitigation Measures

None required.

Impact 3.11-2: The Eureka 2040 General Plan would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

As stated in the analysis for Impact 3.11-1, implementation of the General Plan Update could facilitate population growth that outpaces improvements to existing neighborhood, and regional parks, and other recreational facilities resulting in their overuse and deterioration from an increase in overall demand on park and recreation related facilities in the City.

Buildout of the 2040 General Plan provides for development of up to 1,886 dwelling units that are anticipated to result in a population increase of approximately 3,683 additional residents in the Plan Area by 2040. These additional residents would generally utilize the existing 133 acres of neighborhood and community parks as suggested in the existing General Plan. With proposed

policies of the 2040 Eureka General Plan for Parks and Recreation remaining the same for parkland standards, it is assumed that any additional park facilities would also continue to adhere to such standards. With both neighborhood and community park ratios for park space to population above the standards set in the existing and proposed General Plan policies, it is anticipated that no additional parks and recreational facilities would be required to be developed as a result of the 2040 Eureka General Plan update.

There are several large open space and wildlife areas located within and adjacent to the Plan Area that provide the residents of Eureka and other surrounding areas with natural recreation opportunities. The City of Eureka is also located in close proximity to several national and state parks. Together, these parks provide tens of thousands of acres of public recreation land, and as mentioned previously, the existing City of Eureka General Plan characterizes these national and state parks as regional parks, or parks that serve populations that can reach the facility within 1 hour of driving time.

Implementation of the 2040 General Plan would result in gradual physical changes within the Plan Area over a 20-year period. These changes would be distributed broadly and incrementally across the 16.4-square-mile City and would not induce substantial population growth either directly or indirectly. Therefore, implementation of the General Plan would not result in substantial adverse physical impacts associated with the increased use of neighborhood or regional parks and recreation facilities.

Moreover, the proposed 2040 General Plan includes goals and policies that are designed to address the need for parks and recreation resources. Specific goals and policies pertaining to parks and recreation including the Goal PR-1 which focuses on continuing to provide a well-maintained park and recreation system, with sufficient facilities to effectively serve the diverse needs and interests of all members of Eureka's population, while protecting environmentally sensitive resources. Specific policies pertaining to this goal include proposed Policies PR-1.1 and PR-1.2. These policies address the need to maintain and adapt parkland standards to meet the needs of the community, and to also address the development of a Strategic Plan for the Eureka Open Space, Parks, and Recreation Commission (OSPRC). With these policies in place, the General Plan Update would adequately address the provision of sufficient parkland and recreational facilities to serve the Plan Area.

Based on the modest, gradual, and broadly distributed program of physical development that would occur under the proposed 2040 General Plan, combined with policies designed to protect and enhance parks and recreational resources, impacts to parks and recreational resources would be **less than significant**.

<u>Mitigation Measures</u>

None required.

Cumulative Impacts

Impact 3.11-3: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not result in a cumulative impact on public services and recreation systems.

The geographic context for the analysis of cumulative public service and recreational system impacts is cumulative development in the City of Eureka (the Plan Area) and the larger Study Area, as shown on Figure 2-2 in Chapter 2, *Project Description*. The Study Area encompasses the area within the City limits (the Plan Area), City's Sphere of Influence (SOI), and peripheral areas that could be influenced by the City's planning activities. The complete Study Area (the City of Eureka, its SOI, and peripheral areas) covers approximately 27,735 acres, or about 43.3 square miles. While the City is considered to be largely built out, there is potential for additional development within the SOI in unincorporated Humboldt County lands east and south of the City limits. If the new development is not designed with due consideration for existing fire, law enforcement, education, parks and recreation, or other community services, adverse effects to City public service and recreation systems could occur. Because there is a potential for future cumulative development outside of the City limits to adversely affect public service and recreation systems within the Study Area, this cumulative impact is considered potentially significant. However, new physical development that would occur in the City under the proposed 2040 General Plan and in adjoining areas would be required to comply with applicable plans, policies, and guidelines that are designed to protect public service and recreation systems from potential negative impacts. Consequently, the contribution of the proposed 2040 General Plan to the cumulative impact would be **less than significant**.

<u>Mitigation Measure</u>

None required.

3.12 Transportation

This section evaluates the potential impacts on the local and regional circulation system that would result from implementation of the 2040 General Plan. This includes an analysis of the potential for the proposed General Plan to increase local and regional traffic volumes, increase hazards due to a design feature, interfere with emergency access, or conflict with applicable alternative transportation programs.

The analysis provided in this section was developed based on proposed land use and circulation system changes as contained in the proposed 2040 General Plan. Traffic data was obtained from the City, Caltrans, or specifically for this effort and used along with the Humboldt County travel demand model to achieve traffic projections.

During the Notice of Preparation (NOP) comment period, the City received a comment letter from Caltrans. The letter is included with this Draft EIR in Appendix A. The letter articulated the desire of Caltrans that the Draft EIR evaluate the proposed General Plan for its effect on vehicle miles traveled (VMT), and the inclusion of Transportation Demand Management (TDM) strategies when applicable. The letter also requested the City's continuing coordination with Caltrans on matters related to State-funded transportation improvements within the City limits.

3.12.1 Environmental Setting

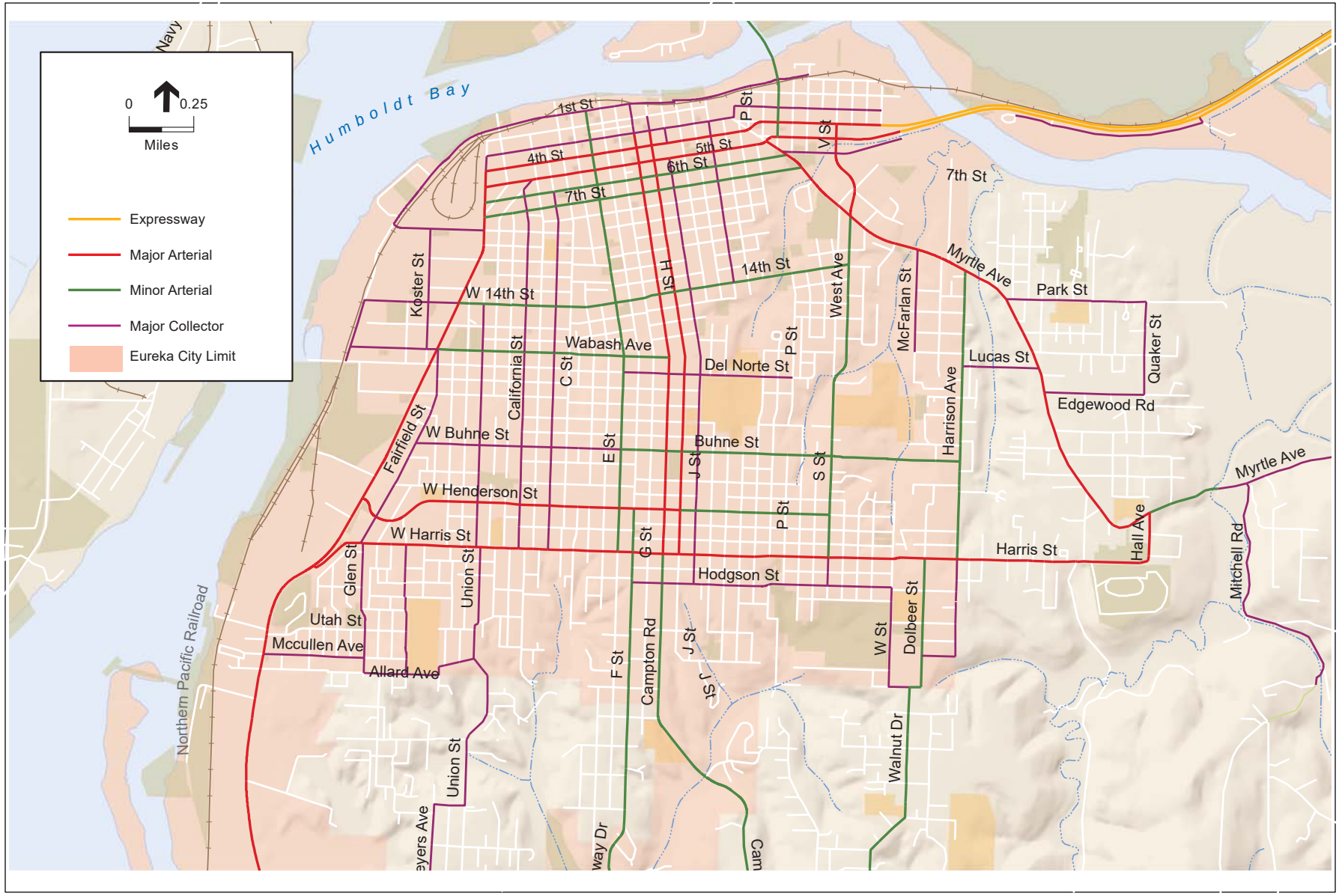
This section describes the environmental setting, which is the baseline scenario upon which project-specific impacts are evaluated. The environmental setting for transportation includes baseline descriptions for the roadway, bicycle, pedestrian, transit, and rail systems.

Existing Roadway System

The City of Eureka has identified four categories of roadway classifications for City streets in addition to local streets. The functional classification system represents a complimentary network of roads, balancing mobility and land use access. It carries with it expectations about roadway design, including speed, capacity, and relationship to existing and future land uses developed. Federal legislation continues to use function classifications in determining eligibility for funding under the Federal Aid program. These classifications and the roadways that fit within them are based on the categories used by Caltrans, as shown on the current version of their California Road System map, are discussed below. The four types that exist within the core of Eureka are illustrated in **Figure 3.12-1**. All the street types that exist within Eureka are described in greater detail below.

Freeway

Freeways provide for intra- and inter-regional mobility. They are characterized by restricted access and higher volumes and speeds. The only freeway segment within the City limits is on US-101 at the southerly entry to the City, and ends just north of the Herrick Avenue interchange. US-101 is grade-separated and carries 32,000 vehicle trips per day at the interchange with Herrick Avenue, then transitions to a major arterial as it enters the City. This roadway generally has four lanes, two in each direction, and connects the City of Eureka to points as far south as Los Angeles and north to the State of Oregon.



SOURCE: Functional Classification System Map 1D14, 3/30/2016

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Figure 3.12-1

Street Classifications

Expressway

Expressways also provide for intra- and inter-regional mobility, but access is allowed only at key intersections. US-101 transitions from major arterial to Expressway as it exits the City of Eureka and continues north towards Arcata. The road carries approximately 37,500 vehicle trips per day and has two lanes in each direction divided by a large unpaved median.

Major Arterial

This classification of roadway collects from and distributes traffic to collector streets and vice versa. It is characterized by access at connecting intersections as well as driveways, with volumes up to 27,000 vehicles per day.

Minor Arterial

The primary difference between major and minor arterials is the relative importance of the roadway in serving through traffic. Roadways in this category may carry a volume of up to 14,000 vehicles per day.

Collectors (Major and Minor)

Collector streets serve as the connection between local and arterial streets and provide direct access to adjoining parcels. While direct access to collector streets is allowed, access is not recommended within 50 feet of an intersection. Further, non-residential driveways and/or intersecting streets should be no less than 300 feet apart. Collectors generally carry volumes of up to 6,300 vehicles per day.

Local

Local streets provide direct access to adjacent parcels, usually with no restriction to access. These streets comprise the bulk of the circulation system. Local streets generally have capacities of 5,000 vehicles per day or less.

Table 3.12-1 provides a listing of the streets in Eureka that fall into the arterial and collector categories; any street not listed in the table or identified above as a freeway or expressway would therefore be a local street.

Existing Roadway Levels of Service

Methodology

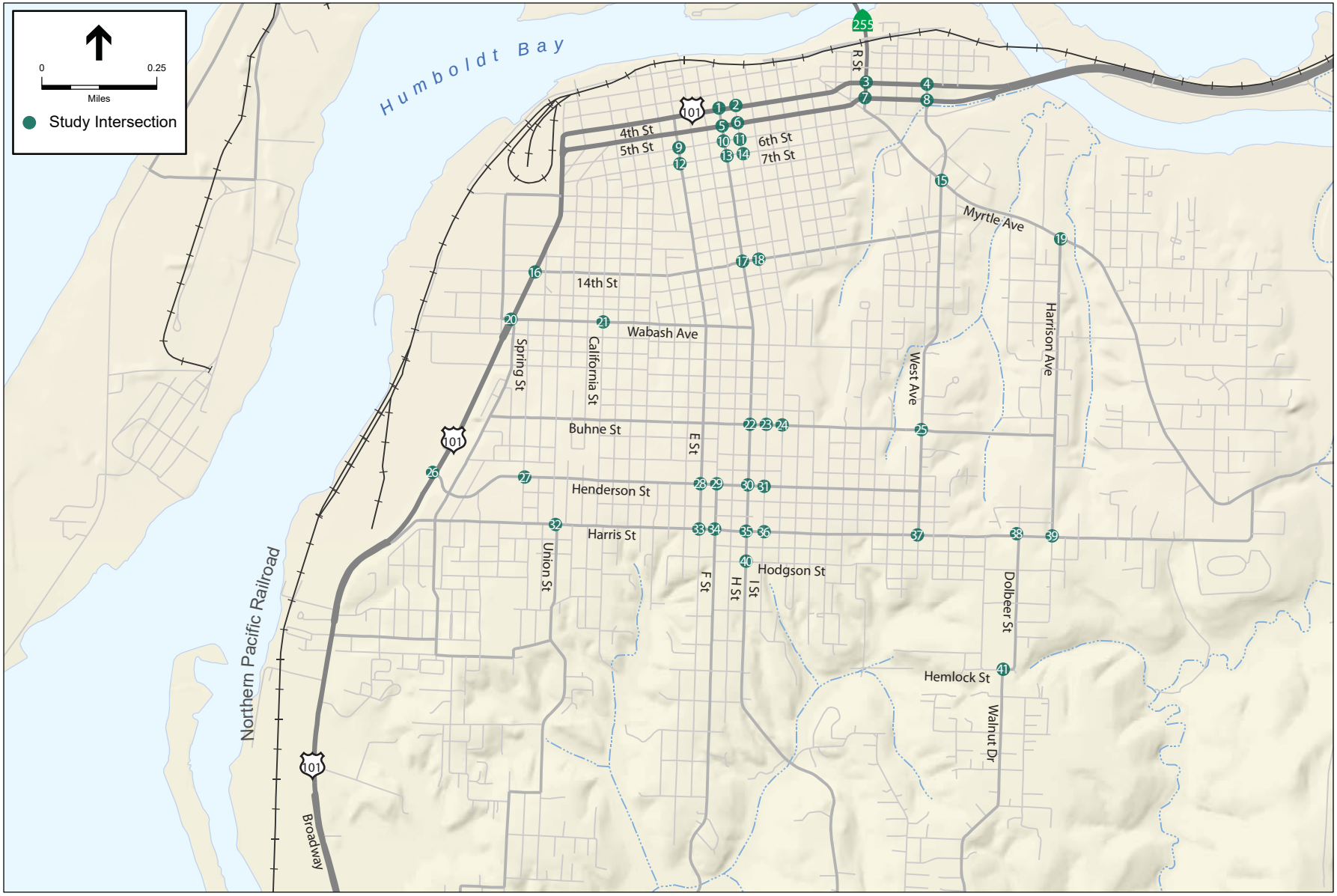
The study area established with input from City staff included 41 intersections, most of which are under the City's control and operation, although some intersections along US-101 (Broadway and the 4th/5th Street couplet) were included, which are under the jurisdiction of Caltrans. **Figure 3.12-2** shows the locations of these study intersections.

Traffic counts were obtained from a number of sources for this analysis, including the City of Eureka, Caltrans, and physical traffic counts undertaken specifically for this analysis. Traffic counts at the study intersections were conducted between 2012 and 2017. The analysis covered conditions during the morning and evening peak periods, which coincide with the predominant commute times of 7:00-9:00 a.m. and 4:00-6:00 p.m. Counts were obtained for this two-hour

TABLE 3.12-1
STREETS BY FUNCTIONAL CLASSIFICATION

Major Arterials	Minor Arterials	Collectors
Broadway (US-101)	14th/W. 14th Street (Broadway to West Ave)	1st Street
4th Street (US-101)	6th/W. 6th Street	3rd/W. 3rd Street
5th Street (US-101	7th/W. 7th Street	6th Street (Myrtle Ave to eastern terminus)
H Street(3rd to W. Harris Streets)	Buhne Street (E St to Harrison Ave)	Allard Avenue (Glen St to Spring St)
Harris Street	Campton Road	Bainbridge Street (Dolbeer St to Harrison Ave)
Henderson/W. Henderson Street (Broadway to H St)	Dolbeer Street	Buhne Street (Fairfield St to E St)
I Street (Harris St to 3rd St)	E Street (Harris St to 1st St)	California Street (Harris St to 6th St)
Myrtle Avenue (5th St to Hall Ave)	F Street (Ridgecrest Dr to Henderson St)	Central Avenue
West Avenue (Myrtle Ave to 5th St)	Fairway Drive	Fairfield Street
	Harrison Avenue (Harris St to Myrtle Ave)	Glen Street
	Henderson Street (H St to West Ave)	H Street (1st St to 3rd St)
	S Street (Harris St to County Ln)	Harrison Avenue (Manzanita Ave to Harris St)
	Wabash-W. Wabash Avenue (Broadway to G St)	Hemlock Street (W St to Walnut Dr)
	West Avenue (County Ln to Myrtle Ave)	Hodgson Street
		I Street (2nd St to 3rd St)
		J Street
		Jacobs Avenue
		Koster Street (W. Wabash Ave to W. Washington St)
		M Street (3rd St to 14th St)
		McCullens Avenue (Broadway to Glen St)
		McFarlan Street
		Myrtle Avenue
		Railroad Avenue (W. Del Norte St to W. 14th St)
		Union Street (Artino St to W. 14th St)
		Utah Street
		W Street (Hemlock St to Glatt St)
		W. 14th Street (Railroad Ave to Broadway)
		W. Wabash Avenue (Railroad Ave to Broadway)
		W. Washington Street
		Waterfront Drive

Note: entirety of roadway has the classification indicated unless noted otherwise.



SOURCE: Whitlock & Weinberger Transportation, Inc.

City of Eureka 2040 General Plan Update

Figure 3.12-2

Study Area

period and the counts for the four consecutive 15-minute periods having the highest total volume extracted to evaluate existing conditions (and represent the peak-hour conditions). Synchro software was used to evaluate operation at the 41 study intersections.

Intersection Operation

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, LOS A represents free flow conditions and LOS F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

The study intersections were analyzed using methodologies published in the Highway Capacity Manual (HCM).[1] This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle. The methodologies as published in 2010 were applied in this analysis; the most recent previous major update to the methodologies was published in 2000, and analyses completed prior to 2010 would have relied on these earlier, similar methodologies.

The LOS for the intersections with side-street stop controls, or those which are unsignalized and have one or two approaches stop controlled, were analyzed using the "Two-Way Stop-Controlled" intersection capacity method from the HCM. This methodology determines an LOS for each minor turning movement by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements together with the weighted overall average delay for the intersection.

The study intersections with stop signs on all approaches were analyzed using the "All-Way Stop-Controlled" Intersection methodology from the HCM. This methodology evaluates delay for each approach based on turning movements, opposing and conflicting traffic volumes, and the number of lanes. Average vehicle delay is computed for the intersection as a whole, and is then related to an LOS.

The study intersections that are currently controlled by a traffic signal, or may be in the future, were evaluated using the signalized methodology from the HCM. This methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. For purposes of this analysis, delays were calculated using optimized signal timing.

The ranges of delay associated with the various levels of service are indicated in **Table 3.12-2**.

1 Highway Capacity Manual (HCM). Transportation Research Board, 2010.

TABLE 3.12-2
INTERSECTION LEVEL OF SERVICE CRITERIA

LOS	Two-Way Stop-Controlled	All-Way Stop-Controlled	Signalized
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Upon stopping, drivers are immediately able to proceed.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 15 seconds. Drivers may wait for one or two vehicles to clear the intersection before proceeding from a stop.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 15 to 25 seconds. Drivers will enter a queue of one or two vehicles on the same approach, and wait for vehicle to clear from one or more approaches prior to entering the intersection.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 25 to 35 seconds. Queues of more than two vehicles are encountered on one or more approaches.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 35 to 50 seconds. Longer queues are encountered on more than one approach to the intersection.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 50 seconds. Drivers enter long queues on all approaches.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

NOTE:
LOS = Level of Service

Source: Highway Capacity Manual, Transportation Research Board, 2010

East-West Streets

Eight of the study intersections are along the 4th Street/5th Street couplet, which has two to three travel lanes in each direction (westbound on 4th Street and eastbound on 5th Street). This couplet serves as US-101 through the northerly part of the City and these signalized intersections are under the jurisdiction of Caltrans.

A second couplet is formed by 6th and 7th Streets, each of which has two lanes, with westbound traffic on 6th Street and eastbound on 7th Street. Six signalized intersections along these two streets were evaluated.

Three signalized intersections along 14th Street were evaluated. This corridor connects Broadway on the west to West Avenue on the east. There is one lane in each direction on 14th Street.

Wabash Avenue also connects to Broadway, and two intersections along this two-lane roadway were evaluated, including an unsignalized intersection at California Street.

Buhne Street, which has one lane in each direction, traverses the middle of the City. Four intersections along Buhne Street, one of which is unsignalized, were included in the study area.

Henderson Street and Harris Street form the southernmost couplet between Broadway and I Street, where they convert to two-way operation. Henderson Street carries westbound traffic and Harris Street is eastbound. The study includes 14 intersections along these two-lane streets, three of which are unsignalized.

Myrtle Avenue connects the easterly part of the City to the surrounding community of Myrtletown in unincorporated Humboldt County. There are two study intersections located along this corridor.

North-South Streets

Three of the signalized intersections along Broadway, which is under Caltrans jurisdiction, were included. Broadway has two lanes in each direction and turn lanes at most intersections.

E and F Streets are two-way streets with one lane in each direction. Six intersections along these two routes were evaluated.

H and I Streets form the primary north-south couplet between Downtown and Harris Street, with H Street carrying southbound traffic on three lanes, and I Street carrying northbound traffic on three lanes. Seventeen intersections along these two streets were evaluated, including one that is unsignalized.

R Street connects with SR 255, which serves the Samoa Peninsula, to US-101 at the 4th Street/ 5th Street couplet. R Street has two lanes in each direction plus turn lanes where it intersects US-101.

V Street-West Avenue connects the 4th/5th Street couplet to Harris Street, with one lane in each direction plus turn lanes at select intersections.

Harrison Avenue has one lane in each direction and connects Myrtle Avenue to Harris Street. Two of the intersections along this roadway were evaluated.

Table 3.12-3 summarizes the results of existing conditions during the peak hour at the study intersections.

All the study intersections are currently operating acceptably at LOS C or better, except the Harris Street/F Street intersection, which is operating at LOS D during the a.m. peak hour. This is considered unacceptable operating conditions under the standards adopted in the City’s existing General Plan.

Note that while the northbound Dolbeer Street approach to Harris Street is also at LOS D during the a.m. peak hour and the westbound Hodgson Street approach to H Street is at LOS D during the p.m. peak hour, these results were not deemed unacceptable as the intersections are both operating acceptably overall during these peak periods.

TABLE 3.12-3
EXISTING LOS CONDITIONS

Study Intersection	AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS
1. H Street/4th Street	13.9	B	16.4	B
2. I Street/4th Street	11.9	B	13.1	B
3. R Street/4th Street	20.7	C	19.2	B
4. V Street/4th Street	18.4	B	18.1	B
5. H Street/5th Street	9.2	A	12.9	B
6. I Street/5th Street	9.5	A	13.8	B
7. R Street/5th Street	14.0	B	16.6	B
8. V Street/5th Street	14.6	B	19.6	B
9. E Street/6th Street	9.1	A	9.1	A
10. H Street/6th Street	9.4	A	9.6	A
11. I Street/6th Street	9.4	A	9.4	A
12. E Street/7th Street	7.3	A	8.7	A
13. H Street/7th Street	7.7	A	9.7	A
14. I Street/7th Street	6.7	A	8.5	A
15. Myrtle Avenue/West Avenue	31.0	C	31.7	C
16. 14th Street/Broadway	8.9	A	22.9	C
17. H Street/14th Street	6.0	A	6.9	A
18. I Street/14th Street	5.8	A	5.8	A
19. Myrtle Avenue/Harrison Avenue	15.9	B	19.3	B
20. Wabash Avenue/Broadway	25.1	C	34.5	C
21. Wabash Avenue/California Street	3.2	A	3.5	A
Northbound Approach	*12.4*	*B*	*14.7*	*B*
Southbound Approach	*12.3*	*B*	*14.6*	*B*
22. Buhne Street/H Street	6.6	A	7.8	A
23. Buhne Street/I Street	8.5	A	7.8	A
24. Buhne Street/J Street	3.8	A	2.7	A
Northbound Approach	*17.0*	*C*	*15.6*	*C*
Southbound Approach	*18.1*	*C*	*17.3*	*C*
25. Buhne Street/S Street	11.1	B	11.7	B
26. Henderson Avenue/Broadway	15.7	B	23.9	C
27. Henderson Avenue/Spring Street	2.3	A	7.5	A
Northbound Approach	16.4	C	52.5	F
Southbound Approach	14.4	B	26.6	D
28. Henderson Ave/E Street	9.7	A	11.5	B
29. Henderson Ave/F Street	9.7	A	11.6	B
30. Henderson Ave/H Street	5.8	A	7.5	A
31. Henderson Ave/I Street	8.2	A	7.6	A

TABLE 3.12-3
EXISTING LOS CONDITIONS

Study Intersection	AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS
32. Harris Street/Union Street	10.6	B	13.2	B
33. Harris Street/E Street	22.2	C	21.5	C
34. Harris Street/F Street	53.5	D	30.5	C
35. Harris Street/H Street	12.3	B	14.9	B
36. Harris Street/I Street	0.5	A	0.4	A
Northbound Approach	*17.4*	*C*	*15.9*	*C*
37. Harris Street/S Street	10.8	B	8.7	A
38. Harris Street/Dolbeer Street	5.0	A	2.9	A
Northbound Approach	*51.6*	*F*	*25.7*	*D*
Southbound Approach	*14.3*	*B*	*19.4*	*C*
39. Harris Street/Harrison Avenue	28.9	C	29.7	C
40. Hodgson Street/H Street	6.0	A	7.2	A
Eastbound Approach	*18.1*	*C*	*16.5*	*C*
Westbound Approach	*24.4*	*C*	*25.8*	*D*
41.Hemlock Street/Walnut Drive	16.5	C	14.8	B
Northbound Walnut Drive	18.1	C	-	-
Westbound Hemlock Street	-	-	*17.0*	*C*

NOTES:
Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in italics; **Bold** text = deficient operation

Source: W-Trans, 2018

Bicycle System

Existing Bicycle Facilities

Bicycle facilities in Eureka consist of Class I bikeways, Class II bike lanes, and Class III bike routes. Class I bikeways are provided at Sequoia Park, Cooper Gulch Recreation Area, south of Railroad Avenue, and along the entire Eureka waterfront via the newly constructed 6.5-mile-long Eureka Waterfront Trail (which includes the Hikshari Trail). The majority of Eureka's bikeway system is comprised of Class II bike lanes, which are present throughout the City and provide mostly east-west connections. Bike lanes are present on 6th Street, 7th Street, Wabash Avenue, Henderson Street, and West Harris Street. North-south connections are present on J Street, Myrtle Avenue, Fairway Drive and Campton Road (City Limits to Fern Drive). Class III signed bike routes are provided on F Street, California Street, and Harris Street. The 1997 General Plan encourages the use of the bicycle as an alternate, energy efficient mode of transportation within the City. A number of Class I, II, and III bikeways are proposed throughout Eureka, which aim to continue providing bicycle access throughout the City.

Bicycle travel along Broadway is problematic and difficult because of the relatively narrow curb lanes north of Wabash Avenue as well as the large number of driveways. South of Del Norte, the striped shoulder coupled with the prohibition of on-street parking affords some convenience to bicycle travel, but the high volumes of traffic along Broadway combined with the relatively high speeds of 40 mph and more contribute to a relatively low level of comfort and increased hazards for most bicyclists. The Pacific Coast Bike Route avoids the narrow sections of Broadway from Wabash Avenue to 4th Street, by using Waterfront Drive. The City of Eureka and Caltrans continue to explore and develop alternative bicycle routes along the Broadway corridor to address or avoid these problematic areas. **Figure 3.12-3** illustrates both the existing and planned bicycle facilities in the City of Eureka.

Pedestrian System

Existing Pedestrian Facilities

The City of Eureka has a well-developed network of pedestrian facilities that includes sidewalks, trails, pathways, curb ramps, crosswalks and amenities such as bulbouts, pedestrian scale lighting, benches, transit shelters, street trees, landscape plantings and decorative paving treatments. Sidewalks are provided on the majority of streets in Eureka, with continuous sidewalks along most major arterials, minor arterials and collector streets. Downtown and surrounding neighborhoods have nearly complete sidewalk coverage, while outlying residential areas have varying coverage. The 2040 General Plan aims to encourage and facilitate walking throughout the City.

In general, sidewalks are constructed of concrete and are generally six feet wide, but widths are at least four to five feet wide. Curb ramps are provided at most intersections and sidewalk transitions in the Downtown area as well as most residential areas. Improvements including curb extensions, bulbouts, s-curves, raised islands, trees, benches, and pedestrian lighting have been provided in the “Old Town” district, Downtown, and other locations throughout the City. High visibility markings and advanced warning signs are also provided at mid-block crossings on arterials and in school zones.

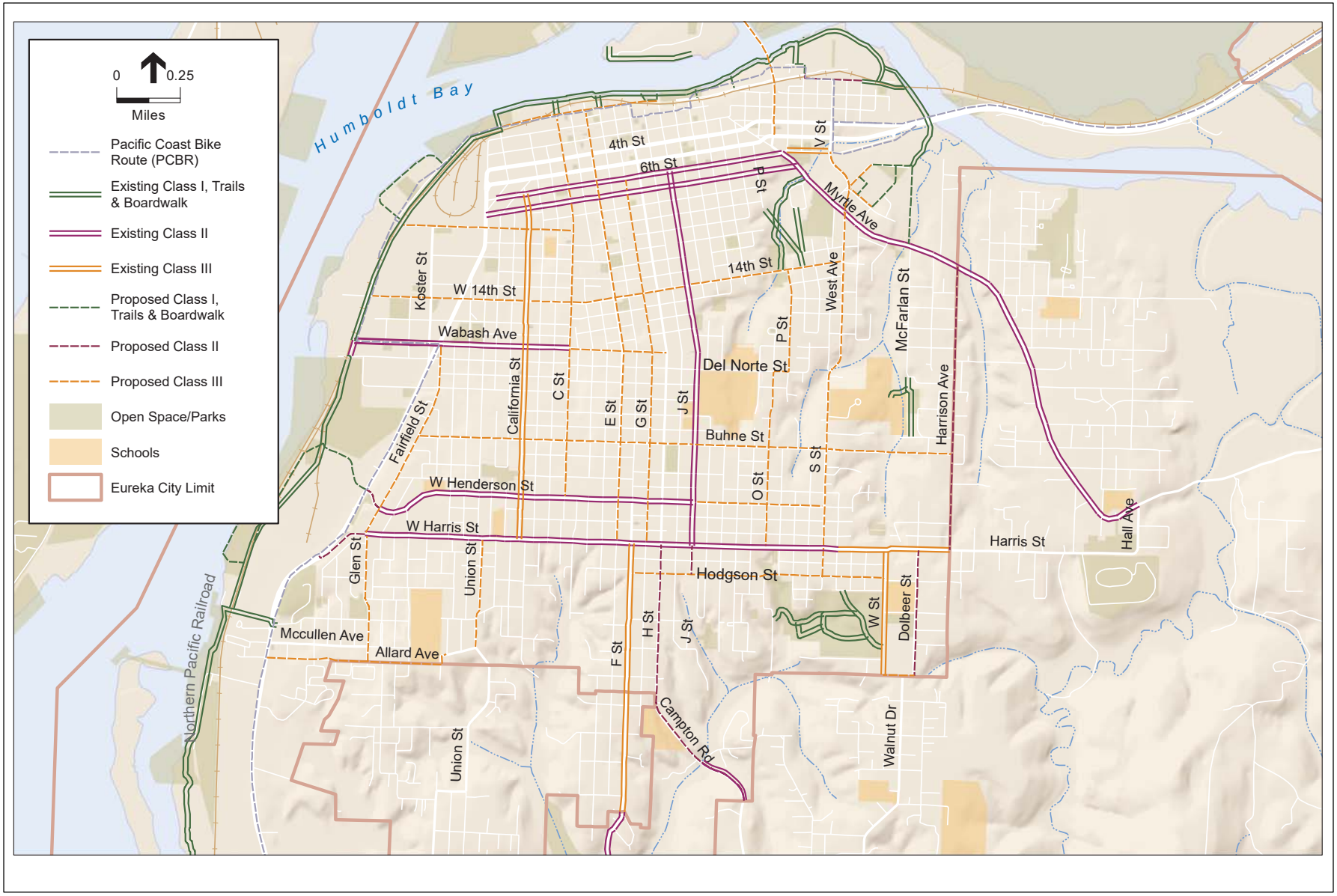
The primary challenge facing pedestrians in Eureka is street and highway crossings, especially the one-way couplets and US-101 (Broadway). These routes pose challenges to pedestrians who must contend with long crossing distances. Several schools are located on or near one-way couplets. Eureka High School (H and I Streets) was identified in the Humboldt County Regional Pedestrian Plan as the most in need of pedestrian visibility and traffic calming improvements. Other schools located on major collectors also have pedestrian safety needs, such as Zane Junior High (S Street), Washington Elementary (Dolbeer Street), and Grant Elementary (South H Street).

Transit System

Existing Transit System

Eureka Transit Service

Existing transit routes in Eureka are shown in **Figure 3.12-4**. Eureka Transit Service (ETS) provides fixed bus route systems within and around the City of Eureka. There are four routes that operate Monday through Friday, Red, Green, Gold, and Purple and two routes with Saturday service, Gold and Purple. All routes operate in a circular pattern. ETS offers one ride, regional



SOURCE: Humboldt Bay Area Bike Map, 2017

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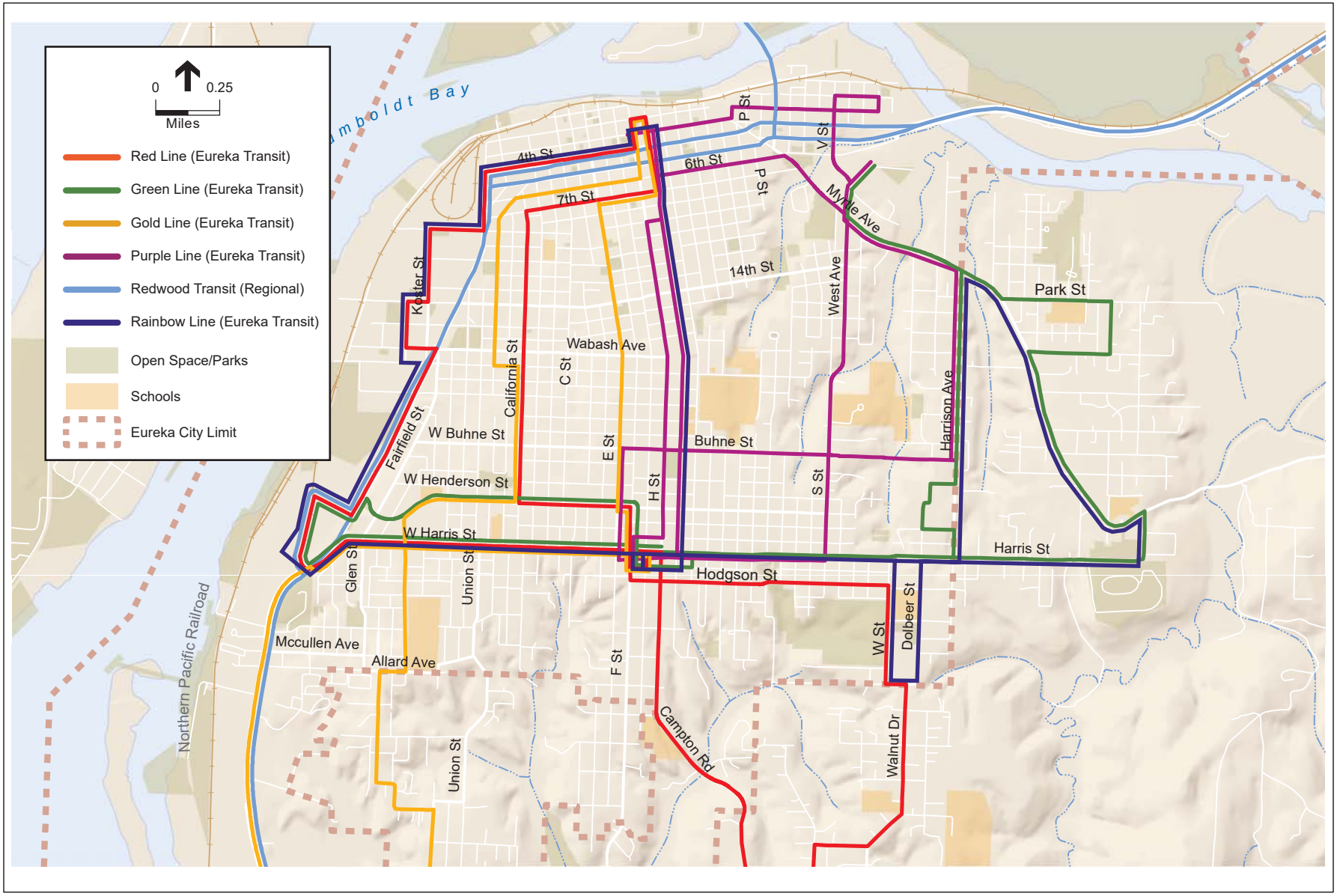
Figure 3.12-3

Existing and Planned Bicycle Facilities



SOURCE: Humboldt Transit Authority, 2018

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Figure 3.12-4
Transit Routes

transit, day, and monthly passes. For adults (18-62) the prices range from $1.70 for a one ride pass to $48.00 for a monthly pass. For youth (3-17), senior (62-plus), and disabled (with valid ID card) prices range from $1.30 for a one ride pass to $41.00 for a monthly pass. All ETS buses are wheelchair lift-equipped, and can also accommodate electric scooters weighing less than 600 pounds when occupied, and with dimensions no greater than 30 inches wide and 48 inches long. For the visually impaired, ETS provides audio indicators for inserting bus tickets; drivers announce major stops and specific stops upon request, and all service animals are permitted on ETS buses.

Though an ongoing route study is addressing the potential for modifying the routes, operation as of April 2018 is indicated below.

Gold Route operates with approximately one-hour headways between 6:30 a.m. and 7:00 p.m. Saturday service operates with approximately one-hour headways between 10:00 a.m. and 5:00 p.m. The route provides service starting downtown and to the west side of the City along Summer Street, California Street, Henderson Street, south to Herrick Avenue, then returning north along Broadway, Harris Street and E Street.

Purple Route operates with approximately one-hour headways between 6:40 a.m. and 7:00 p.m. Saturday service operates with approximately one-hour headways between 10:00 a.m. and 5:00 p.m. The route travels east from downtown along 3rd Street, provides service to the eastern part of the City along Myrtle Avenue, Harrison Avenue, Buhne Street, loops north on I Street and south on H Street, the returns to downtown via Harris Street, S Street, West Avenue and 6th Street.

Red Route operates with approximately one-hour headways between 7:00 a.m. and 7:00 p.m. The route starts in the downtown area, traveling southwest to Broadway and continuing past the Costco, through the Bayshore Mall, east on Harris Street, to the community of Cutten, southeast of Eureka, via Campton Road, Walnut Drive and Hodgson Street, then back downtown via Henderson Street, California Street and 7th Street.

Green Route operates at one-hour headways between 6:50 a.m. and 6:45 p.m. The route provides service to the east side of the City traveling east along Harris Street, then looping through Myrtletown on Harrison Avenue, Myrtle Avenue and back to Harris Street, and making a loop through the south side of the City along Henderson Street, through Bayshore Mall and back east along Harris Street.

Rainbow Route operates with approximately one-hour headways between 10:00 a.m. and 5:00 p.m. on weekends. The route travels between the waterfront near Old Town to the Bayshore Mall, and then east on Harris Street, passing Sequoia Park and Zoo, then to Harrison Avenue and Myrtle Avenue.

City of Eureka Dial-A-Ride, or paratransit, is available, through certification, for those who are unable to use a fixed route bus system due to a physical or mental disability.

Redwood Transit System

Redwood Transit System provides regional fixed bus route systems within Humboldt County. The Southern Humboldt Intercity Route and the Mainline (the US-101 corridor) Route provide service to Eureka and surrounding communities. The Southern Humboldt Intercity Route operates with approximately one to four-hour headways. Northbound, the route operates between 9:00 a.m. and 9:00 p.m. Southbound, the route operates between 7:00 a.m. and 7:15 p.m. In Eureka, stops are provided at the Bayshore Mall, Broadway/Del Norte Street, 4th Street/D Street, and 4th Street/H Street. The Mainline (US-101 corridor) route operates Monday through Friday with approximately three-hour headways between 5:30 a.m. and 10:40 p.m. Saturday service operates with approximately two and a half to three-hour headways. Northbound, the route operates between 8:30 a.m. and 8:30 p.m. Southbound, the route operates between 8:30 a.m. and 7:00 p.m. Sunday service is provided between 8:30 a.m. and 7:15 p.m. with approximately two and a half to three-hour headways. The route stops in Eureka at multiple locations along 5th Street, at Broadway/McCullen Avenue, and at the Bayshore Mall.

Airports and Air Transportation

Murray Field

Murray Field is a County-owned public airport located within the far northeast corner of the City limits, three miles northeast of downtown Eureka in Humboldt County, California. Most of its use is general aviation, but FedEx Express flights stop for package delivery. The County's Airport Land Use Compatibility Plan (ALUCP) was adopted in March, 1993. An effort to update the ALUCP is currently underway. The ALUCP provides methods, policies, and procedures for working with the County or City to assess compatibility of airport operations with nearby land uses, and identifies the Airport Influence Area (AIA) and the Safety Zones associated with the airport. These areas are delineated based on an assessment of aviation risk. Land uses are permitted in each area based on compatibility and proximity to airport runways and aircraft flight paths. Non-conforming land uses or major new development projects are subject to review by the County's Airport Land Use Commission.

Samoa Field Airport

The Samoa Field Airport, formerly known as the Eureka Municipal Airport, is a City-owned, public airport located on Samoa Peninsula in Humboldt Bay in Humboldt County, California, about one mile west of the Eureka City Limits. The airport is a general aviation (non-commercial) airport. An ALUCP has not been prepared for Samoa Field, but the County ALUCP update effort noted above may include Samoa Field as part of the County's update process.[2]

Goods Movement

Truck Routes

Currently, US-101 and SR 255 have been designated by the City of Eureka as truck routes. The Municipal Code allows truck drivers to use other City streets as well, as long as those streets comprise the most direct route between the nearest truck route and the freight origin or

[2] County of Humboldt. 2017. Resolution by the Board of Supervisors and Resolution by the Airport Land Use Commission Regarding Updating the Airport Land Use Compatibility Plan. Adopted March 23, 2017.

destination, unless such movements are expressly prohibited by posted signs. Designated truck routes in Eureka are shown in **Figure 3.12-5**.

Terminal Access Truck Routes are State routes or local roads that allow Surface Transportation Assistance Act (STAA) trucks (the federal standard length.) US-101 is the only STAA route through Eureka. Eureka may also be accessed by STAA vehicles travelling SR-299 westbound from Iron Mountain Road near Redding to US-101 southbound to Eureka. STAA vehicles may continue on 101 south of Crescent City to the vicinity of Benbow Drive in southern Humboldt County.

California Legal Trucks (shorter than STAA) have access to the entire state highway system. SR-255 is the only California Legal Network highway route (maximum 40 feet kingpin-to-rear-axle (KPRA)) in Eureka. The more restrictive California Legal Advisory Routes (30-38 (KPRA)) are restricted due to tight curves and narrow lanes.

Truck traffic through Eureka accounts for nearly six percent of the traffic during the day on US-101 (Broadway, 4th, and 5th Streets).

Rail Transportation

Although there is a rail line in Eureka owned by North Coast Railroad Authority (NCRA), referred to as the Northwestern Pacific Railroad, it is not currently in use (the tracks either do not exist or are severely compromised throughout most of the length of the right of way). The Northwestern Pacific Railroad is a regional railroad that connects to major Union Pacific Railroad (UPRR) facilities in Schellville, CA. In 2007 it was estimated that it would cost $100 million to repair the heavily-damaged route between Eureka and Willits. While reactivation of the line with routine freight use faces significant challenges and has not yet occurred, it is possible that some level of freight and passenger activity could resume through Eureka in the coming years.

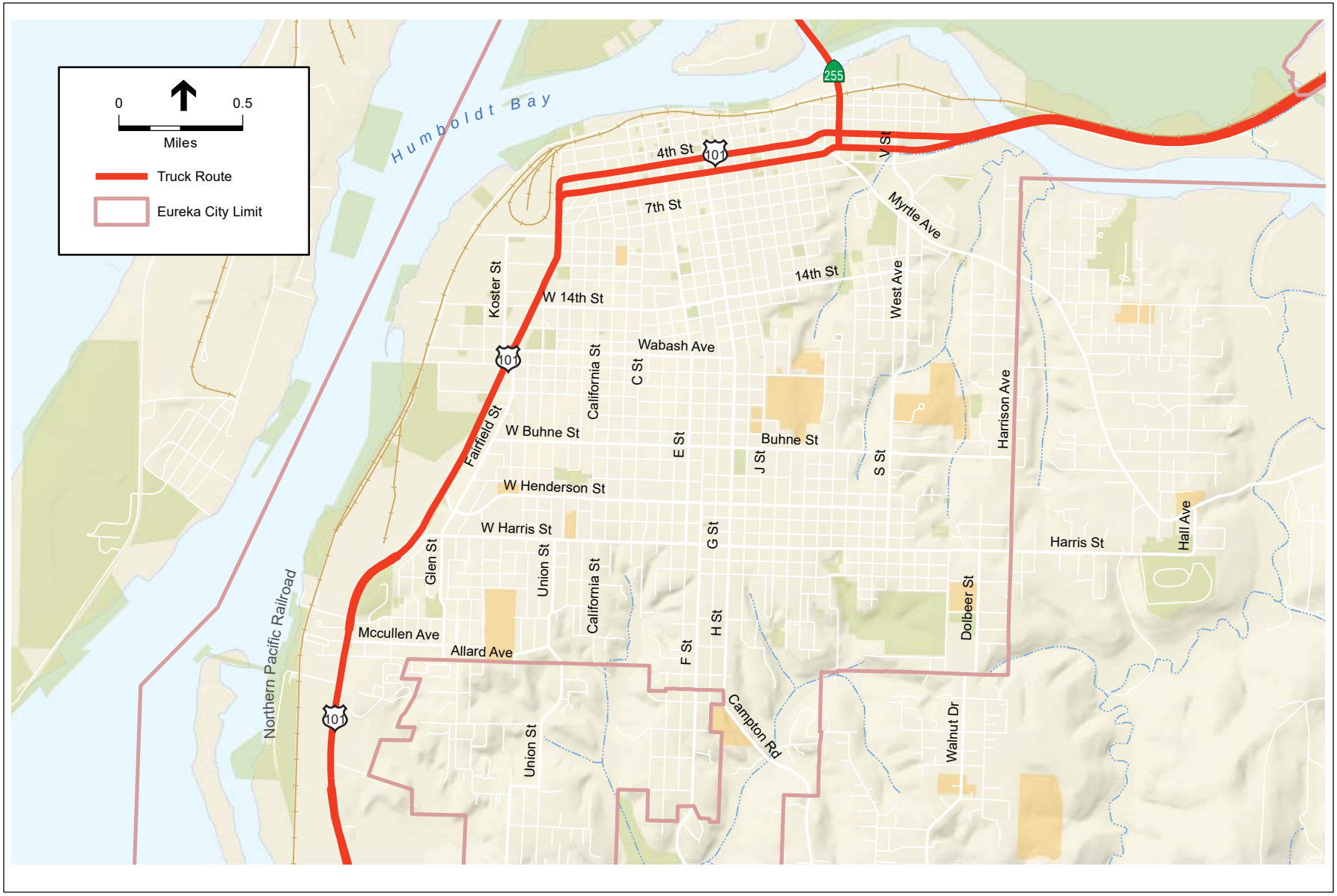
At the January 17, 2012 Eureka City Council meeting, the Council approved Resolution 2012-02 supporting the *Humboldt Bay Alternative Rail Route Feasibility Study* to evaluate an alternative (eastern) rail route to connect Humboldt Bay to the national rail network in the Sacramento Valley.

Maritime Transportation

Humboldt Bay Harbor is the only deep-water port in northern California. The port historically served as a major transportation hub between the Pacific Northwest and the rest of the world. Since the railroad is not in service, cargo loads must be transported by truck from the harbor. Much of the gasoline and diesel fuel used in Humboldt and the surrounding counties comes through the port. The port can handle international and Panama Canal class vessels.

3.12.2 Regulatory Overview

The City of Eureka General Plan along with a variety of regional, State, and federal plans, legislation, and policy directives provide guidelines for the safe operation of streets and transportation facilities in Eureka. While the City of Eureka has primary responsibility for the maintenance and operation of transportation facilities within the City, City staff works on a



SOURCE: Whitlock & Weinberger Transportation, Inc.

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Figure 3.12-5
Truck Routes

continual basis with responsible regional, State, and federal agencies including the County of Humboldt, California Department of Transportation (Caltrans), and Federal Highway Administration (FHWA), as well as others, to maintain, improve, and balance the competing transportation needs of the community and the region.

This section describes transportation policies, laws, and regulations that would apply to the Mobility Element of the proposed 2040 General Plan. This information provides a context for the impact discussion related to the proposed 2040 General Plan's consistency with applicable regulatory conditions.

Federal

The Americans with Disabilities Act (ADA) became law in 1990. The ADA is a civil rights law that, among other things, specifies that all public and private places must be accessible to people with disabilities. In the context of transportation, this means that roadways must be constructed with amenities such as audible pedestrian devices, curb ramps, truncated tactile surfaces and grading appropriate for wheelchair users.

State

Senate Bill 743

Senate Bill (SB) 743 (Steinberg 2013), adds Public Resources Code Section 21099 to CEQA, and changes the way that transportation impacts are analyzed to better align local environmental review with statewide objectives to reduce greenhouse gas emissions, encourage infill mixed-use development in designated priority development areas, reduce regional sprawl development, and reduce vehicle miles traveled (VMT) in California.

SB 743 supports and complements the following:

- Assembly Bill 32 (AB 32), which requires statewide greenhouse gas reductions to 1990 levels by 2020, and continued reductions beyond 2020.
- SB 375 and California Air Resources Board established greenhouse gas reduction targets for metropolitan planning organizations to achieve in Regional Transportation Plans and Sustainable Community Strategies. Targets for the largest metropolitan planning organizations range from 13 percent to 16 percent reduction by 2035.
- SB 391 requires the California Transportation Plan to support an 80 percent reduction in GHGs below 1990 levels by 2050.
- Executive Order B-30-15, which sets a GHG emissions reduction target of 40 percent below 1990 levels by 2030. Executive Order S-3-05, which sets a GHG emissions reduction target of 80 percent below 1990 levels by 2050. Executive Order B-16-12, which specifies a GHG emissions reduction target of 80 percent below 1990 levels by 2050 specifically for transportation.

In November 2017, the Governor's Office of Planning and Research (OPR) released the final update to the CEQA Guidelines consistent with SB 743. The guidelines have generally called for projects to meet a 15 percent VMT reduction below existing levels of VMT.

State of California and Caltrans Regarding Complete Streets

On September 30, 2008, the California Complete Streets Act of 2008 was signed into law. As of January 2011, AB 1358 requires any substantive revision of the circulation element of a city or county's general plan to identify how circulation for all users of the roadway including pedestrians, bicyclists, children, seniors, individuals with disabilities, and transit riders, as well as motorists, will be safely accommodated.

Caltrans Deputy Directive 64-R1: Complete Streets – Integrating the Transportation System.

In 2001, Caltrans adopted Deputy Directive 64; a policy directive related to non-motorized travel throughout the state. In October 2008, Deputy Directive 64 was strengthened to reflect changing priorities and challenges. DD 64-R1 states:

> The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system. Providing safe mobility for all users, including motorists, bicyclists, pedestrians and transit riders, contributes to the Department's mission/vision: "Improving Mobility Across California."

Successful long-term implementation of this policy is intended to result in more options for people to go from one place to another, less traffic congestion and greenhouse gas emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

Director's Policy 22 (DP-22): Director's Policy on Context Sensitive Solutions.

Director's Policy 22, a policy regarding the use of "Context Sensitive Solutions" on all State highways, was adopted by Caltrans in November of 2001. The policy reads:

> The Department uses "Context Sensitive Solutions" as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders.

The context of all projects and activities is a key factor in reaching decisions. It is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed.

The policy recognizes that "in towns and cities across California, the State highway may be the only through street or may function as a local street," that "these communities desire that their

main street be an economic, social, and cultural asset as well as provide for the safe and efficient movement of people and goods," and that "communities want transportation projects to provide opportunities for enhanced non-motorized travel and visual quality." The policy acknowledges that addressing these needs will assure that transportation solutions meet more than just traffic and operational objectives.

Caltrans Facility Operation

Intersections of ramps from US-101 to City streets as well as Broadway and the 4th Street/ 5th Street couplet are under the jurisdiction of Caltrans. Under their adopted standards and as stated in the *Guide for the Preparation of Traffic Impact Studies*, Caltrans "endeavors to maintain a target LOS at the transition between LOS 'C' and LOS 'D'". Based on previous discussions with Caltrans staff, it is understood that the standard is to be applied to the overall average intersection delay and not associated with any single movement or approach. Under this approach, if one movement experiences very high delay and has moderate to high traffic volumes, the overall delay and level of service (LOS) should reflect the critical nature of the condition. However, if one movement is expected to experience high delay, but has very low traffic volumes, the overall intersection operation will likely still meet Caltrans standards.

Local

City of Eureka 1997 General Plan

The City's 1997 General Plan contains goals, policies and implementation measures relevant to the maintenance and operation of the circulation system. Goals included providing for the planning and development of a roadway system that allows safe and efficient movement of people and goods and that provides sufficient access to new development, providing coordinated transit service, developing bicycle and pedestrian facilities that promote use of these alternative modes, expanding rail service, supporting commercial fishing and recreational boating, and creating a circulation and parking system that serves the diverse needs of the Core Area.

Upon approval of the proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded. The analysis includes consideration of the potential impacts associated with the new policy language. The policies from the 1997 General Plan are provided below.

Streets and Highways

Policies

3.A.1: The City shall expand and maintain its streets and highway system according to the classifications shown in Table 3-1 and depicted in Figure 3.12-1.

3.A.2: The City shall endeavor to manage its street and highway system so as to maintain Level of Service C operation on all roadway segments, except for any portion of US-101, where Level of Service D shall be acceptable. For evaluation purposes, service levels shall be determined on the basis of midblock roadway planning capacities shown in Table 3-3 and the definitions of service levels shown in Table 3-4.

3.A.3: The City shall require that all new and improved streets in Eureka be designed in accordance with the roadway cross-sections standards shown in Table 3-5.

3.A.4: The City shall employ methods approved by the California Vehicle Code and Traffic Manual to establish speed limits.

3.A.5: The City shall continue to pursue all available options for funding new and improved street and highway facilities.

3.A.6: The City shall require all new land development projects to contribute a fair share of the cost of any street and highway improvement that can be assigned to the traffic-generating attributes of the new or intensified uses. Any project that is expected to generate more than 50 trips per peak hour shall be required to submit a traffic analysis prior to approval. Any project that is anticipated to generate significant traffic impacts will be required to mitigate such impacts.

3.A.7: The City should improve the appearance of existing transportation right-of-way and incorporate high standards of aesthetic design when considering new transportation corridors, including streets, bikeways, walkways, and other related rights-of-way.

3.A.8: The City shall develop Waterfront Drive along Humboldt Bay from the Elk River Interchange to the vicinity of Eureka Slough, consistent with all other applicable General Plan and LCP policies.

3.A.9: The City shall require that streets developed in hilly and gulch greenway areas result in as little disruption of the natural topography as feasible. New roads should not be constructed in gulch greenway areas unless there is no feasible, less environmentally damaging alternative and the impacts can be adequately mitigated.

3.A.10: The City shall work with the Humboldt County Association of Governments (HCAOG), Caltrans, and Humboldt County to continue reviewing options for long-term solutions to congestion on US-101, including development of some type of higher order facility (e.g., freeway or expressway).

3.A.11: The City shall require that new residential streets be developed to the minimum width consistent with safety and emergency access considerations and on-street parking needs.

3.A.12: The City shall endeavor to implement traffic controls to eliminate uncontrolled intersections that have created traffic conflicts and led to traffic accidents.

3.A.13: The City shall require that all new structures constructed adjacent to expressways, arterial streets, and collector streets in the city be situated so as to conform to sight distance requirements defined in the California Department of Transportation (Caltrans) Highway Design Manual. The City shall also ensure that new roadways are designed to conform to sight distance requirements in the Highway Design Manual.

3.A.14: The City shall require all new or intensified development projects to provide sufficient off-street parking supply so as to conserve the existing on-street supply, particularly in the commercial, medical services commercial, industrial, and higher density residential areas, except in the Core Area as specified under Goal 3.H in this document. In cases where off-street parking is required, the City will encourage joint-use parking arrangements.

Public Transit

Policies

3.B.1: The City will continue to fund and operate the Eureka Transit Service in a manner that responds to the needs of its primary markets—senior citizens, the economically disadvantaged, school-aged children, college students, and others determined to be transit-dependent—within the limitations of funding available to the City.

3.B.2: The City shall work with the staff of Humboldt Transit Authority to maximize the coordination of the Eureka Transit Service and the Redwood Transit System operated by Humboldt County. Coordination shall be reviewed in terms of scheduling, fares, and in providing for a common transfer location in Eureka's Core Area.

3.B.3: The City shall work with the Humboldt Transit Authority to develop an intermodal transportation center between A and Commercial Streets, south of Waterfront Drive and the railroad tracks. The center would provide a central focal point for all transportation modes serving Humboldt County, including buses, cabs and limousines, railroad passenger service, bay excursion services, horse-drawn carriages, and possibly cruise ships and trolleys.

3.B.4: The City supports continuation of Amtrak feeder3 service to Eureka and coordination of this feeder service with the Eureka Transit Service and the Redwood Transit System.

3.B.5: Where appropriate, the City shall require new development to dedicate easements for and provide sheltered public stops for transit patron access.

3.B.6: The City shall pursue all available sources of funding for capital and operating costs of the Eureka Transit Service.

3.B.7: The City shall work to broaden ridership of public transit to increase farebox revenue and decrease reliance on subsidies.

3.B.8: The City shall work with Core Area employers to encourage their employees to use public transit, thereby reducing traffic congestion and parking demand in the Core Area.

Bicycle Transportation

Policies

3.C.l: The City shall consider the needs of bicyclists in the design of all new or reconstructed streets, with particular attention to those streets designated as bikeways in this plan.

3.C.2: The City shall coordinate development of the bikeway system, as listed in Table 3-6 and shown in Figure 3.12-3, particularly Class II facilities which require striping, with the resurfacing program for city streets.

3.C.3: The City shall maintain designated bikeways and other local streets and bicycle parking facilities in a condition favorable to use by bicyclists.

3.C.4: The City shall promote the installation of secure bicycle racks in areas generating substantial bicycle traffic and at major public facilities. The City shall also require the installation of bicycle racks whenever a major traffic generator is developed.

3.C.5: The City shall ensure that development of bicycle facilities in the city is coordinated with the efforts by Humboldt County and Caltrans, where appropriate.

3.C.6: The City shall pursue development of a system of local bikeways that extends throughout the urban sections of the city and which is interconnected with the regional bikeway system.

3.C.7: The City shall require that bikeways, where feasible and desirable, are located on exclusive paths that are physically separated from automobiles and which extend through major recreational facilities. When separate bikeway facilities cannot be provided, the bikeway should be designated with minimum improvements including bike lane striping and signing for both the cyclists' and motorists' protection. Bikeways should maximize the use of streets with low vehicular traffic levels.

3.C.8: The City shall ensure that storm sewer gratings are placed in such a way or modified so as to minimize danger to cyclists.

Pedestrian Transportation

Policies

3.D.1: The City shall provide for the extension of sidewalks, trails, and walking facilities throughout the city to allow for convenient and safe pedestrian movement.

3.D.2: The City shall develop a bicycle/pedestrian trail along the waterfront extending from the I-255 Bridge to Del Norte Street. The trail should be developed according to a theme that recognizes and integrates the unique features of Eureka’s waterfront.

3.D.3: The City shall ensure that pedestrian walkways are separated, safe, and protected from automobile traffic.

3.D.4: The City shall promote the linkage of sidewalks and walkways with bike and pedestrian trails leading to and through outdoor recreational areas such as parks and schools, as well as commercial areas.

3.D.5: The City shall coordinate with local school districts to assure that safe routes to schools are available to all students.

Goods Movement

Policies

3.E.1: The City shall adopt a truck route system in accordance with provisions of the California Vehicle Code. The Truck route system shall designate those parts of the street system to which through truck movements shall be limited. The truck route system shall include all portions of Highway 101 and State Route 255. This policy shall not prohibit heavy trucks from using other streets when accessing specific sites within the city.

Rail Transportation

Policies

3.F.1: The City shall support efforts of the North Coast Railroad to re-establish passenger rail service within Humboldt County and between Eureka and the San Francisco Bay Area.

3.F.2: The City shall work with the railroad to determine if feasible locations for switching operations can be located outside the city, allowing the current balloon track area to be used for industrial or commercial development purposes.

Water Transportation

Policies

3.G.1: The City shall protect and, where feasible, upgrade facilities serving the commercial fishing and recreational boating industries. Existing commercial fishing and recreational boating space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, to the maximum extent feasible, be designed and located so as not to interfere with the needs of the commercial fishing industry.

3.G.2: The City shall limit new or expanded berthing facilities to sites at the Woodley Island Marina, the Eureka Small Boat Basin, or the Eureka Channel Inner Reach. Facilities supporting party- or charter-fishing boat operations shall be provided at these sites to meet demand for them.

3.G.3: The City shall participate in the reconstruction for the Landing dock near the foot of C Street.

3.G.4: The City shall participate in the design and construction of a public berthing facility in Inner Reach near the Adorni Center.

3.G.5: The City shall participate in the development of Fisherman's Parcel for fishing fleet activities.

3.G.6: The City shall participate in the rehabilitation of the existing small boat basin, dredging and expansion of the Humboldt Yacht Club, and development of a fishing industry support facility.

Core Area Circulation and Parking

Policies

3.H.1: The City shall create distinctive "gateways" at E, F, and G Streets along the 4th/ 5th Street corridor that signal entry into the Core Area and that include signs directing travelers into the central business district and tourism areas and dedicated turn lanes (developed within existing parking lanes). The City supports the continuation of three through traffic lanes on both 4th and 5th Streets.

3.H.2: The City shall balance north-south travel needs through the Core Area (i.e., along E, F, and G Streets) with east-west travel needs by modifying traffic control devices (i.e., traffic signals and stop signs), working with Caltrans as necessary.

3.H.3: The City shall work with Core Area business and property owners to develop a parking management program to balance the long and short-term parking needs of residents, employees, business patrons, and tourists.

3.H.4: The City shall restripe public parking lots in the Core Area to improve circulation and parking efficiency.

3.H.5: The City shall improve parking lot safety, where necessary, through improved lighting in lot and accessways and increasing visibility of parking areas through

removing/pruning high shrubs, relocating dumpsters, and removing other obstacles to visibility and surveillance of lots.

3.H.6: The City shall discourage the placement of parking lots along major commercial and high pedestrian-use street frontages in the interest of maintaining continuous building frontages along the primary commercial streets in the Core Area (i.e., F, 2nd, 4th, and 5th Streets).

3.H.7: Except for proposed future parking structures, the City shall discourage parking lots located at street intersections throughout the Core Area.

3.H.8: The City shall provide clear directional signs to major public parking areas (including sites designated for parking structures).

3.12.3 Analysis, Impacts, and Mitigation

Significance Criteria

The following thresholds of significance are based on Appendix G to the CEQA Statute and Guidelines. For the purposes of this EIR, implementation of the proposed project may have a significant adverse impact if it would:

1. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, mass transit, and vehicle miles traveled.
2. Conflict with an applicable congestion management program, including, but not limited to level of services standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
4. Substantially increase hazards due to a design feature. (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
5. Result in inadequate emergency access.
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The City of Eureka's adopted standards of significance for evaluating traffic impacts as defined by the 1997 General Plan require Level of Service C operation on all roadway segments, except for any portion of US-101, where Level of Service D shall be acceptable. These standards are used to indicate a traffic impact or an operating condition would be considered as significant if the project would:

- Cause traffic operations to deteriorate from existing acceptable level of service (LOS) of LOS C or better to unacceptable level of LOS D or worse;

- For signalized intersections along US-101, a traffic impact is considered significant if the addition of project-generated traffic causes operations to deteriorate from an existing acceptable level of service (LOS) of LOS D or better to unacceptable level of LOS E or worse.

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are specifically relevant to transportation within the City and the surrounding area. Each proposed policy is listed below, followed by the new or revised policy's relationship to current policies contained within the City's existing 1997 General Plan.

Complete Streets

Goal M-1: A model City for multi-modal transportation.

Policies

M-1.1: Complete Streets. Design and construct both new and reconstructed streets with adequate rights-of way and facilities to support the full range of locally available travel modes, compliant with the City of Eureka Design/Complete Streets Design Guide and the California Complete Streets Act (AB 1358).

M-1.2: Investment in Alternative Modes. In order to provide a realistic and cost-effective balance between travel modes, the City shall emphasize investment in alternative modes.

M-1.3: Multimodal Options. Establish an interconnected transportation network that offers safe and convenient mobility options including adequate streets, transit services, pedestrian walkways, bike routes, commercial rail connections, aviation services, and trucking and shipping.

M-1.4: Public Outreach. Use public outreach to educate and encourage alternative modes of travel and inform the community about the benefits of participation in new programs, approaches and strategies that support Mobility Element goals and policies.

M-1.5: Range of Users. Ensure that the transportation network meets the needs of a variety of users by eliminating barriers, where feasible, to allow access by people of all abilities. Implement the Americans with Disabilities Act when designing, constructing, or improving transportation facilities.

M-1.6: Dense Development. Integrate transportation and land use decisions to enhance opportunities for development that is compact, walkable and transit friendly.

M-1.7: Consider all Users of Transportation System. Consider applying a multimodal level of service standard in order to ensure that projects do not result in degraded facilities/services for transit, bicyclists, and pedestrians.

M-1.8: Slowing Traffic. Employ a range of measures to reduce speeds and "calm" traffic in various commercial districts, in front of schools, and in residential neighborhoods. Measures may include education as well as the installation of physical infrastructure, such as street trees, speed bumps, speed humps, narrowing streets, mid-block crossings, and bulb-outs, in appropriate circumstances, while ensuring that the techniques employed have the effect of slowing through traffic without compromising safety, emergency access, or reasonable flows.

M-1.9: Aesthetic Design. Improve the appearance of existing transportation rights-of-way and incorporate high standards of aesthetic design when designing and construction new transportation facilities, including streets, street trees, bikeways, walkways, and other related rights-of-way.

Streets and Highways

Goal M-2: A safe and efficient movement of people and goods that provide sufficient access to new development.

Policies

M-2.1: Street Classifications. Expand and maintain the street and highway system according to the most current version of the Caltrans Functional Classification map. Classifications as of 2016 are depicted in the Street Classifications diagram [see Figure 3.12-1 of this EIR].

M-2.2: Traffic Management. Address traffic operations, including congestion, intersection delays, and travel speeds, while balancing neighborhood livability and safety concerns.

M-2.3: Level of Service Standard. Strive to manage streets and highways to maintain Level of Service (LOS) C operation on all roadway segments and signalized intersections, except for along any portion of US 101, where LOS D shall be acceptable. For evaluation purposes, service levels shall be determined using methodologies and thresholds as set forth in the most up-to-date version of the Highway Capacity Manual, Institute of Transportation Engineers. For purposes of evaluating development proposals, if an intersection is operating at LOS E or F without project-generated traffic added, the project's impact shall be considered less-than-significant if it does not cause operation to fall from LOS E to LOS F and it increases average delay for the intersection as a whole by 5 seconds or less.

M-2.4: Vehicle Miles Traveled. Consider the applicability of using transportation performance metrics such as Vehicle Miles Traveled (VMT) and associated thresholds for measuring transportation system impacts consistent with the California Environmental Quality Act (CEQA) guideline and State law, as well as for making General Plan consistency determinations and developing transportation financing programs.

M-2.5: Design Standards. Unless otherwise approved by the Transportation and Safety Commission (or equivalent body), require that all new and improved streets in Eureka be designed, developed, and maintained in accordance with the roadway cross-sections standards shown in the street design guidelines.

M-2.6: Funding for Infrastructure Improvements. Identify, develop, and prioritize transportation projects that are eligible for Federal and State funds and continue to pursue all available options for funding new and improved street and highway facilities.

M-2.7: Traffic Studies for Development Projects. At the discretion of the City Engineer or when a project is expected to generate 50 or more peak hour trips or that could result in any vehicle trip increase in an area already operating below the established standards, require the preparation of site-specific traffic studies. Any project that is anticipated to generate significant traffic impacts will be required to mitigate such impacts.

M-2.8: Proportional Share Payments. Require all new development projects to contribute a proportional or equitable share of the cost of any local or regional transportation improvements that can be attributed to the new or intensified uses.

M-2.9: Multi-modal Access. Promote the provision of multi-modal access to activity centers such as commercial and employment uses, Downtown, Old Town, schools and parks.

M-2.10: Congestion Relief. Continue to work with the Humboldt County Association of Governments (HCAOG), Caltrans, and Humboldt County on options for long-term solutions to reduce congestion on U.S. 101, thereby reducing diversion of traffic through residential neighborhoods, and improving access in and out of Humboldt County.

M-2.11: Street Maintenance. Provide street maintenance to maintain high quality roads.

M-2.12: Pavement Maintenance. Continue to seek funding to provide street maintenance to sustain or obtain high Pavement Condition Index (PCI) levels.

M-2.13: Traffic Impact Fee. Coordinate with Humboldt County Public Works to determine the feasibility, impacts, and benefits of establishing a Traffic Impact Fee.

M-2.14: New Roads in Gulches. Require that streets developed in steep gulch areas result in as little disruption of the natural topography as feasible. Do not allow new roads to be constructed in such areas unless there is no feasible, less environmentally damaging alternative and the impacts can be adequately mitigated.

M-2.15: Street Trees. Continue to work with local service and volunteer organizations, and property owners to plant, maintain, and expand the street tree plan for public streets.

Pedestrians and Bicyclists

Goal M-3: A system of walkways, bikeways and bicycle parking facilities which will safely and effectively serve those wishing to walk and bicycle for commute or recreational trips.

Policies

M-3.1: Bicycle and Pedestrian Master Plan. Develop, maintain and implement a Bicycle and Pedestrian Master Plan to set forth the long-range plans to provide a complete system of walking and bicycling facilities, building on the existing plan as depicted in the Existing and Future Bicycle Facilities figure. Review and, if necessary, update the plan every five years at a minimum.

M-3.2: Extend Facilities. Provide for the extension of sidewalks, trails, and walking/ bicycling facilities throughout the city to allow for convenient and safe pedestrian and cyclist movement and to promote walking and bicycling as viable modes of transportation for all types of trips.

M-3.3: Continuous Networks. Provide continuous pedestrian and bicycle systems that link neighborhoods, parks, schools, commercial centers, major employers, and other frequently-visited destinations and expand access to the gulches and greenways consistent with the City's Bicycle Plan and street design guidelines.

M-3.4: Regional Connectivity. Provide a bicycle system that is interconnected with the regional bikeway system.

M-3.5: Street Design. Consider the needs of pedestrians and bicyclists in the design of all new or reconstructed streets, with improvements to be provided consistent with the street design guidelines.

M-3.6: Maintain Bikeways. Maintain designated bikeways and other local streets and bicycle parking facilities in a condition favorable to use by bicyclists.

M-3.7: Bicycle Signage Infrastructure. Install wayfinding signage, markers, and stencils on off-street paths, on-street bikeways, local roads, and State Routes to improve way finding for bicyclists, assist emergency personnel, and heighten motorist awareness.

M-3.8: Bike Parking. Promote the installation of secure bicycle parking and other supporting facilities in areas generating substantial bicycle traffic and at major public facilities.

M-3.9: Facilities at New Developments. Where applicable, require new development to provide bicycle access to and through projects, and to construct, dedicate and/or pay its equitable share contribution to the citywide system.

M-3.10: Enhanced Crossings. Evaluate need for enhanced crossing treatments, new signals or modified signal operations to promote safety for pedestrians and bicyclists. Coordinate with Caltrans to effect change along the U.S. 101 corridor.

M-3.11: Safe Routes to School. Coordinate with local school districts to plan for safe routes to schools and to access funding opportunities to ensure that safe routes to schools are available to all students.

M-3.12: Infill Sidewalk Gaps. Create a plan to infill sidewalk gaps.

Transit

Goal M-4: Coordinated transit service within Eureka and surrounding areas as an alternative to automobiles.

Policies

M-4.1*: Transit Services.* Work with local and regional transit providers to maintain and expand services within the City that meet the needs of residents, and are accessible, timely, and responsive to growth patterns, and design routes with transit stops linking to trails and recreation areas.

M-4.2*: Accessible Transit Services*. Support efforts to increase accessible transit services and facilities for the elderly, economically disadvantaged, disabled, school aged children, college students, and other transit-dependent persons.

M-4.3*: Intermodal Transportation Center.* Work with the Humboldt Transit Authority to develop an intermodal transportation center that would provide a central focal point for all transportation modes serving Humboldt County, including buses, cabs and limousines, railroad passenger service, bay excursion services, horse-drawn carriages, and possibly cruise ships and trolleys.

M-4.4*: Developer Improvements.* Require new development to dedicate easements for and provide sheltered public stops for transit patron access where consistent with transit agency plans, and/or pay its equitable share contribution to the Citywide transit system

M-4.5*: Transit Use.* Work with Core Area employers to encourage their employees to use public transit, thereby reducing traffic congestion and parking demand in the Core Area.

M-4.6*: Bus Stops.* Design new bus stops and improve existing bus stops with appropriate amenities and features to increase rider comfort and feelings of safety and encourage walking and bicycling, including shelters, benches, lighting, shade trees, signs, information kiosks, waste receptacles, paved surfaces, and secure bicycle parking. Where appropriate, add either bus stop lanes or bus turnouts.

M-4.7*: Bus Stop Maintenance.* Consistently maintain and clean bus stops, including vandalism repair and graffiti removal.

M-4.8*: Safe Routes to Transit.* Implement and maintain a safe routes program that prioritizes pedestrian and bicycle access to transit stops and stations.

City-wide Circulation, Parking Supply and Management

Goal M-5: A circulation and parking system that serves the diverse needs of the City.

Policies

M-5.1*: City-wide Parking Management.* Conduct analysis to better understand the City's non-residential parking needs on a broad scale and then develop a City-wide Parking Management Plan.

M-5.2*: Parking Management Program.* Continue to work with Core Area business and property owners to develop a parking management program, such as a parking permit program, to balance the long and short-term parking needs of residents, employees, business patrons, and tourists.

M-5.3*: Enhance Safety.* Continue to enhance and maintain parking lot safety as necessary through improved lighting in lots and accessways and increased visibility of parking areas through removing/pruning high shrubs and overgrown landscaping, relocating dumpsters, and removing other obstacles to visibility and surveillance of lots.

M-5.4*: Parking Lot Location.* Discourage placement of parking lots along major commercial, high pedestrian-use street frontages, and corners in the interest of maintaining continuous building frontages along the primary commercial streets in the Core Area.

M-5.5*: Alternative Fuel Vehicle Parking.* Support parking for Electric Vehicles (EVs), carpools, and hybrids, including the development of local charging stations in both public and private parking lots and large commercial parking lots.

M-5.6*: Self-driving vehicle strategies.* Begin planning for integration of self-driving vehicles into the City's planning strategies, including reduction of parking lot and space requirements, impacts on public transportation, revenue reductions from parking fines and fees.

Goods Movement

Goal M-7: Transportation facilities that ensure goods can be moved to and from industrial and commercial sites in Eureka in a safe and efficient manner while ensuring

that heavy trucks remain on freeways and major arterial streets except when accessing sites within the city.

Policies

M-7.1: Delivery Schedules. Encourage business owners to schedule deliveries during off-peak traffic periods in residential, commercial, or mixed-use areas.

M-7.2: Passenger Air Service. Work with the County of Humboldt to plan for a full range of aviation services and promote airline services that meet the present and future needs of residents and the business community, while mitigating noise and other impacts to residents and businesses.

M-7.3: Truck Route. Continue to study the feasibility and necessity of a truck route.

Water Transportation

Goal M-8: Water transportation facilities that serve the needs of commercial fishing and recreational boating operations, short sea shipping, and a maritime highway. (Modified 1997 General Plan Goal)

Policies

M-8.1: Fishing Facilities. Protect and, where feasible, upgrade facilities serving and supporting the commercial fishing and recreational boating industries. Participate in the design and construction of new or improved facilities to support commercial fishing and recreational boating and seek funding sources to maintain and enhance existing facilities. Such facilities shall not be reduced unless the demand for the facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, to the maximum extent feasible, be designed and located so as not to interfere with the needs of the commercial fishing industry.

M-8.2: Berthing Facilities. Limit new or expanded berthing facilities to sites at the Woodley Island Marina, the Eureka Small Boat Basin, or the Eureka Channel Inner Reach. Facilities supporting party- or charter-fishing boat operations shall be provided at these sites to meet demand for them.

M-8.3: Shipping. Promote Eureka as a port and rail City including options such as short sea shipping.

Impacts and Mitigation Measures

Impact 3.12-1: Implementation of the Eureka 2040 General Plan Update would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. Implementation of the General Plan Update would create an adverse effect with respect to vehicle miles traveled.

Methods of Analysis

This section describes the quantitative roadway impact analyses that were conducted for 2040 conditions assuming full buildout of the Eureka 2040 General Plan. A discussion of the transportation analysis methodology is included below.

A comparison of the auto trips that would be generated by 2040 through build-out of the existing General Plan (No Project Scenario) versus the proposed General Plan (With Project Scenario) indicate that the net difference between the two scenarios would be negligible. Further, there are no substantial capacity enhancements proposed that would cause traffic generated by future development to divert to routes other than would have been anticipated under the current General Plan. It was therefore determined that evaluating conditions with this net difference, or the "project-generated" trips, added to existing volumes to create an "Existing Plus Project" scenario would serve no substantive purpose. Thus, the Existing Plus Project condition was not evaluated. Accordingly, the transportation modeling and analysis was conducted for the following three scenarios.

Existing Conditions: Existing setting based on the information presented previously in Section 3.12.1. This scenario serves as the baseline or point of comparison for environmental impact significance determinations related to the proposed 2040 General Plan.

2040 No Project: Conditions in 2040 with the existing 1997 General Plan land use forecasts and policies remaining in place.

2040 With Project: Conditions in 2040 with the proposed 2040 General Plan land use forecasts and policies in place, including the preferred land use plan.

Traffic Model Description

The traffic impacts resulting from General Plan Update land uses were evaluated using the latest Humboldt County Travel Demand Model, which was most recently updated on March 10, 2017. The model was developed to forecast travel patterns in both rural and urbanized portions of Humboldt County. The main purposes of the model are to support the regional transportation planning process,[3] to evaluate potential improvements to the roadway system, and evaluate the impacts of land use changes. The model also includes limited transit and non-motorized analysis capabilities. The base year for the model is 2010, with a forecast year of 2040.

The model utilizes a traditional four-step modeling process, consisting of trip generation, trip distribution, mode split, and traffic assignment. This process addresses all person trips, occurring primarily by car but also includes trips made using transit and non-motorized modes (walking and bicycle). The updated model includes AM and PM peak periods and an off-peak period, which are combined to produce total daily traffic volumes. The entire process is automated and can be managed from a scenario management system within the TransCAD software platform.

A travel demand model is a computer program that simulates traffic levels and patterns for a specific geographic area. The program consists of input files that summarize population and employment characteristics, the street network, travel characteristics, and other key factors of the area analyzed. The Humboldt County Travel Demand Model contains information regarding the street network and land uses for the entire County, including the seven incorporated cities. Using this data, the model performs a series of calculations to determine the number of trips that would be generated, where the trips would begin and end, and the route for each trip. The model's

[3] A State-mandated effort involving each of the local jurisdictions and Caltrans in setting regional transportation goals and programs on a recurring basis.

output includes information such as peak AM and PM, and daily vehicle trips; average daily trips; daily vehicle trips and speed; volume to capacity ratio; and vehicle miles traveled. The volume to capacity ratio is a ratio of the number of vehicles that can be expected to travel over a given section of roadway during a given time period and the capacity of the segment.

2040 No Project Scenario

To model the 2040 No Project scenario, the year 2040 Countywide land use database contained within the Humboldt County Travel Demand Model was modified to hold existing land use quantities constant, while still reflecting regional land use and circulation network changes outside the City. Future 2040 No Project turning movement projections were then calculated for the study intersections using the future year scenario.

2040 With Project Scenario

Future 2040 With Project traffic volumes for the year 2040 were determined using the future traffic associated with regional growth and travel patterns as well as traffic growth associated with the land uses contained in the proposed 2040 General Plan.

Planned Future Improvements

The City of Eureka has identified several infrastructure projects aimed to improve mobility or public safety. These improvements were included when developing the future vehicle demand forecast and are described below.

Broadway/Wabash/Fairfield Street Improvements. This five-legged intersection is to be converted to a four-legged intersection by closing the Fairfield Street leg. As part of this project a new traffic signal would also be installed at Broadway/Hawthorne Street to accommodate the expected redistribution of vehicles.

Harris Street and Henderson Street Couplet Extension. The existing one-way couplet of Harris Street and Henderson Street, which currently exists between Broadway and I Street, would be extended westerly from Broadway to Fairfield Street and from easterly I Street to S Street.

S Street and Buhne Street Reconfiguration. The intersection geometry would be modified to include left-turn lanes along Buhne Street and the traffic signal potentially modified to include protected left-turn phasing.

S Street and Harris Street Reconfiguration. The intersection geometry would be modified to include left-turn lanes along S Street; no modifications to the traffic signal phasing are currently planned, though conversion to left-turn phasing could be accommodated in the future when warranted.

Harrison Avenue Improvements. Re-stripe roadway to include center turn lanes (Two-Way Left Turn Lane), and Class II bike lanes between Lucas Street and Harris Street. Includes construction to accommodate off-street parking.

In addition to the above improvements, the following unsignalized intersections have been identified for traffic signal installations when warranted:

- E Street / Buhne Street
- Broadway / Hawthorne Street
- Lundblade Drive / Fairway Drive
- I Street / Harris Street
- Walnut Drive / Hemlock Street
- Elk River Road / Herrick Avenue
- US-101 NB Ramps / Herrick Avenue
- US-101 SB Ramps / Herrick Avenue
- F Street / Hodgson Street
- H Street / Hodgson Street
- Elk River Road / Ridgewood Drive
- E Street / Wabash Avenue
- Walnut Drive / Campton Road

Trip Generation

Vehicle trip estimates generated by the travel demand model are based on a combination of land use characteristics and socio-economic demographics as reported in the most recent US Census for the Humboldt County area. A summary of vehicle trips under Existing Conditions and under the 2040 No Project and 2040 With Project scenarios is shown in **Table 3.12-4**.

TABLE 3.12-4
TOTAL VEHICLE TRIPS WITH AN ORIGIN OR DESTINATION IN EUREKA

Time Period	Existing Conditions	2040 No Project	2040 With Project
Daily	256,049	286,124	297,830
AM Peak Hour	21,833	24,659	25,529
PM Peak Hour	20,676	23,023	24,016

Source: Humboldt Count Travel Demand Model

As can be seen in the table, the overall increase in trips generated under the 2040 With Project scenario versus the 2040 No Project scenario is relatively small, particularly when considering the fact that the 2040 With Project scenario includes the addition of up to 1,866 new residential units and 1.6 million square feet of commercial and industrial use in the City. The total population within the City is expected to increase by 3,683 under the 2040 With Project scenario, an increase of 13.5 percent over existing conditions. Despite this additional growth, and as shown in the table above, the total trips within the City would increase by only 4.1 percent. Based on these considerations, the implementation of the 2040 General Plan Update would result in a change in generated trips that would be substantially less than the growth in population.

Intersection Level of Service Analysis

As shown in **Table 3.12-5**, 39 of the 41 study intersections are projected to operate acceptably at LOS C or better under 2040 No Project volumes. The exceptions are Harris Street/F Street, which is projected to operate at LOS D during the morning peak hour, and Harris Street/Harrison Avenue, which is projected to operate unacceptably at LOS D during both peak hours.

TABLE 3.12-5
2040 NO PROJECT INTERSECTION LEVELS OF SERVICE

	AM Peak		PM Peak	
Intersection	**Delay**	**LOS**	**Delay**	**LOS**
1. H Street/4th Street	16.5	B	17.3	B
2. I Street/4th Street	13.1	B	13.1	B
3. R Street/4th Street	24.9	C	23.9	C
4. V Street/4th Street	19.7	B	19.8	B
5. H Street/5th Street	9.5	A	14.5	B
6. I Street/5th Street	10.2	B	14.1	B
7. R Street/5th Street	17.8	B	16.5	B
8. V Street/5th Street	15.9	B	22.9	C
9. E Street/6th Street	9.2	A	9.2	A
10. H Street/6th Street	9.5	A	10.0	B
11. I Street/6th Street	9.4	A	9.5	A
12. E Street/7th Street	7.7	A	8.4	A
13. H Street/7th Street	8.6	A	9.3	A
14. I Street/7th Street	7.3	A	8.5	A
15. Myrtle Avenue/West Avenue	29.9	C	31.2	C
16. 14th Street/Broadway	9.4	A	14.0	B
17. H Street/14th Street	6.1	A	7.2	A
18. I Street/14th Street	6.4	A	6.1	A
19. Myrtle Avenue/Harrison Avenue	17.5	B	21.4	C
20. Wabash Avenue/Broadway	19.2	B	26.0	C
21. Wabash Avenue/California Street	3.8	A	3.5	A
Northbound Approach	*13.6*	*B*	*14.8*	*B*
Southbound Approach	*13.3*	*B*	*14.6*	*B*
22. Buhne Street/H Street	7.0	A	8.0	A
23. Buhne Street/I Street	9.6	A	8.0	A
24. Buhne Street/J Street	4.0	A	2.7	A
Northbound Approach	*18.4*	*C*	*15.9*	*C*
Southbound Approach	*19.7*	*C*	*17.5*	*C*
25. Buhne Street/S Street	18.6	B	17.3	B
26. Henderson Street/Broadway	11.6	B	20.5	C
27. Henderson Street/Spring Street	2.3	A	7.5	A
Northbound Approach	*16.9*	*C*	*53.1*	*F*
Southbound Approach	*14.9*	*B*	*26.8*	*D*

TABLE 3.12-5
2040 NO PROJECT INTERSECTION LEVELS OF SERVICE

Intersection	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
28. Henderson Street/E Street	9.9	A	12.0	B
29. Henderson Street/F Street	9.8	A	12.3	B
30. Henderson Street/H Street	6.0	A	8.3	A
31. Henderson Street/I Street	7.4	A	6.6	A
32. Harris Street/Union Street	10.9	B	12.4	B
33. Harris Street/E Street	24.8	C	24.7	C
34. Harris Street/F Street	**37.1**	**D**	26.4	C
35. Harris Street/H Street	17.1	B	15.4	B
36. Harris Street/I Street	6.0	A	4.8	A
37. Harris Street/S Street	10.0	B	8.9	A
38. Harris Street/Dolbeer Street	3.4	A	2.8	A
Northbound Approach	*31.9*	*D*	*24.6*	*C*
Southbound Approach	*12.9*	*B*	*19.1*	*C*
39. Harris Street/Harrison Avenue	**50.8**	**D**	**47.5**	**D**
40. Hodgson Street/H Street	5.6	A	5.6	A
41.Hemlock Street/Walnut Drive	8.3	A	7.8	A

NOTES:
Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*; **Bold** text = deficient operation

Source: W-Trans, 2018

Analysis of anticipated 2040 conditions with trips associated with the proposed 2040 General Plan (With Project) land uses indicates very similar results to those for the 2040 No Project scenario. Again, 39 of the 41 intersections are projected to operate at acceptable service levels, with Harris Street/F Street operating at LOS D during the morning peak hour and Harris Street/ Harrison Avenue at LOS D during both peaks under the projected 2040 With Project volumes. These results are summarized in **Table 3.12-6**.

Both of the intersections operating unacceptably under 2040 No Project volumes are expected to continue doing so under the proposed 2040 With Project, though the projected delays under the 2040 With Project conditions are lower than without the project.

Under both the 2040 No Project and the 2040 With Project scenarios, conditions on northbound and southbound Spring Street approaches to Henderson Street are projected to operate at LOS F and D respectively during the p.m. peak hour, and the northbound Dolbeer Street approach to Harris Street is projected to operate at LOS D during the a.m. peak hour. Because the service level standard was applied to the overall operation of the intersection, these results are not unacceptable as the intersections are both operating acceptably overall during these peak periods.

TABLE 3.12-6
2040 WITH PROJECT INTERSECTION LEVELS OF SERVICE

Intersection	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. H Street/4th Street	22.6	C	19.5	B
2. I Street/4th Street	15.0	B	13.9	B
3. R Street/4th Street	24.3	C	24.9	C
4. V Street/4th Street	24.0	C	20.4	C
5. H Street/5th Street	9.4	A	15.9	B
6. I Street/5th Street	10.5	B	15.8	B
7. R Street/5th Street	19.3	B	17.6	B
8. V Street/5th Street	15.4	B	22.0	C
9. E Street/6th Street	9.5	A	9.3	A
10. H Street/6th Street	9.6	A	10.4	B
11. I Street/6th Street	9.7	A	9.7	A
12. E Street/7th Street	8.4	A	8.8	A
13. H Street/7th Street	9.1	A	10.0	A
14. I Street/7th Street	8.1	A	8.8	A
15. Myrtle Avenue/West Avenue	29.3	C	30.2	C
16. 14th Street/Broadway	9.6	A	14.9	B
17. H Street/14th Street	6.3	A	7.5	A
18. I Street/14th Street	6.6	A	6.3	A
19. Myrtle Avenue/Harrison Avenue	15.3	B	21.7	C
20. Wabash Avenue/Broadway	20.4	C	28.3	C
21. Wabash Avenue/California Street	4.6	A	3.8	A
Northbound Approach	*15.3*	*C*	*15.3*	*C*
Southbound Approach	*13.8*	*B*	*14.8*	*B*
22. Buhne Street/H Street	7.2	A	8.3	A
23. Buhne Street/I Street	10.4	B	8.2	A
24. Buhne Street/J Street	3.9	A	2.7	A
Northbound Approach	*18.4*	*C*	*16.1*	*C*
Southbound Approach	*19.4*	*C*	*17.9*	*C*
25. Buhne Street/S Street	18.3	B	16.7	B
26. Henderson Street/Broadway	11.7	B	21.6	C
27. Henderson Street/Spring Street	2.3	A	7.7	A
Northbound Approach	*17.0*	*C*	*54.8*	*F*
Southbound Approach	*14.9*	*B*	*27.4*	*D*
28. Henderson Street/E Street	9.9	A	12.1	B
29. Henderson Street/F Street	9.8	A	12.3	B
30. Henderson Street/H Street	6.0	A	8.3	A
31. Henderson Street/I Street	7.5	A	6.4	A

TABLE 3.12-6
2040 WITH PROJECT INTERSECTION LEVELS OF SERVICE

Intersection	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
32. Harris Street/Union Street	11.0	B	12.3	B
33. Harris Street/E Street	26.2	C	26.0	C
34. Harris Street/F Street	**37.0**	**D**	33.9	C
35. Harris Street/H Street	16.3	B	15.6	B
36. Harris Street/I Street	6.1	A	4.9	A
37. Harris Street/S Street	9.9	A	8.6	A
38. Harris Street/Dolbeer Street	3.5	A	3.0	A
Northbound Approach	*32.3*	*D*	*24.6*	*C*
Southbound Approach	*12.6*	*B*	*18.9*	*C*
39. Harris Street/Harrison Avenue	**41.9**	**D**	**42.6**	**D**
40. Hodgson Street/H Street	5.6	A	5.6	A
41.Hemlock Street/Walnut Drive	7.7	A	7.4	A

NOTES:
Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in italics; **Bold** text = deficient operation

Source: Whitlock & Weinberger Transportation, Inc., 2018

It is noted that with the addition of 2040 With Project traffic volumes, average delays at several intersections are projected to decrease during both the a.m. and p.m. peak hours. This is a function of the planned changes in the transportation system that would increase capacity or changes in planned land use that would reduce trips at that specific location.

Based upon each of the above considerations, impacts from implementation of the 2040 General Plan Update would not result in a significant impact to intersection LOS. The impact would therefore be **less than significant**.

Other Transportation Modes

The proposed 2040 General Plan update contains a number of goals and policies intended to address potential impacts to other modes of transport and mobility, such as pedestrian circulation, bicycle paths, and transit. These policies are intended to enhance operation of existing and planned multi-modal systems. For instance, policies associated with Complete Streets implementation (proposed Policies M-1.1 through M-1.9) would enhance safety and ease of mobility for all modes of travelers. Policies related to pedestrians and bicyclists (proposed policies M-3.1 through M-3.12) would provide directives to enhance those facilities as well. Similar policies would be implemented to improve transit operations and accessibility within the City (see proposed policies M-4.1 through M-4.8). Finally, the General Plan's overall concept of infill and densification within and around the City's Core Area would serve to enhance opportunities for development that is compact, walkable, and transit friendly (proposed Policy M-1.6). Based on each of these considerations, the proposed 2040 General Plan Update would

improve the performance and effectiveness of the multi-modal transportation system within the City. Accordingly, the impact would be **less than significant**.

Vehicle Miles Traveled (VMT)

The Humboldt County Travel Demand Model is capable of estimating the vehicle miles traveled (VMT) within defined areas. The sum of all vehicle miles traveled using the roads within the City of Eureka under Existing Conditions and under the 2040 No Project and 2040 With Project scenarios is shown in **Table 3.12-7**.

TABLE 3.12-7
COMPARISON OF VEHICLE MILES TRAVELED

Time Period	Existing Conditions	2040 No Project (with % increase above existing conditions)	2040 With Project (with % increase above existing conditions)
Daily	616,007	682,257 (10.8%)	693,961 (12.6%)
AM Peak Hour	60,500	67,888 (12.2%)	68,834 (13.7%)
PM Peak Hour	47,524	52,306 (12.1%)	53,253 (12.1%)

Source: Humboldt Count Travel Demand Model

Full implementation of the 2040 With Project scenario would add 1,866 new residential units and 1.6 million square feet of commercial and industrial use in the City, for a total population increase of 3,683 persons above the 2010 level, with an overall increase in population of 13.5 percent. As can be seen in the table, the total VMT under the 2040 With Project scenario would increase by approximately 12.6 percent above 2010 levels, which is slightly less than the 13.5 percent increase in population projected to occur during the same period. The analysis thus shows that VMT per capita would decrease slightly under the 2040 With Project scenario, but only by about one percent.

The proposed 2040 General Plan contains a number of policies that are aimed towards decreasing per-capita VMT, particularly with respect to provisions for more efficient transit operations, the increased availability of alternative modes of transportation (walking, biking, etc.), and implementation of Transportation Demand Management (TDM) programs and techniques when applicable. The most substantial contributor to overall VMT reductions would be the proposed land use plan, which provides for increases in densification, infill development, and provisions for housing and employment within the central core of the City. Each of these land use characteristics would contribute to an overall decrease in VMT when compared with more traditional suburban development on the City's fringes. Nevertheless, the reductions in VMT resulting from these policies would be relatively modest, and even though the 2040 With Project scenario projects a one percent decrease in per-capita VMT, those projections do not point towards a decrease in per-capita VMT that would be substantially different from what is occurring presently.

As noted above, the proposed 2040 General Plan already contains a number of policies that are directed towards lessening VMT. Most importantly, the proposed land use plan itself provides for a pattern of development that would rely heavily on infill development and densification within

the central portion of the City. These VMT-reduction strategies are generally in line with similar strategies being implemented in other cities in California, but the effectiveness of those strategies in Eureka is lessened by the existing development patterns of the area and the continued reliance on automobile travel in this rural portion of the state. Although the General Plan contains a progressive urban land use plan and policies that seek to reduce overall VMT, per-capita VMT is projected to decrease only slightly over the next 20 years, and will certainly not decrease to the 15 percent reduction levels targeted by OPR in its most recent guidance. As such, the effect on VMT of implementing the proposed 2040 General Plan is likely to be **significant and unavoidable**.

Mitigation Measures

None required for LOS or impacts to other transportation modes. None feasible for VMT Therefore, the impact would remain **significant and unavoidable** for VMT.

Impact 3.12-2: The Eureka General Plan Update would not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

The Humboldt County Association of Governments (HCAOG) is the Regional Transportation Planning Agency for Humboldt County. There is no regional congestion management agency in the County. The HCAOG Regional Transportation Plan (RTP) was adopted in 2014, and does not establish LOS standards for roadway or multi-modal facilities.

Policy HR-11 within the RTP states that LOS standards are to be used to measure the performance of all regionally significant roadways that contribute to the regional transportation network. Objectives that are intended to carry out this policy call for the development and maintenance of a list of regionally significant roadways with established minimum acceptable LOS for each, and periodic traffic volume counts to determine whether minimum LOS levels are being maintained. A second objective calls for the traffic volume LOS to be coordinated with other bicycle and pedestrian LOS to achieve balanced multi-modal use of roadways.

As discussed under Impact 3.12-1, implementation of the proposed 2040 General Plan Update would not result in an adverse impact to operation of the circulation network. Accordingly, implementation of the proposed plan would not conflict with regional standards associated with transportation. Thus, the impact would be **less than significant**.

Mitigation Measures

None required.

Impact 3.12-3: Implementation of the 2040 Eureka General Plan Update would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that would result in substantial safety risks.

As discussed in the Environmental Setting, Murray Field and Samoa Field are the only airports located within two miles of the Eureka City limits. Murray Field's Master Plan was updated in 2008, during which time it was determined that existing land uses surrounding the airport were compatible with normal airport activities and did not conflict with the safety compatibility criteria established in the County's ALUCP.[4] Per the requirements of the facility's ALUCP, new non-conforming land uses or major new development projects would be subject to review for compatibility by the County's Airport Land Use Commission. The ALUCP contains designated zones within which certain off-airport activities would be deemed incompatible, such as the construction of structures that exceed certain heights, facilities that could attract birds and other wildlife that could pose a hazard to aviation, and the construction of uses that would be at risk in the event of an aviation accident (schools, hospitals, etc.). By law, the Commission is vested with the legal authority to require modification of proposed projects that could conflict with safe and efficient airport operations. Accordingly, if any off-airport projects are proposed within these designated zones, they would be required to undergo review and approval by the Commission, and a determination of consistency with the ALUCP would have to be made. As such, new projects in the vicinity of the airport would need to be consistent with the ALUCP, and safety hazards for people working and/or residing in the area would be avoided.

Samoa Field Airport does not have an adopted ALUCP, though plans are underway to include the facility in the County's comprehensive update of selected ALUCP's within the County. In general, however, the airstrip is oriented in a north-south direction, and approach and departure flight paths occur over Humboldt Bay to the south or the Pacific Ocean to the north. As such, approaches and departures to and from the facility do not occur over populated areas. Accordingly, development associated with the General Plan Update would not place people or structures in such a manner as to create a safety hazard.

Based on each of the considerations outlined above, the proposed 2040 General Plan Update would not result in any new aviation-related safety hazards, nor would it result in a change in air traffic patterns or introduce substantial safety risks. The impact would be **less than significant**.

<u>Mitigation Measures</u>

None required

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4 County of Humboldt Division of Aviation. 2008. Murray Field Airport Master Plan Update Environmental Assessment.

Impact 3.12-4: The Eureka General Plan Update would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Policies within the proposed 2040 General Plan Update include directives that would enhance overall transportation safety in the City, including Complete Streets directives (Policies M-1.1 through M-1.9), design standards (Policy M-2.5), improvements for the safe circulation of pedestrians and bicyclists (Policies M-3.1 through M-3.12), and enhancements in good movement (Policies M-7.1 through M-7.3). In addition, any project associated with the General Plan's implementation would be required to undergo project-specific design review, with adherence to standard City engineering and design requirements, supplemented by other applicable State and federal regulations. Based upon these considerations, implementation of the proposed 2040 General Plan Update would not substantially increase transportation hazards or introduce incompatible uses that could contribute to such a hazard. The impact would be **less than significant**.

Mitigation Measures

None required

Impact 3.12-5: The Eureka General Plan Update would not result in inadequate emergency access.

As shown in the analysis for Impact 3.12-1, the changes associated with the proposed General Plan are expected to result in nominal changes to traffic operation and associated delays from what would be expected with the current General Plan. In fact, in some cases operation would be expected to improve, and delay decrease, providing improved timeliness for emergency access.

Similarly, the proposed General Plan contains policies outlined previously that require new transportation facilities to be constructed to meet applicable standards and provide for all users, while maintaining adequate emergency access. Accordingly, implementation of the proposed 2040 General Plan Update would not result in inadequate emergency access. The impact would therefore be **less than significant**.

Mitigation Measures

None required

Impact 3.12-6: The Eureka General Plan Update would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

As discussed under Impact 3.12-1 and 3.12-4, implementation of the proposed 2040 General Plan Update would enhance programs associated with multi-modal transportation operation and

effectiveness. This would result in an improved condition to these facilities overall, and the impact would therefore be **less than significant**.

Mitigation Measures

None required.

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3.13 Utilities and Service Systems

This section of the Draft EIR examines potential impacts from the implementation of the Eureka 2040 General Plan Update on utilities and service systems within the City of Eureka limits, otherwise known as the Plan Area. Policies provided in the proposed General Plan and standard City requirements are evaluated as to their effect on mitigating or avoiding any potentially significant effects.

Background information regarding utilities and service systems is provided, and for the purposes of this Draft EIR only utilities and service systems within the Eureka City limits, or Plan Area, will be analyzed for the purposes of understanding the existing setting, available capacity, or other potential limitations to development.

Analysis of utilities and service systems includes: water; wastewater; storm drainage; solid waste; energy; and telecommunication management services, as well as their related regulations and programs. Supplemental utilities and services are addressed in other chapters of this Draft EIR. Specifically, hazardous waste disposal in Section 3.7, *Hazards and Hazardous Materials*; and schools, police, fire protection, parks, recreation, and other public services in Section 3.11, *Public Services and Recreation*.

During the Notice of Preparation (NOP) comment period, no comments were provided in direct relation to Utilities and Service Systems.

3.13.1 Environmental Setting

This environmental setting applies to the 2040 General Plan Update area, which encompasses the area within the City of Eureka's city limits.

Water Supply

This section summarizes the existing environmental setting for municipal water supply in the City. Specifically, this section addresses the availability of water, capacity for treatment and storage of raw water, and the infrastructure for delivery. The City of Eureka includes 16.4 square miles of land and provides water to customers within its jurisdictional boundaries, and in a few rare instances, to customers outside of the City boundary. Typically, the Eureka area experiences a high amount of annual rainfall on average, and water supply in the area has not been a problem.

As of the 2015 Urban Water Management Plan for the City of Eureka, the City supplies water to approximately 10,004 active connections, and the City also sells water to Humboldt Community Services District (HCSD). Approximately 8,779 are residential connections and 1,225 connections are commercial. In 2015, a total of 1,034.14 million gallons of water was distributed to customers. The number of services supplied with water by Eureka has remained relatively constant. The City of Eureka is one of several Public Water Systems (PWS) that is provided water from a regional wholesale water provider, the Humboldt Bay Municipal Water District (HBMWD), and water supplied to customers in the City consists entirely of water supplied by HBMWD.

HBMWD presently maintains facilities sufficient to provide 17.9 million gallons per day (MGD) of water to domestic water customers.[1] The City maintains an 8.0 MGD water right on the Mad River; by agreement, HBMWD must deliver up to 8.0 MGD of water to the City if needed. Any water deliveries beyond the contracted amount of 8.0 MGD would be supplied through HBMWD's water right to Mad River water.

HBMWD serves water to a regional population of approximately 80,000 people total, approximately 35 percent of which are within the City of Eureka, with the remaining population outside the City being served by HCSD or private wells. HBMWD also supplies water to the City of Arcata and McKinleyville (MCSD).

The City of Eureka's average annual daily system demand for the year 2015 to 2016 is 2.75 MGD. The average peak month daily demand for that same year is 3.2 MGD. These demand amounts are based directly on metered usage and also includes usage for accounts outside of City limits as well, that are not served by HCSD.[2] The City has additional contractual capacity from HBMWD, and HBMWD has indicated that there is sufficient supply for currently forecasted development. Water delivered by HBMWD is drawn from Ranney wells situated in the bed of the Mad River, northeast of Arcata. The wells draw water from depths of 60 to 90 feet below the riverbed, and has been classified as high-quality groundwater by the California Department of Public Health (DPH).

The City's distribution system has normal deficiencies for a system of its age, including an aging piping system, a few isolated, low-pressure areas and some fire-flow issues. As part of the annual maintenance program, system capacity and pressure deficiencies are addressed, as well as the replacement of aging pipelines.

Wastewater Systems

This section summarizes the existing environmental setting for municipal wastewater systems in the City. Specifically, this section addresses the availability of wastewater systems, the capacity for treatment and storage of wastewater, and the infrastructure for collection. The City of Eureka provides wastewater services to customers within its jurisdictional boundaries, and in a few rare instances, to customers outside of the City boundary.

The City of Eureka owns and operates a wastewater collection system that contains approximately 125 miles of sewer main, 9,500 service laterals, 13 lift stations, 4 major pump stations, and associated force mains. The system collects and conveys between 1.6 and 1.8 billion gallons of wastewater per year.[3] All of the wastewater flows from the City (excluding storm water runoff) are collected and treated at the Elk River Wastewater Treatment Plant (WWTP) to secondary treatment standards. The WWTP was commissioned in 1984 for the purpose of treating, storing, and disposing of community wastewater. The WWTP serves customers within

1 City of Eureka. 2016. 2015 Urban Water Management Plan. https://wuedata.water.ca.gov/uwmp_plans.asp. Freshwater Environmental Services. May 26, 2016.

2 Issa, Brian, Deputy Director of Public Works–Field Operations, City of Eureka Public Works Department. Email communication with Evan Wasserman, ESA. February 1, 2018.

3 City of Eureka, 2016. Sewer System Management Plan 2016. Introduction. Adopted April 20, 2016. p. 1.

the City of Eureka and also handles wastewater from the surrounding unincorporated areas served by HCSD. The total population served by the WWTP is approximately 45,000. Depending on the intended use, all of this secondary wastewater may be suitable for reuse. The City's wastewater collection system collects, conveys, and treats wastewater each year and includes contributions from sources within the City limits and wastewater collected by HCSD under an inter-agency agreement. HCSD serves the unincorporated areas east and southeast of the City limits and transfers the wastewater to the City's system to be treated.

Treated wastewater from the WWTP is dechlorinated and discharged into Humboldt Bay through a 48-inch concrete outfall during ebb tide cycles. During times of high influent flows, treated effluent can be routed from the discharge holding pond to a temporary holding marsh for later discharge into the Bay. When discharged into the Bay, the outgoing tide carries the treated wastewater past the mouth of Humboldt Bay and into the ocean. Stored wastewater is returned to the holding pond after the flows subside. Wastewater solids are digested anaerobically, and then stored in facultative sludge lagoons for up to two years. Stabilized biosolids are dredged from the lagoons and dewatered using a centrifuge process before being disposed of as soil conditioner or other beneficial use. The City owns a reclamation site that has been used for biosolids disposal in the past, but is currently not used for that purpose.

The WWTP was designed and permitted to treat an average dry weather flow (ADWF) of 8.6 MGD and is currently reporting an ADWF of 3.6 MGD. Peak wet weather flow design and permitted capacity is 32.2 MGD, with a peak wet weather secondary treatment capacity designed and permitted at 12 MGD. The Plant was designed such that its treatment capacity could be increased in the future as needed to accommodate both the City's planned growth within its SOI and the projected HCSD growth.[4,5]

Existing issues with the City's wastewater systems include: the age of the City's wastewater collection system; inflow and infiltration of groundwater and storm water into wastewater pipes; avoiding treatment and pipe capacity issues; as well as funding and development challenges for the City's drainage utility program. The City recently completed the Martin Slough Interceptor (MSI) to alleviate some of these issues. The MSI reduces demands on the existing pumping systems and eliminates the need to operate and maintain several small lift stations located in the southern portion of the service area.

Storm Drainage Systems

This section summarizes the existing environmental setting for municipal storm drainage systems in the City of Eureka. Specifically, the current infrastructure and capacity for stormwater management.

The existing stormwater management for the City is generally maintained by the City Public Works Department, and, along with Public Works, the City Planning and Building Departments

4 Humboldt Local Agency Formation Commission (LACFO), City of Eureka Municipal Service Review. January 15, 2014. p. 16.

5 Hansen, Michael, Deputy Public Works Director-Utility Operations, City of Eureka Public Works Department. Email communication with Evan Wasserman, ESA. February 5, 2018.

are responsible for implementation of a Storm Water Management Plan (SWMP). Further description of the SWMP can be found in the Regulatory Overview section of this document. The SWMP for the City of Eureka has been developed to comply with the Federal Storm Water Phase II Final Rule (Phase II Rule).

According to the 2016 Eureka Capital Improvement Program, stormwater infrastructure in Eureka is outdated and deteriorating.[6] The City's storm drain system consists of gutter flow, cross street culverts, a small number of valley gutters, storm drain inlets and piping, and open channels. The storm drain piping consists primarily of reinforced concrete pipe (RCP) and corrugated metal pipe (CMP) with diameters ranging from 8 to 42 inches. The City's stormwater flows by gravity and is discharged at numerous points into Humboldt Bay, sloughs, and drainages in and around the City. Much of the City's existing storm drainage network is old and undersized. Where stormwater drainage runs along U.S. 101 and traverses the City at Broadway, 4th Street, and 5th Street, Caltrans is responsible for maintaining the stormwater system, before discharge into City maintained facilities.

Solid Waste Systems

This section provides an overview of the solid waste stream for Eureka, from garbage collection to disposal at the primary landfill disposal sites. This section includes a discussion of the City's past and current waste diversion rates, in light of recent statewide legislation, and the programs and policies the City is using to reduce the volume of waste that is sent to landfills. This analysis relies upon information from the Humboldt Waste Management Authority (HWMA), as well as the Eureka General Plan CBR.

Recology Humboldt County is the sole provider of solid waste collection and removal services for residents living in the City of Eureka, as well as those living in the unincorporated communities adjacent to the City. In general, residents living in the City limits are offered a wider variety of collection and removal services than those living in the unincorporated communities.

The Eureka Mandatory Garbage Collection and Recycling Ordinance was adopted in 2008 to contribute to statewide waste reduction goals, established with AB 939. Under the City's Mandatory Garbage/Recycling Collection Program, all residents receive a bundled collection service for one monthly rate. This includes weekly curbside garbage collection, residential curbside bulky item collection twice per year; and weekly curbside recycling collection. For an additional fee, residents can opt for weekly curbside greenwaste collection. Various sized bins and collection services are available for residential and commercial customers, including recycling and debris box service.

CalRecycle monitors compliance with AB 939 through annual reports submitted by each jurisdiction. To achieve compliance, Eureka must meet or exceed their target per capita disposal rates of 6.5 pounds per day (PPD) per resident. In 2014, the City had implemented 40 waste diversion programs and the annual PPD was 5.1 per resident. By 2016, the City had implemented

6 City of Eureka. 2016. Capital Improvement Program 2016. Streets and Storm Drains. March 2016. p. 4-1.

42 waste diversion programs and achieved an annual PPD of 6.3 per resident, continuing to stay below the target set by the State, but moving closer to the targeted limit.[7] While CalRecycle warns that meeting disposal rates does not necessarily indicate compliance with AB 939, it does show that the City focuses on achieving its waste diversion target through its current diversion programs. Based on CalRecycle Jurisdictional Diversion/Disposal Rate details, in 2016 the total residential population for Eureka was 26,881 with a total adjusted disposal amount of 31,056.7 tons of waste.[8]

Adoption and implementation of mandatory curbside garbage collection by the City of Eureka is in compliance with the State's AB 939 mandate intended to increase diversion and partially to reduce illegal disposal. Environmental degradation, blight and public health concerns at the time had been a concern to the City prior to adoption and implementation of the mandate, and have since slightly decreased illegal dumping issues in the City.

HWMA provides solid waste processing and disposal for Eureka, as well as other cities and unincorporated communities throughout Humboldt County. HWMA is a Joint Powers Authority made up of the following municipalities: Arcata, Blue Lake, Eureka, Ferndale, Rio Dell and Humboldt County. HWMA owns and/or manages the transfer station, recycling center, and composting facilities which accept and process wastes from the various contracted waste haulers servicing communities throughout Humboldt County. The Hawthorne Street Transfer Station, located in Eureka, accepts garbage and green waste as well as bulky items, tires and fluorescent lighting tubes and bulbs. The Transfer Station has several satellite drop-off locations, and hosts mobile collection events once a month throughout Humboldt County. The Eureka Recycling Center is located adjacent to the Transfer Station, and accepts glass, aluminum, plastic, and bi-metal bottles and cans with a California Redemption Value (CRV) buy-back rate for CRV containers being paid. In addition, the Recycling Center accepts books, electronic waste, and various lighting tubes and bulbs.

Once arriving at the Transfer Station, the loading, transportation, processing and marketing of recyclable materials is performed by Solid Waste of Willits (SWOW) through a contract with HWMA. Greenwaste is sent to the Mad River Compost Facility, located near Arcata, which is managed by HWMA under a service agreement. The facility receives approximately 5,000 tons of green waste annually, which is then processed by Mad River Hardwoods Inc., also through a service agreement with HWMA.

As of July 2017, all residual solid waste that cannot be recycled or composted is exported out of state to the Dry Creek Landfill in White City, Oregon.[9] Prior to July 2017, these materials were

7 California Department of Resources Recycling and Recovery (CalRecycle) 2014. Disposal Reporting System (DRS) Jurisdiction Diversion/Disposal Rate Summary. By Facility: Eureka. www.calrecycle.ca.gov. Accessed January 2014.

8 California Department of Resources Recycling and Recovery (CalRecycle) 2016. Disposal Reporting System (DRS), Jurisdiction Diversion/Disposal Rate Summary. By Facility: Eureka. www.calrecycle.ca.gov. Accessed January 2018.

9 Slattery, Miles, City of Eureka Public Works Department. Email Communication with Brian Gerving, City of Eureka and Evan Wasserman, ESA. February 1, 2018.

sent to the Potrero Hills Landfill in Potrero Hills California or the Anderson Landfill in Anderson, California.[10] However, in 2016, the Anderson landfill only received 1,355 tons, (6 percent) of the total solid waste generated in the City of Eureka, and 19,830 tons (93 percent) was sent to the Potrero Hills site in Marin County. As previously mentioned, in 2016 the total adjusted disposal amount for the City of Eureka was 31,056.7 tons of waste for a population of 26,881.

Existing issues with the City's solid waste systems include: the amount of illegal dumping occurring in Eureka; challenges for continued composting viability; and challenges to implementation of a regional anaerobic digester facility.

Energy Systems

This section summarizes the existing environmental setting for municipal energy systems in the City of Eureka. Specifically, the infrastructure and capacity for energy system management. Existing energy resources available to the City of Eureka are owned and maintained by Pacific Gas and Electric (PG&E). PG&E owns both the natural gas and electricity transmission and distribution systems, and serves the entire Humboldt County area through their broader connection to the larger state grid system. These systems are what provide the electrical and natural gas service to the City of Eureka.

The City of Eureka is geographically isolated with connection to the larger state energy grid limited. Remotely located within Humboldt County, at the end of PG&E's electricity and natural gas supply grids, the City has one connection to the larger natural gas grid and two major connections (115 kV) to the larger electric grid. At approximately 60-70 MW, the normally available capacity of the electrical transmission lines that connect Humboldt County to the larger grid is less than half of the county's peak electrical demand, which requires the area to generate much of its own electricity, with the City of Eureka responsible for a large portion of the peak electrical demand.

PG&E's Humboldt Bay Generating Station (HBGS), a local natural gas-fired power plant, is located just south of Eureka near the mouth of Humboldt Bay at the Humboldt Bay Power Plant (HBPP). It consists of ten 16 MW high efficiency engine generators that are suited to accommodating changes in demand and in the intermittent supply of renewable electricity.[11]

Humboldt County currently imports the majority of its energy in the form of natural gas and petroleum products. There is one major natural gas supply line that comes from a compressor station in Gerber in the Central Valley. This pipe is 12 inches in diameter and is capable of transporting enough natural gas to meet current local needs and projected future needs anticipated in the City's General Plan update. It is estimated that approximately 65 percent to 70 percent of the households in Humboldt County have access to the natural gas grid.

10 Egerer, Tyler. Humboldt Waste Management Authority. Personal communication with Matthew Pruter ESA. May 30, 2017.

11 Redwood Coast Energy Authority and Schatz Energy Research Center (SCRC), Humboldt State University (HSU), 2013. Humboldt County as a Renewable Energy Secure Community, Analysis and Strategic Planning, Draft Final Report. Prepared for the California Energy Commission. Eureka, CA:RCEA. March 2013.

Telecommunications Systems

This section summarizes the existing environmental setting for telecommunications systems within the City of Eureka. Specifically, the infrastructure and capacity for telecommunication system management, which includes telephone, internet, and television/cable services. Information in this section was obtained from provider websites. Several companies offer telephone service in the City of Eureka. AT&T and Suddenlink provide high speed data communications, 911 service, and local and long distance telephone service to the City. In addition, multiple cellular phone companies offer wireless phone services to Eureka including Sprint, AT&T, T-Mobile, Verizon, Metro-PCS, Virgin Mobile, US Cellular, and TracFone. Land line telephone service through AT&T and Suddenlink is likely available everywhere within the City, but cellular phone service depends on proximity to cell towers. Suddenlink provides high-speed internet in the City of Eureka, and AT&T and Renaissance Internet provides DSL internet service. Wireless broadband service is available from providers including AT&T, Verizon, and Sprint.[12] DSL service within the City of Eureka is dependent upon proximity to service provider facilities (i.e., AT&T DSL ports).[13] AT&T provides digital DISH network to the City of Eureka by satellite, and Suddenlink provides cable television service.[14]

Overall, the availability of high speed DSL, cable, and cellular phone service is widely available but can be limited the further one gets from the City center. Additional improvements or new infrastructure are generally constructed as the need arises to meet customer demand or as new projects are built.

3.13.2 Regulatory Overview

This section expands on the regulatory context for the various utilities and service systems analyzed in this Draft EIR. Drinking water rules, stormwater drainage, solid waste service, as well as wastewater treatment and disposal regulations related to the City's utility are administered and enforced through the State of California. Guidance for expansion or replacement of the water, wastewater, solid waste, and stormwater systems within the City boundaries is governed by the existing Eureka General Plan. However, such utility and service systems are also subject to the jurisdiction of the City of Eureka, and applicable ordinances. Energy and telecommunication system regulations, that are applicable to the City are described below for reference at the federal, state, and local levels.

Federal

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA), established in 1974, is the principle federal law in the United States that ensures safe drinking water for the public. Pursuant to the act, the U.S. Environmental Protection Agency (EPA) is required to set standards for drinking water quality and oversee all states, localities, and water suppliers who implement those standards.

12 Verizon. http://verizon.com/, accessed February 24, 2014.
13 AT&T. http://att.com/, accessed February 24, 2014.
14 Suddenlink. http://suddenlink.com/, accessed February 24, 2014.

The SDWA requires the EPA to establish National Primary Drinking Water Regulations (NPDWR) for contaminants that may cause adverse public health effects.

Amendments to the SDWA require, in addition to more contaminants to be regulated, that well head protection be provided, new monitoring for certain substances, filtration for certain surface water systems, disinfection for certain groundwater systems, certification of water system operators, and the publication of consumer confidence reports.

Ground Water Rule

The EPA promulgated the final Ground Water Rule (GWR) in October 2006 to reduce the risk of exposure to fecal contamination that may be present in public water systems that use ground water sources. The EPA proposed the GWR on May 10, 2000 (65/Federal Register/30194). The rule establishes a risk-targeted strategy to identify ground water systems that are at high risk for fecal contamination. The GWR also specifies when corrective action (which may include disinfection) is required to protect consumers who receive water from ground water systems from bacteria and viruses.

The GWR applies to more than 147,000 public water systems that use ground water (as of 2003). The rule also applies to any system that mixes surface and ground water if the ground water is added directly to the distribution system and provided to consumers without treatment equivalent to surface water treatment. In total, these systems provide drinking water to more than 100 million consumers. The rule addresses risks through a risk-targeting approach that relies on four major components:

1. Periodic sanitary surveys of ground water systems that require the evaluation of eight critical elements and the identification of significant deficiencies (e.g., a well located near a leaking septic system). States must complete the initial survey by December 31, 2012 for most community water systems (CWSs) and by December 31, 2014 for CWSs with outstanding performance and for all non-community water systems.

2. Source water monitoring to test for the presence of E. coli, enterococci, or coliphage in the sample. There are two monitoring provisions:

   – Triggered monitoring for systems that do not already provide treatment that achieves at least 99.99 percent (4-log) inactivation or removal of viruses and that have a total coliform-positive routine sample under Total Coliform Rule sampling in the distribution system.

   – Assessment monitoring, as a complement to triggered monitoring, a State has the option to require systems, at any time, to conduct source water assessment monitoring to help identify high risk systems.

3. Corrective actions required for any system with a significant deficiency or source water fecal contamination. The system must implement one or more of the following correction action options:

   – Correct all significant deficiencies,

   – Eliminate the source of contamination,

- Provide an alternate source of water, or
- Provide treatment which reliably achieves 99.99 percent (4-log) inactivation or removal of viruses.

Compliance monitoring to ensure that treatment technology installed to treat drinking water reliably achieves at least 99.99 percent (4-log) inactivation or removal of viruses.

Clean Water Act

The Federal Clean Water Act (CWA), established by Congress in 1972, is the cornerstone of surface-water-quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct discharges of pollutants into waterways, finance municipal wastewater-treatment facilities, and manage polluted runoff. Section 303 of the CWA requires states to adopt water-quality standards for all surface waters of the United States.

The City of Eureka must comply with the provisions of the CWA with primary drinking water standards established by the EPA. The EPA established primary drinking water standards in the CWA Section 304 and States are required to ensure that potable water for the public meets these standards. Enforcement of the CWA has been entrusted to the State of California, Regional Water Quality Control Board (RWQCB). The CWA prohibits the discharge of pollutants to navigable waters from a point source unless authorized by a National Pollutant Discharge Elimination System (NPDES) permit, as described below.

National Pollutant Discharge Elimination System (NPDES) Permits

The NPDES permit system was established in the federal CWA to regulate municipal and industrial discharges to surface waters of the United States. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that the EPA must consider in setting effluent limits for priority pollutants. The quality of the effluent that can be discharged to waterways within the Eureka area is established by the North Coast Regional Water Quality Control Board (NCRWQCB) through Waste Discharge Requirements (WDRs) that implement the NPDES permit. WDRs are updated at least every five years. A new permit must be issued in the event of a major change or expansion of a wastewater treatment facility.

Regarding stormwater drainage, urban runoff and other “non-point source” (NPS) discharges are regulated by the 1972 Federal CWA through the NPDES permit program. As mentioned previously, the federal CWA mandates that the City of Eureka be issued a NPDES Phase II Permit. A requirement of the Phase II permit is to develop a SWMP. As discussed in the Environmental Setting, the SWMP describes certain Best Management Practices (BMPs) that the City will implement in order to comply with the six Minimum Control Measures (MCMs) set up for Phase II permitees. The Stormwater Division represents the City on stormwater and NPDES stormwater permit issues before the RWQCB. The division also provides technical expertise and guidance to all City departments to ensure implementation and compliance with the NPDES Permit. The City currently holds an NPDES permit (NPDES No. CA0024449) for storing,

treating, and discharging wastes from the Elk River WWTP. The current permit was issued in June 2016 and expires in July 2021.

Title 40 of the CFR

Title 40 of the Code of Federal Regulations (CFR), Part 258 (Resource Conservation and Recovery Act RCRA, Subtitle D) contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design, groundwater monitoring, and closure of landfills.

Telecommunications Act of 1996

At the federal level, the Telecommunications Act of 1996 (47 U.S.C. Section 332(c)) broadly regulates telecommunications. In particular, state and local governments may not reject the siting of a tower on the basis of radio frequency emissions—i.e., radiation— unless a tower exceeds standards set forth by the Federal Communications Commission (FCC). The FCC regulates interstate and international communications by radio, television, wire, satellite and cable in all 50 states, the District of Columbia and U.S. territories. An independent U.S. government agency overseen by Congress, the commission is the United States' primary authority for communications law, regulation and technological innovation. The FCC's rules and regulations are in Title 47 of the CFR.[15]

State

California Department of Water Resources

The California Department of Water Resources (DWR) is part of the California Natural Resources Agency. DWR is responsible for the State of California's management and regulation of water usage. The California DPH, Drinking Water Program (DWP) regulates public water systems; oversees water recycling projects; permits water treatment devices; certifies drinking water treatment and distribution operators; supports and promotes water system security; provides support for small water systems and for improving technical, managerial, and financial (TMF) capacity; and provides funding opportunities for water system improvements.

California Department of Public Health

The California DPH is responsible for implementing the federal Safe Drinking Water Act of 1974 and its updates, as well as California statutes and regulations related to drinking water. As part of their efforts, the DPH inspects and provides regulatory oversight for public water systems within California. In addition, in the Eureka area the NCRWQCB has the responsibility for protecting the beneficial uses of the state’s waters, including groundwater, and these include municipal drinking water supply, as well as various other uses. Public water system operators are required to regularly monitor their drinking water sources for microbiological, chemical, and radiological

15 Federal Communications Commission (FCC). 2018. What We Do. The Federal Communications Commission. https://www.fcc.gov/about-fcc/what-we-do. Accessed January 2018.

contaminants to show that drinking water supplies meet the regulatory requirements listed in Title 22 of the California Code of Regulations as primary maximum contaminant levels (MCLs).

Created by the State Legislature in 1967, the five-member State Water Quality Control Board protects water quality by setting statewide policy, coordinating and supporting the Regional Water Board efforts, and reviewing petitions that contest Regional Board actions. The State Board is also solely responsible for allocating surface water rights.

The State of California has passed several state bills pertinent to water supply and water management as summarized on their website including:

- AB 3030 Groundwater Management Act allows existing local agencies to develop a groundwater management plan.
- SB 1938 Amendments to Local Groundwater Management Water Codes requires any agency requesting funds from the Department of Water Resources to develop a comprehensive plan outlining the agencies objectives for basin management, basin planning, and basin monitoring. The goal of the legislation is that agencies would be more involved in their basin management to ensure proper planning and prevent over utilization of the basin.
- AB 303 Local Groundwater Management Assistance Act of 2000 provides public agency grants to study and manage groundwater with the expectation the agency will become better suited to manage the water supply quality, delivery, and storage.
- SB 610 Water Supply Assessments and SB 221 Verification of Sufficient Water Supply were passed to prevent development from proceeding without adequate consideration for water supply to the developed area. Senate Bill 610 was passed in 2001, and it specifically requires that for a public water system to be eligible for flood relief funds from the Department of Water Resources, that entity must provide an urban water management plan. That plan should outline all water supplies available for that entity's use over the next five years. The plan should also include water supply for any anticipated growth. Reliability of the water supply should also be evaluated. SB 221 requires any development having more than 500 parcels or units to have a complete water supply plan prior to approval for development. Review and approval of these documents would fall to the local governing board (rather than the State of California).
- AB 901 Water Supply Planning requires Urban Water Management Plans to include information relating to the quantity of existing sources of water available to an urban water supplier over given time periods and the manner in which water quantity affects water management strategies and supply. This information includes, but is not limited to, the historic, current, and future reliability of the supply source and quality of the water source. A plan for what actions would be taken if the quantity or quality of water deteriorates is also required. Additional and supplemental sources of water must also be included in the Urban Water Management Plan.

Collection System Regulations

Sanitary Sewer Overflow (SSO) WDRs were issued by the State Water Resources Control Board (SWRCB) on May 2, 2006. The WDRs apply to collection systems within the state. As part of these regulations, collection system owners and operators are required to develop a Sewer System

Management Plan (SSMP). The beneficial uses of surface waters that can be impaired by SSOs include, but are not limited to the following: aquatic life, drinking water supply, recreation, and aesthetics. The beneficial uses of groundwater that can be impaired by SSOs include, but are not limited to, drinking water and agricultural supply. Surface and groundwater throughout the state support these uses to varying degrees.

To facilitate proper funding and management of sanitary sewer systems to avoid SSOs, each sanitary sewer system owner or operator is required to develop and implement a system specific SSMP. To be effective, SSMPs must include provisions to provide proper and cost effective management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions. The SSMP would need to be developed over a three or four-year period, depending on the size of the service area. The City of Eureka currently has a SSMP which was initially developed in 2009. A SSMP audit was conducted in 2015, and an update of the initial SSMP has incorporated the results of the SSMP Audit as of 2016.[16]

Assembly Bill 939 and Assembly Bill 341

Solid waste collection, treatment, and disposal is administered and regulated through the State of California, specifically by the California Integrated Waste Management Act of 1989 (AB 939), and the California Mandatory Commercial Recycling (AB 341) program. AB 939 also set the stage for a series of reforms affecting waste management at the State and local levels, which resulted in the creation of a statewide collection infrastructure. AB 939 requires cities and counties to prepare Solid Waste Management Plans to implement AB 939's goals, particularly to divert approximately 50 percent of solid waste from landfills. AB 939 also requires cities and counties to prepare Source Reduction and Recycling Elements. These elements are designed to develop programs to achieve diversion goals, stimulate local recycling in manufacturing and stimulate the purchase of recycled products.

California Mandatory Commercial Recycling (AB 341) became effective July 1, 2012, as one of the measures adopted in the AB 32 Scoping Plan pursuant to the California Global Warming Solutions Act. AB 341 focuses on increasing commercial waste diversion as a means of reducing greenhouse gas (GHG) emissions, expanding the opportunity for additional recycling services and recycling manufacturing facilities in California. The bill was amended on June 27, 2012 with SB 1018 which requires a business that generates 4 cubic yards or more of commercial solid waste per week or is a multifamily residential dwelling of five units or more to arrange for recycling services. As a result, each jurisdiction must implement a commercial solid waste recycling program that consists of education, outreach and monitoring. Each jurisdiction reports its progress towards diversion goals through submitting electronic annual reports to CalRecycle for review every two or four years. As stated, the bulk of the legislative responsibilities for diversion activities falls primarily to solid waste generators; however, local jurisdictions are

16 City of Eureka. 2016. Sewer System Management Plan. http://www.ci.eureka.ca.gov/news/displaynews.asp?NewsID=598&TargetID=1. Accessed January 2018.

responsible for the enforcement and monitoring, and reporting data to CalRecycle on an annual basis.

State Water Quality Control Board

The SWRCB's resolution number 93-62 (Policy for Regulation of Discharges of Municipal Solid Waste) regulates the discharge of municipal solid waste that can adversely affect area water quality. The policy was adopted in 1993 to bring discharges into compliance with the SWRCB's Title 27 regulations and with the federal MSW regulations. The policy directs each RWQCB to revise the WDRs for each discharger in its region who owns or operates a municipal solid waste landfill (MSW landfill) that received waste after October 9, 1991.

California Government Code § 65352.5

A full SB 610/AB 221 Water Supply Assessment (WSA) is not required for completion of a general plan. In its place, section 65352.5 of the California Code specifies requirements for the identification of water supply availability in support of general planning documentation. California Government Code Section 65352.5 specifies that review and disclosure of the following items is required for documentation of water supply, in support of general planning documentation:

1. The current version of the City's urban water management plan, adopted pursuant to Part 2.6 (commencing with Section 10610) of Division 6 of the Water Code.

2. The current version of the City's capital improvement program or plan, as reported pursuant to Section 31144.73 of the Water Code.

3. A description of the source or sources of the total water supply currently available to the water supplier by water right or contract, taking into account historical data concerning wet, normal, and dry runoff years.

4. A description of the quantity of surface water that was purveyed by the water supplier in each of the previous five years.

5. A description of the quantity of groundwater that was purveyed by the water supplier in each of the previous five years.

6. A description of all proposed additional sources of water supplies for the water supplier, including the estimated dates by which these additional sources should be available and the quantities of additional water supplies that are being proposed.

7. A description of the total number of customers currently served by the water supplier, as identified by the following categories and by the amount of water served to each category:
    a. Agricultural users.
    b. Commercial users.
    c. Industrial users.
    d. Residential users.

8. Quantification of the expected reduction in total water demand, identified by each customer category set forth in paragraph (7), associated with future implementation of water use reduction measures identified in the water supplier's urban water management plan.

9. Any additional information that is relevant to determining the adequacy of existing and planned future water supplies to meet existing and planned future demands on these water supplies.

California Public Utilities Commission and California Energy Commission

On the federal level, energy system policies and implementation is administered by the U.S. Department of Transportation, U.S. Department of Energy, and the EPA. These three agencies, with substantial influence over energy policies and programs, are generally administered through the State of California, and the California Public Utilities Commission and the California Energy Commission (CEC), two agencies with authority over different aspects of energy. The California Public Utilities Commission regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The CEC collects and analyzes energy-related data, prepares State-wide energy policy recommendations and plans, promotes and funds energy efficiency programs, and regulates the power plant siting process.

Title 24 of the California Code of Regulations

The State of California regulates energy consumption under Title 24 of the California Code of Regulations. The Title 24 Building Energy Efficiency Standards were developed by the CEC and apply to energy consumed for heating, cooling, ventilation, water heating, and lighting in new residential and non-residential buildings. The CEC updates these standards periodically. The current standards (2008 Standards) became effective on January 1, 2010. Under Assembly Bill 970, signed September 2000, the CEC will update and implement its appliance and building efficient standards to make “maximum feasible” reduction in unnecessary energy consumption.

Assembly Bill 1890 - The Electric Utility Industry Restructuring Act

The Electric Utility Industry Restructuring Act (Assembly Bill 1890) made the generation of electricity competitive in California. The legislation became law on September 23, 1996. Before restructuring, a single utility provided each customer with generation, transmission, distribution, and metering and billing of electricity. As of March 31, 1998, the new structure allowed customers in most, but not all, existing electric utility service areas to choose their electric generation supplier.

Restructuring also brought changes to the transmission of electricity. Previously restricted transmission facilities were opened to power generators on a fair and equitable basis, overseen by a new organization, the Independent System Operator. The Independent System Operator has been given the responsibility for assuring reliability of the high voltage transmission system. Local utilities continue to distribute electricity.

Telecommunication Systems

Telecommunication system policy and implementation is administered through the State of California, specifically by the California Public Utilities Commission, Communications Division

which is responsible for licensing, registration and the processing tariffs of local exchange carriers, competitive local carriers, and non-dominant interexchange carriers. It is also responsible for registration of wireless service providers and franchising of video service providers. The Division tracks compliance with commission decisions and monitors consumer protection and service issues and Commission reliability standards for safe and adequate service.[17]

Local

City of Eureka 1997 General Plan

The City's 1997 General Plan contains policies and implementation measures relevant to utilities resources. Specifically, the 1997 General Plan includes policies that identify, protect, and enhance utility resources that are unique to the area related to water, wastewater, stormwater, solid waste, energy, and telecommunications systems. Upon approval of the proposed 2040 General Plan, all policies and implementation measures in the 1997 General Plan would be superseded. Therefore, they are not included in this analysis, but have been provided below as reference.

General Public Facilities and Services

Goal 4.A: To ensure the effective and efficient provision of public facilities and services for existing and new development.

Policies

4.A.1: The City shall provide high quality public facilities, utilities, and services throughout the urbanized area of Eureka and shall ensure that such facilities, utilities, and services are compatible with surrounding development.

4.A.2: The City shall direct growth to those areas already served by public infrastructure and utilities.

4.A.3: The City shall require that all land designated for urban development be served by adequate water and other utilities necessary for health, safety, and welfare of citizens and property. Conversely, the City shall not provide urban utilities to areas that are not designated for urban development, particularly agricultural areas, wetland areas, forest lands, and areas with unsuitable topography.

4.A.4: The City declares that existing public works facilities, including water, wastewater, stormwater, highway, and railroad facilities serving the Planning Area are essential to the economic and social well-being of the people and shall be maintained, enhanced, and restored to assure the orderly and balanced utilization and conservation of natural and human-created resources.

4.A.5: The City shall permit the formation or expansion of special districts where assessment for, and provision of, the services will not induce development inconsistent with this General Plan.

17 CPUC. 2018. Telecommunications & Broadband - Communications. How It's Regulated. http://www.cpuc.ca.gov/communications/. Accessed January 2018.

4.A.6: The City shall ensure that new or expanded public works facilities within the Coastal Zone will be designed and limited to accommodate needs generated by permitted uses and development consistent with the provisions of this General Plan.

4.A.7: Within the coastal Zone, the City shall prohibit the extension of urban services (sewer and water) into areas with Open Space designations (i.e., Agricultural, Timberland, Natural Resources, Water—Development, and Water—Conservation), except that the water system intertie line in the southwestern part of the city shall be permitted to extend into these areas, provided no connections for private users shall be allowed.

4.A.8: The City shall promote undergrounding of overhead utility lines whenever feasible, particularly in recreational facilities, the Core Area, and new residential development.

4.A.9: The City shall require the undergrounding of all new utility services.

4.A.10: The City shall require that new development contribute its fair share to providing all public services and infrastructure, including schools, necessary to serve that development.

Water Supply and Delivery

Goal 4.B: To ensure the availability of an adequate and safe water supply and the maintenance of high quality water for residents of and visitors to Eureka.

Policies

4.B.1: To the extent feasible, within the Coastal Zone, the City shall preserve water system capacity needed for priority uses. These uses and their order of priority are as follows:

a. Coastal-dependent uses;

b. Essential public services;

c. Basic industries vital to the economic health of the region, state or nation;

d. Public recreation;

e. Commercial recreation; and

f. Visitor-serving uses.

4.B.2: The City shall require proponents of new development to demonstrate the availability of a long-term, reliable water supply and adequate water supply infrastructure. The City shall require all new development within the city to connect to the City's water system. New development shall be responsible for constructing or financing any water system upgrades necessary to serve the development.

4.B.3: Through its Capital Improvements Program, the City shall continue to conduct leak detection surveys and replace or repair existing water lines that are inadequate to serve existing development.

4.B.4: The City shall promote efficient water use and reduced water demand by requiring water-conserving design and equipment in new construction and encouraging retrofitting existing development with water-conserving devices.

4.B.5: The City shall identify all development within the city limits not currently served by the City's water system with the intent of requiring connection to the system.

Wastewater Collection, Treatment, and Disposal

Goal 4.C: To ensure adequate wastewater collection, treatment, and disposal.

Policies

4.C.1: The City shall promote efficient water use and reduced wastewater system demand by requiring water-conserving design and equipment in new construction and encouraging retrofitting with water-conserving devices.

4.C.2: The City shall continue its efforts to detect and correct infiltration/inflow (I/I) in its wastewater collection system.

4.C.3: The City shall require pretreatment of commercial and industrial wastes prior to their entering the city collection and treatment system.

4.C.4: The City shall prohibit the development of new on-site sewage treatment and disposal systems within the city limits.

4.C.5: The City shall require all new development within the city limits to connect to the City wastewater treatment system.

4.C.6: The City shall not allow extension of sewer service outside of the city limits, except in limited circumstances to resolve a public health hazard resulting from existing development, or where there is a substantial overriding public benefit.

4.C.7: The City shall identify all existing development not currently served by the City wastewater treatment system with the intent of requiring connection to the system.

Stormwater Drainage

Goal 4.D: To collect and convey stormwater in a manner that least inconveniences the public, reduces or prevents potential water-related damage, and protects the environment.

Policies

4.D.1: The City shall consider establishing an assessment district to fund citywide storm drainage improvements, including replacement, repair, or relocation of storm drain facilities.

4.D.2: The City shall encourage the use of natural stormwater drainage systems in a manner that preserves and enhances natural features.

4.D.3: The City shall support efforts to acquire land or obtain easements for drainage and other public uses of floodplains where it is desirable to maintain stream courses in a natural state.

4.D.4: The City shall consider recreational opportunities and aesthetics in the design of stormwater detention/retention and conveyance facilities.

4.D.5: The City shall promote sound soil conservation practices and carefully examine the impact of proposed urban developments with regard to water quality and effects on drainage courses.

4.D.6: The City shall improve the quality of runoff from urban and suburban development through use of appropriate and feasible mitigation measures including, but not limited to, artificial wetlands, grassy swales, infiltration/sedimentation basins, riparian setbacks, oil/grit separators, and other best management practices (BMPs).

4.D.7: The City shall require new development that would increase storm drainage runoff in a 10-year storm event more than one cubic foot per section to provide retention/ siltation basins to limit new runoff to prior-to-development flows.

4.D.8: The City shall encourage new project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions.

4.D.9: The City shall require new projects that affect the quantity or quality of surface water runoff to allocate land as necessary for the purpose of detaining post-project flows and/or for the incorporation of mitigation measures for water quality impacts related to urban runoff.

4.D.10: In the Martin Slough, drainage, the City shall cooperate with Humboldt County and affected landowners to minimize potential damage and economic loss arising from stormwater runoff, consistent with other policies of this General Plan.

Solid Waste Collection and Disposal

Goal 4.E: To ensure the safe and efficient disposal or recycling of solid waste generated in Eureka.

Policies

4.E.1: The City shall require solid waste collection in all urban and suburban development.

4.E.2: The City shall promote maximum use of solid waste source reduction, recycling, composting, and environmentally-safe transformation of wastes.

4.E.3: The City shall require that all new development complies with applicable provisions of the Humboldt County Integrated Waste Management Plan and the City's Source Reduction and Recycling Plan.

4.E.4: The City shall encourage the development of regional and community-based recycling facilities in heavy commercial and industrial areas.

4.E.5: The City shall encourage businesses to use recycled products in their manufacturing processes and consumers to buy recycled products.

3.13.3 Analysis, Impacts, and Mitigation

Significance Criteria

The significance criteria for this analysis were developed from questions presented in Appendix G of the State CEQA Guidelines and based on the professional judgement of the City of Eureka

and its consultants. The proposed 2040 General Plan would result in a significant impact if it would:

a) Have insufficient water supplies available to serve the City from existing entitlements and resources.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

c) Exceed wastewater treatment requirements of the DWR and applicable Regional Water Quality Control Board.

d) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

e) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

f) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

g) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

h) Not comply with federal, state, and local statutes and regulations related to solid waste.

i) Land uses or development patterns that cause wasteful, inefficient, or unnecessary consumption of energy.

j) Land uses that require or result in the construction of new or expanded energy production or transmission facilities, the construction of which could cause significant environmental effects.

k) Land uses that require or result in the construction of new or expanded telecommunication networks or facilities, the construction of which could cause significant environmental effects.

Methodology and Assumptions

Impacts on utilities and service systems are evaluated using the criteria listed above. Impacts are evaluated based on information included in the Eureka General Plan Community Background Report, the Draft Eureka 2040 General Plan, and supplemental information gathered during preparation of this Draft EIR.

Proposed General Plan Policies

The following goals and policies from the proposed 2040 General Plan are specifically relevant to utilities and service systems within the Plan Area.

General Utility Infrastructure and Services

Goal E-5: Infrastructure to meet the needs of existing and future businesses and industries.

Policies

E-5.1: Access, Infrastructure and Services. Ensure that convenient access to major transportation facilities, adequate utility and telecommunications infrastructure, and sufficient public services are available and/or programmed to support commercial and industrial areas.

E-5.7: Wastewater Treatment Capacity. Ensure that the City's Wastewater Treatment Plant has sufficient capacity to meet the needs of industrial and agricultural users. Wastewater capacity shall be sufficient to support the planned growth of breweries, dairy manufacturing, and other high impact users.

Water Supply and Delivery

Goal U-1: Availability of an adequate, safe, and sustainable water supply and maintenance of an efficient water system for residents and visitors.

Policies

U-1.1: Water Access and Distribution. Continue to provide high quality water through a cost-effective distribution system, satisfying both normal and emergency water demands.

U-1.2: Adopted Plans. Regularly review and update the City's Urban Water Management Plan, along with capital improvement plans, to ensure adequate provision of water supply, infrastructure, maintenance, rehabilitation, funding and conservation strategies.

U-1.3: New Development. Require new development to demonstrate the availability of a long-term, reliable water supply (either an existing supply or provision of a new water source) and adequate infrastructure, in accordance with City standards, and, except in Natural Resource and Agricultural lands, to connect to the City's water system. Require new development to be responsible for constructing, dedicating, and/or paying its fair-share contribution for any water system upgrades necessary to serve the development.

U-1.4: Groundwater. Continue to monitor and protect the quality and quantity of groundwater.

U-1.5: Groundwater Recharge. Preserve areas that provide important groundwater recharge capabilities such as the gulches and greenway corridors, undeveloped open space, and natural drainage areas.

U-1.6: Green Infrastructure. Continue to encourage the use of green infrastructure that promotes efficient water use and reduced water demand by requiring water-conserving design and equipment in new construction and encouraging the retrofitting of existing development with water-conserving devices.

U-1.7: Water Conservation Programs. Collaborate with federal, State, and local water agencies and providers to create and enhance long-term water conservation programs as necessary to address drought conditions affecting the Mad River watershed.

Goal CS-2: Protection of Eureka residents, visitors, property, and natural resources from injury and loss of life from fire hazards.

Policy

CS-2.2: Facility Standards. Ensure that water main size, water flow, fire hydrant spacing, and other fire facilities meet City standards.

Goal NR-1: Protection, enhancement and restoration of surface water resources, and their associated riparian habitats, and groundwater, as well as improvement of water quality.

Policy

NR-1.7: Groundwater Protection. Continue to regulate the use of septic systems, encourage users to connect to City services, and regulate onsite disposal of toxic substances per local and State regulations to reduce groundwater contamination.

Wastewater Collection, Treatment and Disposal

Goal U-2: Sustainable and adequate wastewater collection, treatment, and disposal for existing and future development.

Policies

U-2.1: Adequate Infrastructure. Continue efforts to maintain and improve the City's wastewater collection and treatment system capacity to satisfy dry and wet weather conditions while also detecting and correcting infiltration/inflow (I/I) issues, in accordance with applicable discharge standards. Continue to explore the feasibility of relocation of the wastewater outfall.

U-2.2: Wastewater System Facilities Plan. Regularly review and update the City's Wastewater System Facilities Plan and other wastewater planning tools and capital improvement plans to ensure adequate wastewater collection, treatment, infrastructure, maintenance, rehabilitation, and funding.

U-2.3: New Development. Require new development to demonstrate the availability of sufficient wastewater facilities, in accordance with City plans and standards, and, except in Natural Resource and Agricultural lands, to connect to the City's wastewater treatment system. Require new development to be responsible for constructing, dedicating, and/or paying its fair-share contribution for any wastewater treatment and collection system upgrades necessary to serve the demands generated by the development.

U-2.4: Commercial and Industrial Waste Pretreatment. Continue to require pretreatment of commercial and industrial wastes prior to their entering the city collection and treatment system, consistent with applicable discharge requirements.

U-2.5: On-Site Sewage Treatment. Except in Natural Resource and Agricultural lands, continue to prohibit the development of new on-site sewage treatment and disposal systems within the City limits, but encourage the development of on-site pre-treatment systems, especially for industrial facilities.

U-2.6: Extension of Sewer Services. Prohibit extension of sewer service outside of the City limits or sphere of influence, except in limited circumstances to resolve a public

health hazard resulting from existing development, or where there is a substantial overriding public benefit.

U-2.7: Best Management Practices. Identify and implement, where feasible, best practices and technologies for wastewater collection and treatment, including strategies that reduce wastewater requiring treatment, such as waterless toilets or composting garbage disposals and toilets, maintain maximum energy efficiency, and reduce costs and greenhouse gas emissions.

Stormwater Collection and Conveyance System

Goal U-3: A comprehensive stormwater collection and conveyance system that reduces or prevents flooding, and protects public safety and the environment.

Policies

U-3.1: Adequate Infrastructure. As funding allows, continue efforts to maintain and improve the City's storm drainage system so that it adequately accommodates stormwater runoff and prevents flooding.

U-3.2: Storm Drain Master Plan. Regularly review and update the City's Storm Drain Master Plan and capital improvement plans to ensure adequate capacity, infrastructure, treatment, maintenance, and, as available, funding.

U-3.3: Funding. Consider establishing a funding mechanism for storm drainage improvements, including replacement, repair, or relocation of storm drain facilities.

U-3.4: Natural Drainage. Encourage and maintain the use of natural stormwater drainage systems in a manner that preserves and enhances natural features such as the sloughs, greenways and gulches, and along the rivers and creeks, while also allowing for maximum water reclamation and reuse.

U-3.5: Manmade Drainage. Allow manmade drainage systems to be dredged, cleared, and maintained to preserve the drainage capacity for which they were designed, even those classified as wetlands.

U-3.6: Recreation Opportunities. Continue to consider recreational opportunities and aesthetics in the design of stormwater/retention and conveyance facilities.

U-3.7: Stormwater Flows along the Waterfront. Continue to use best available information to identify any necessary improvements to drainage or water control structures to effectively manage stormwater flows and quality in Old Town and along the waterfront.

U-3.8: New Development. Require new development to prepare drainage studies and to retain and infiltrate stormwater runoff in compliance with City and regional regulations, plans and standards. Ensure that new development constructs, dedicates and/or pays its fair share contribution to the storm drainage system necessary to serve the demands created by the development.

U-3.9: Low Impact Development. Encourage and incentivize opportunities to incorporate Low Impact Development in both new construction and remodeling/renovation of existing structures and sites.

***U-3.10**: Land Allocation and Mitigation for New Project Runoff.* Require new projects to allocate land as necessary for the purpose of detaining post-project flows and consider establishing a mitigation fund to fund off site stormwater detention areas.

U-3.11: Stormwater Quality. Require new development and redevelopment to minimize stormwater runoff and pollutants entering drainage facilities and drainage courses by incorporating Low Impact Development (LID) measures and appropriate Best Management Practices (BMPs) consistent with the City's NPDES permit and the North Coast Regional Quality Control Board regulations.

***U-3.12**: Minimize Drainage Through Design.* Encourage new project designs that minimize impervious surfaces and maintain, to the extent feasible, natural site drainage conditions, while also employing techniques aimed at retaining and reusing runoff and other water used onsite.

U-3.13: Runoff Damage Management. Cooperate with Humboldt County, affected landowners, and other stakeholders to minimize potential damage and economic loss arising from stormwater runoff, consistent with other policies of this General Plan.

Solid Waste Collection and Disposal

Goal U-4: Safe and efficient disposal or recycling of solid waste generated in Eureka.

Policies

U-4.1: Adequate Services. Continue to support solid waste facility operators and service providers in local solid waste collection, disposal, and recycling efforts.

U-4.2: Illegal Dumping. Continue to work towards eliminating illegal dumping.

U-4.3: Increase Waste Diversion. Promote maximum use of solid waste source reduction, recycling, composting, and environmentally-safe transformation of wastes, maximizing solid waste diversion opportunities.

U-4.4: Composting Programs. Support programs and facilities that divert residential, commercial, and industrial food, vegetation, and other organic waste from the landfill and continue to work with regional composting facilities to continue and increase composting services for residents and businesses.

U-4.5: Solid Waste Management per State Mandated Diversion Goals. Continue to partner with Humboldt Waste Management Authority and City-designed franchise hauler to further plan for and document compliance with State-mandated source reduction, diversion, and recycling requirements.

U-4.6: Recycling for Residential Uses. Continue to encourage residential uses to increase the solid waste diversion from landfills through participation of the recycling programs and organic waste diversion, consistent with State-mandated diversion goals and the City's goals to reduce greenhouse gas emissions.

U-4.7: Recycling for Commercial and Industrial Uses. Continue to encourage the development of regional and community-based recycling facilities in heavy industrial areas while also establishing more waste reduction requirements for commercial and industrial uses.

U-4.8: Reduced Materials Consumption. Conserve natural resources through reduced materials consumption and regularly update the City's Zero Waste Action Plan.

U-4.9: Waste Education. Collaborate with Humboldt Waste Management Authority and City-designated franchise hauler to inform residents and businesses about methods to increase recycling and waste diversion, namely composting and organics diversion.

Goal AG-1: Preservation of agricultural and timber lands and aquaculture and fishing operations within and surrounding Eureka, enhanced forest ecosystems, reduced land use conflicts, and a sustained yield of forest, agricultural, and fisheries products.

Policy

AG-1.11: Wood Waste. Encourage and promote the productive use of wood waste generated in the Eureka area.

Energy

Goal U-5: Increased renewable energy provision and overall energy efficiency and conservation throughout the City.

Policies

U-5.1: Energy Conservation. Promote energy conservation, and development of alternative, nonpolluting, renewable energy sources for community power in both the public and private sectors.

U-5.2: Energy Conserving Land Use Practices. Implement energy conserving land use practices that include compact and mixed use development, provision of bikeways and pedestrian paths, and the incorporation and enhancement of transit routes and facilities.

U-5.3: Design Process. Engage with property owners and developers early in the design process to incorporate energy saving strategies into appropriate projects.

U-5.4: Building Orientations. Require, to the extent feasible, building orientations and landscape designs that promote the use of natural lighting, take advantage of passive summer cooling and winter solar access, and incorporate other techniques to reduce energy demands.

U-5.5: Renewable Energy. Encourage new development to install renewable energy systems and facilities (e.g., solar and wind energies) consistent with the City's greenhouse gas emission reduction goals.

U-5.6: Community Energy Efficiency. Identify and promote programs, funding opportunities, and rebates from utility providers to increase energy conservation in existing buildings and require new buildings to implement additional energy efficient measures that are consistent with the City's greenhouse gas emission reduction goals.

U-5.7: Community Aggregation. Encourage property owners and residents to participate in Community Choice Aggregation programs to allow lower electric rates and local control of energy sources.

U-5.8: City Energy Efficiency. Promote energy conservation for all City-owned facilities, vehicles, and equipment, and implement additional energy efficient measures that are consistent with the City's goal of reducing greenhouse gas emissions.

U-5.9: Green Buildings and Businesses. Explore providing incentives for development that generates renewable energy and uses sustainable and energy-efficient technologies that result in minimized carbon footprints.

U-5.10: Underground Utilities. Continue promoting the undergrounding of overhead utility lines whenever feasible, particularly in recreational facilities, the Core Area, and new residential development, working closely with electricity and telecommunication providers. Continue requiring the undergrounding of overhead utility lines in undergrounding districts established by the Council.

U-5.11: Energy Education and Outreach. Encourage a public understanding of the importance of renewable energy and energy efficiency through partnerships with energy-related organizations.

Telecommunications

Goal U-6: Safe, efficient, and accessible communication systems that help catalyze economic development, government services, and an informed citizenry.

Policies

U-6.1: Access. Coordinate with local internet, cellular, and other telecommunications service providers to ensure access to and availability of a wide range of high quality telecommunication systems and services, including internet redundancy within the City and County.

U-6.2: Service Equity. Work with local telecommunications service providers to retrofit areas currently lacking telecommunication technologies and pursue strategic long-range planning of facilities for new development.

U-6.3: New Development. Establish requirements for the installation of high quality telecommunications technologies in new planned office, commercial, industrial, and residential developments.

U-6.4: Co-location. Require co-location of telecommunication facilities in a manner that maximizes compatibility and minimizes visual impacts on surrounding uses.

Impacts and Mitigation Measures

Impact 3.13-1: Sufficient water supplies from existing entitlements and resources would be available to serve the Eureka 2040 General Plan, and new or expanded entitlements would not be needed.

While population growth during the General Plan Update planning period could result in insufficient water supplies, it is not anticipated that the amount of projected growth during the planning period would result in insufficient water supply. As indicated in the description of the existing setting, HBMWD has adequate supply to support development that is projected to occur during the planning period of the General Plan Update. The 2015 Urban Water Management Plan provides information regarding City connections for water supply and water purchased wholesale through the HBMWD. With the HBMWD presently maintaining facilities sufficient to provide 17.9 MG of water per day to domestic water customers, and the City of Eureka's average annual daily system demand at roughly 4.0 MGD, the HBMWD has indicated that there is sufficient

supply for currently forecasted development, including that which would be accommodated as part of the General Plan Update.

With approximately 1,886 additional dwelling units currently projected to be developed within the City during the General Plan Update planning period, and a total of up to 1.6 million square feet of nonresidential uses, it is expected that demand for water would continue to rise with the population and job growth projected. Therefore, it is expected that the need for additional treatment and distribution facilities would also increase. Maintenance and improvements to production, treatment, and transmission facilities would likely be required, but the scope and scale of such improvements are not known at this time. With 10,004 active connections, of which 8,779 are residential, an increase of 1,886 additional dwelling units during the span of the General Plan planning period would mean a maximum total of 10,665 residential connections, or an increase of approximately 21.5 percent in residential connections. In practice, that number would actually be substantially lower since much of the residential unit growth provided for in the proposed General Plan Update would be in multi-family residential structures, which typically do not provide meters for each individual residence. Nevertheless, this higher number of connections is used to provide for a worst case scenario. With an average daily demand of 2.75 MGD through 2013 to 2016, a 21.5 percent increase in connections could mean an increase in average daily demand of 0.59 MGD to approximately 3.34 MGD.

Since the City is largely a built-up urban environment, implementation of the 2040 General Plan would likely result in gradual physical changes over the 20-year period of the General Plan. It is also anticipated that these changes would be distributed broadly and incrementally across the City and would not comprise a substantial intensification or concentration of physical development. Over the span of the General Plan Update planning period, sufficient water supply from existing entitlements and resources is anticipated to continue, and if the construction of new water treatment facilities or expansion of existing facilities was to occur, such changes would likely be gradual, over the 20-year period of the General Plan, and would likely be distributed broadly and incrementally. Consequently, potential new development under the General Plan would not be expected to result in substantial changes to the utilities and service systems within the City and the surrounding area.

Moreover, the proposed 2040 General Plan includes goals and policies that are designed to protect utilities and service systems. Specific new goals and policies pertaining to water supply, and maintenance of efficient water systems include the proposed policies U-1.1 and U-1.2. Policy U-1.1 focuses on continuing to provide high quality water through a cost-effective distribution system, and Policy U-1.2 focuses on regular review and updating of the City’s Urban Water Management Plan, along with capital improvement plans. With these policies in place, the General Plan Update adequately addresses the needs of new development to provide sufficient water supplies to serve the area from existing entitlements and resources, or new expanded entitlements. Therefore, impacts relating to additional water supply entitlements or the construction of new treatment facilities would be **less than significant**.

Mitigation Measures

None required.

Impact 3.13-2: The Eureka 2040 General Plan would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

While the Plan Area is largely a built-up urban environment, implementation of the 2040 General Plan would result in gradual physical changes within the City over a 20-year period, including an increase of up to 1,886 dwelling units and a total of up to 1.6 million square feet of nonresidential uses. However, these changes would be distributed broadly and incrementally across the 16.4-square-mile City boundary and would not comprise a substantial intensification or concentration of physical development. Consequently, new development under the General Plan Update would not be expected to result in substantial changes to the utilities and service systems within the City.

As mentioned in the existing setting, with the HBMWD presently maintaining facilities sufficient to provide 17.9 MG of water per day to domestic water customers, and the City of Eureka's average annual daily system demand at roughly 4.0 MGD, the HBMWD has indicated that there is sufficient supply for currently forecasted development and the construction and expansion of new water supply facilities would not be required at this time. Over the course of the 20-year General Plan time frame, construction or expansion of water systems may become necessary. However, based on current demand, current capacity, as well as likely gradual, and distributed development across the City, impacts to water system facilities from construction or expansion activities under the proposed General Plan Update would be less than significant.

In addition, the WWTP was designed to treat an ADWF of 8.6 MGD and is currently reporting an ADWF of 3.6 MGD. Peak wet weather treatment capacity is designed at 12 MGD. With the ADWF below the designed amount, and reporting of peak dry and wet weather well below the designed and permitted limits, the City estimates there is remaining available capacity at the WWTP for approximately 2,160 Estimated Dwelling Units (EDUs), or new single-family wastewater connections within the City service area. Population growth projections for the entire area served by the WWTP indicated an increase of 633 EDUs for the 5-year planning period ending in 2014, and an increase of 1,298 EDUs for the 10-year planning period ending in 2019.[18] These estimates fall within the available capacity of the WWTP and the construction of new wastewater facilities would not be required at this time. However, during the 20-year planning period of the proposed 2040 General Plan update, construction or expansion of existing wastewater facilities may become necessary. With the addition of roughly 3,683 residents anticipated as part of the proposed 2040 General Plan buildout, any changes related to construction or expansion would likely be gradual, intermittent, and widespread across the City. Therefore, based on current use, capacity, as well as the likely gradual, and distributed way

[18] Humboldt Local Agency Formation Commission (LACFO), City of Eureka Municipal Service Review. January 15, 2014. p. 16.

development may occur across the City, any potential impacts from the proposed General Plan Update would be less than significant.

Moreover, the proposed 2040 General Plan includes policies that are designed to protect utilities and service systems, including proposed Policy E-5.7, which addresses the need for managing and monitoring the wastewater treatment capacity. Policy U-2.1, is another policy aiming to continue preserving and enhancing Eureka's infrastructure for the City's wastewater collection system, and treatment capacity. In addition, proposed Policy U-2.2 is a new policy outlining the need for the development and annual review of a Wastewater System Facilities Plan.

Consequently, the modest, gradual, and broadly distributed program of physical development that would occur under the proposed 2040 General Plan combined with policies designed to protect and enhance utility and service systems would ensure that impacts from the construction or expansion of utilities and service systems would be **less than significant**.

Mitigation Measures

None required.

Impact 3.13-3: The Eureka 2040 General Plan would not exceed wastewater treatment requirements of the Department of Water Resources or the North Coast Regional Water Quality Control Board.

The City of Eureka Stormwater Division represents the City on stormwater and NPDES stormwater permit issues before the RWQCB. The division also provides technical expertise and guidance to all City departments to ensure implementation and compliance with the NPDES permit which meets the required federal Clean Water Act mandates. The City currently holds an NPDES permit (NPDES No. CA0024449) for storing, treating, and discharging wastes from the Elk River WWTP. The current permit was issued in June 2016 and expires in July 2021. In addition, the City of Eureka has a SWMP, as required for the NPDES Phase II Permit. The SWMP describes certain BMPs that the City will implement in order to comply with the six MCMs. It is anticipated that over the planning period for the 2040 General Plan Update, the City of Eureka would continue to update their SWMP, and remain in compliance with the implementation of their NPDES permit. Therefore, the Eureka General Plan Update would meet wastewater treatment requirements of the applicable Regional Water Quality Control Board.

The WWTP serving the City was designed to treat an ADWF of 8.6 MGD and is currently reporting an ADWF of 3.6 MGD. Peak wet weather treatment capacity is permitted at 12 MGD. With the ADWF below the designed amount, and reporting of peak dry and wet weather flows well below the designed and permitted limits, the City estimated in 2014 that there was remaining available capacity at the WWTP for approximately 2,160 EDUs, or new single-family wastewater connections within the City service area as of 2014.[19] While the Plan Area is largely a built-up

[19] Humboldt Local Agency Formation Commission (LACFO), City of Eureka Municipal Service Review. January 15, 2014. p. 16.

urban environment, implementation of the 2040 General Plan would result in gradual physical changes within the Plan Area over a 20-year period, including an increase of up to 1,886 dwelling units and a total of up to 1.6 million square feet of nonresidential uses. However, these changes would be distributed broadly and incrementally across the 16.4-square-mile City boundary and would not comprise a substantial intensification or concentration of physical development. Therefore, based on current use, current capacity, as well as the likely gradual, and distributed way development may occur across the City, the Eureka General Plan Update would not exceed wastewater treatment requirements, and therefore any impacts would be less than significant.

Moreover, the proposed 2040 General Plan includes policies that are designed to protect utilities and service systems, including proposed Policy E-5.7, which addresses the need for managing and monitoring the wastewater treatment capacity. Policy U-2.1, is another policy aiming to continue preserving and enhancing Eureka's infrastructure for the City's wastewater collection system, and treatment capacity. In addition, proposed Policy U-2.2 is a new policy outlining the need for the development and annual review of a Wastewater System Facilities Plan.

Consequently, with the City of Eureka currently holding a NPDES permit and an adopted SWMP, with such conditions and requirements met and continuing into the future, if impacts were to occur from the General Plan Update they would likely be modest, gradual, and broadly distributed based on any physical development that would occur. In addition, combined with the proposed 2040 General Plan policies designed to protect and enhance utility and service systems, impacts to wastewater treatment facilities from the General Plan Update would be **less than significant**.

Mitigation Measures

None required.

Impact 3.13-4: The Eureka 2040 General Plan would not result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

As previously mentioned, the WWTP serving the City was designed and permitted to treat an ADWF of 8.6 MGD and is currently reporting an ADWF of 3.6 MGD. Peak wet weather design and permitted amount is 12 MGD. With the ADWF below the designed amount, and reporting of peak dry and wet weather well below the designed and permitted limits, the City estimated in 2014 that there was remaining available capacity at the WWTP for approximately 2,160 EDUs, or new single-family wastewater connections within the City service area until roughly 2019. While the Plan Area is largely a built-up urban environment, implementation of the 2040 General Plan would result in gradual physical changes within the Plan Area over a 20-year period, including an increase of up to 1,886 dwelling units and a total of up to 1.6 million square feet of nonresidential uses. However unlikely, during the 20-year planning period of the proposed 2040 General Plan update, construction or expansion of existing wastewater facilities may become necessary. With

the addition of roughly 3,683 residents anticipated as part of the proposed 2040 General Plan buildout, any changes related to construction or expansion would likely be gradual, intermittent, and widespread across the City. Therefore, based on current use, current capacity, as well as the likely gradual and distributed way development may occur across the City, the Eureka General Plan Update would not exceed wastewater treatment capacity by the wastewater service provider, and therefore any impacts would be less than significant.

Moreover, the proposed 2040 General Plan includes policies that are designed to protect utilities and service systems, including proposed Policy E-5.7, which addresses the need for managing and monitoring the wastewater treatment capacity. Policy U-2.1, is another policy aiming to continue preserving and enhancing Eureka's infrastructure for the City's wastewater collection system, and treatment capacity. In addition, proposed Policy U-2.2 is a new policy outlining the need for the development of Wastewater System Facilities Plans and annual reviews of such plans.

Consequently, with the City of Eureka currently holding a NPDES permit, and an adopted SWMP, with such conditions and requirements met and continuing into the future, if impacts were to occur from the General Plan Update they would likely be modest, gradual, and broadly distributed based on any physical development that would occur. In addition, combined with the proposed 2040 General Plan policies designed to protect and enhance utility and service systems, impacts to wastewater treatment facilities from the General Plan Update would be **less than significant**.

Mitigation Measures

None required.

Impact 3.13-5: The Eureka 2040 General Plan would not result in the construction of new stormwater drainage facilities or expansion of existing facilities that could exceed the capacity of existing or planned stormwater drainage systems.

According to the 2016 Eureka Capital Improvement Program, stormwater infrastructure in Eureka is outdated and deteriorating,[20] and much of the City's existing storm drainage network is old and undersized. The existing stormwater management for the City is generally maintained by the City Public Works Department. While stormwater systems within the Plan Area have been deemed to be in need of refurbishment, the development from, and the implementation of, the 2040 General Plan would not necessarily require the construction of new stormwater drainage facilities, particularly if most of that development is infill in nature in areas where existing stormwater infrastructure is already present.

The City's stormwater drainage system consists of gutter flow, cross street culverts, a small number of valley gutters, storm drain inlets and piping, and open channels. Stormwater flows by gravity and is discharged at numerous points into Humboldt Bay, sloughs, and drainages in and

[20] City of Eureka. 2016. Capital Improvement Program 2016. Streets and Storm Drains. March 2016. p. 4-1.

around the City. Much of the City's existing storm drainage network is older and undersized. However, while stormwater systems within the Plan Area have been deemed to be in need of upgrades, implementation of the 2040 General Plan would not necessarily be the reason for the required increased capacity of stormwater drainage facilities; rather general wear and tear on the system and typical maintenance requirements would be the reason for any upgrades.

Implementation of the General Plan Update and its associated growth would likely mean gradual physical changes within the Plan Area during this time, including an increase of up to 1,886 dwelling units and a total of up to 1.6 million square feet of nonresidential uses. However, these changes would be distributed broadly and incrementally across the 16.4-square-mile City boundary and would not comprise a substantial intensification or concentration of physical development. In addition, any new development would be required to comply with a CGP which requires the development of a SWPPP by a certified Qualified SWPPP Developer. As mentioned, the City currently holds an NPDES permit (NPDES No. CA0024449), and the SWMP for the City of Eureka has been developed to comply with the Federal Storm Water Phase II Final Rule (Phase II Rule). The current permit was issued in June 2016 and expires in July 2021.

Moreover, the proposed 2040 General Plan includes policies that are designed to protect utilities and service systems, including Goal U-3 which targets the creation of a comprehensive stormwater collection and conveyance system that reduces or prevents flooding, and protects public safety and the environment. The inclusion of proposed new Policy U-3.1 also addresses the need for providing adequate infrastructure for the City's storm water drainage system, while new Policy U-3.2 looks to provide regular review and update of the Storm Drain Master Plan to ensure adequate capacity, infrastructure, treatment, maintenance, and, as available, funding.

Consequently, the development of future land uses to accommodate growth during the General Plan Update planning period could exceed the capacity of storm drainage facilities and result in the need for the construction of new storm water drainage facilities or expansion of existing facilities. However, coupled with the modest, gradual, and broadly distributed program of physical development, as well as the proposed policies described above, which are designed to protect and lessen potential impacts from storm drainage facility construction, any new development would be required to mitigate impacts and be timed to match the capacity of storm drainage facilities. Therefore, General Plan Update impacts relating to the exceedance of storm drainage facility capacity or the construction of new or the expansion of existing storm water drainage facilities would be **less than significant**.

Mitigation Measures

None required.

Impact 3.13-6: The Eureka 2040 General Plan would be served by a landfill with sufficient permitted capacity to accommodate solid waste disposal needs.

As described in the environmental setting above, as of July 2017, all residual solid waste that cannot be recycled or composted is exported out of state to the Dry Creek Landfill in White City, Oregon, and based on reported data for 2016, the total adjusted disposal amount for the City of Eureka was 31,056.7 tons of waste for a population of 26,881. The Dry Creek Landfill currently accepts over 900 tons of solid waste a day from five different counties, and has an operational life expected to exceed 100 years under likely intake scenarios, and the facility holds a Title V Operating Permit though the Oregon Department of Environmental Quality (Oregon DEQ).[21]

According to the EPA, the average American produces 4.6 pounds of solid waste per day. Based on this average rate, population growth associated with the proposed General Plan Update would result in an additional 3,683 residents, which equates to approximately 3,091 tons per year of solid waste, with industrial and commercial land uses producing additional amounts of solid waste per year of the 20-year span of the General Plan. This additional amount of estimated solid waste would represent an estimated 9 percent increase in disposal amount over the time span and would likely be of minimal burden on the permitted capacity of the landfill.

In addition, the proposed 2040 General Plan includes policies that are designed to protect utilities and service systems, including proposed Policy U-4.3 which focuses on increasing waste diversion rates, as well as Policy U-4.5 which looks to meet State Mandated Diversion Goals through partnerships with HWMA and City-designed franchise haulers to further plan for and document compliance with State-mandated source reduction, diversion, and recycling requirements.

Therefore, based on the current shipment of solid waste to the Dry Creek landfill facility, and the expected capacity of the permitted facility for the next 100 years, the modest, gradual, and broadly distributed program of physical development that would occur under the proposed 2040 General Plan combined with policies designed to protect and enhance utility and service systems would ensure that the permitted capacity of the facility would be sufficient and impacts would be **less than significant.**

Mitigation Measures

None required.

Impact 3.13-7: The Eureka 2040 General Plan would comply with federal, state, and local statutes and regulations related to solid waste.

In working to comply with AB 939, the City of Eureka is monitored by the State of California, CalRecycle program, through annual reports submitted by jurisdictions. To achieve compliance,

[21] Rogue Disposal and Recycling, 2018. Dry Creek Landfill: About the Facility. https://roguedisposal.com/about-the-landfill/. Accessed February 5, 2018.

Eureka must meet or exceed their target per capita disposal rates of 6.5 PPD per resident. In 2014, the City had implemented 40 waste diversion programs and the annual PPD was 5.1 per resident. By 2016, the City had implemented 42 waste diversion programs and achieved an annual PPD of 6.3 per resident, continuing to move towards the target set by the State. In addition, the City of Eureka has implemented a commercial solid waste recycling program consisting of education, outreach and monitoring with reporting completed through CalRecycle. In addition, with the Dry Creek Landfill facility located in White City, Oregon and holding a Title V Operating Permit though the Oregon DEQ, the landfill facility meets all requirements of Title 40 of the CFR for municipal solid waste landfills.

Moreover, the proposed 2040 General Plan includes policies that are designed to protect utilities and service systems, including proposed modified Policy U-4.3 which focuses on increasing waste diversion rates, as well as new Policy U-4.5 which looks to meet State Mandated Diversion Goals through partnerships with HWMA and City-designated franchise haulers to further plan for and document compliance with State-mandated source reduction, diversion, and recycling requirements.

Therefore, based on the current shipment of solid waste to the Dry Creek landfill facility, and the continued implementation of diversion programs, the modest, gradual, and broadly distributed program of physical development that would occur under the proposed 2040 General Plan combined with policies designed to protect and enhance utility and service systems would ensure that the Eureka General Plan Update would comply with federal, state, and local statutes and regulations for solid waste, and impacts would be **less than significant**.

Mitigation Measures

None required.

Impact 3.13-8: The Eureka 2040 General Plan would not result in the wasteful, inefficient, or unnecessary consumption of energy by residential, commercial, industrial, or public uses associated with increased demand due to anticipated development in the City.

As mentioned, the City of Eureka is geographically isolated with a limited connection to the larger state energy grid. The City has one connection to the larger natural gas grid and two major connections (115 kV) to the larger electric grid. Energy storage is not expected to play a significant role in the near- or even intermediate-term due to the load-following capabilities of the PG&E HBGS and the 70 MW per day of available transmission capacity connecting Humboldt County to the statewide electric grid. The statewide average energy consumption per household based on the Energy Information Administration's (EIA) 2009 Residential Energy Consumption Survey (excluding transportation) for the State of California is just over 60 million btu per year, and specifically for electricity, about 7,000 kwh per household, per year, and the average household size is approximately 1,583 square feet.[22]

[22] Energy Information Administration, 2013. Household Energy Use in California. https://www.eia.gov/consumption/residential/reports/2009/state_briefs/pdf/CA.pdf. Accessed February 5, 2018.

While the Plan Area is largely a built-up urban environment, implementation of the 2040 General Plan would result in gradual physical changes within the Plan Area over a 20-year period, the 2040 General Plan proposes the remaining buildout potential of 1,886 residential dwelling units and up to 1.6 million square feet of non-residential uses. During the 20-year planning period of the proposed 2040 General Plan update, increased energy demand would result. The development of new land uses under the 2040 General Plan, such as residential, commercial, office, and industrial uses, will also contribute to the need for additional energy supplies (i.e., natural gas, electricity, and transportation fuels) and utility infrastructure. Future development associated with the 2040 General Plan Update would primarily occur in, adjacent to, or in the vicinity of existing developed urban areas. These land use patterns allow for the logical extension and utilization of existing utilities, and public services, and other amenities such as proximity to employment centers, and commercial uses.

As part of the proposed 2040 General Plan buildout, any changes related to energy demand would likely be gradual, intermittent, and widespread across the City. Increased annual demand for natural gas (in cubic feet), and electricity (in kWh) energy was estimated for the 2040 General Plan and is presented below in **Table 3.13-1**. Based on the additional number of dwelling units, and the energy intensity factors for average electrical use in the State of California, household electrical use for the additional dwelling units as part of the proposed 2040 General Plan would be about 6,600 kwh per household which is below the reported annual household average for the state of California. Over a 20-year planning span for the General Plan, the additional energy use from residential electricity demand is not anticipated to be wasteful or unnecessary consumption.

TABLE 3.13-1
EUREKA 2040 GENERAL PLAN INCREASED ANNUAL ENERGY DEMAND

Sector	Total
Natural Gas (cubic feet)	134,151,709
Electricity (kWh)	32,257,383

In the most recent 1997 General Plan, policies for energy use had not specifically been included. With implementation of the 2040 Eureka General Plan Update, new polices have been provided that address the provision of renewable, and efficient energy systems. Examples of these policies include new proposed Policies U-5.1 through U-5.9. The focus of these policies is to promote energy conservation, energy conserving land uses, incorporating energy efficient practices into the design process for both private and public buildings, and encouraging the development of renewable energy systems.

Therefore, the modest, gradual, and broadly distributed program of physical development on energy systems that would occur under the proposed 2040 General Plan, combined with policies designed to protect and enhance utility and service systems would assist in minimization of energy consumption associated with urban development. With implementation of the proposed General Plan Update and associated policies, impacts from wasteful, inefficient, or unnecessary

consumption of energy by residential, commercial, industrial, or public uses associated with increased demand is considered **less than significant**.

Mitigation Measures

None required.

Cumulative Impacts

The geographic context for the analysis of cumulative utility and service system impacts varies by threshold. The cumulative context for each threshold is presented in the impact discussions below.

Impact 3.13-9: Implementation of the proposed Eureka 2040 General Plan, in combination with other cumulative development, would not result in a cumulative impact on utilities and service systems.

The geographic context for the analysis of cumulative utility and service system impacts is cumulative development in the City of Eureka (the Plan Area) and the larger Study Area, as shown on Figure 2-2 in Chapter 2, *Project Description*. The Study Area encompasses the area within the City limits (the Plan Area), as well as the larger Sphere of Influence (SOI), the SOI expansion area south of Myrtletown, and peripheral areas that could be influenced by the City's planning activities. As described above, the City of Eureka encompasses approximately 16.4 square miles within its boundary, and the City's SOI includes an additional 19.5 square miles in the areas south and east of the City limits. While the City is considered to be largely built out, there is potential for additional development within the SOI in unincorporated Humboldt County lands east and south of the City limits. If the new development is not designed to be compatible with existing water, wastewater, stormwater, solid waste, energy, and telecommunications systems, adverse effects to City utility and service systems could occur. Because there is a potential for future cumulative development outside of the City limits to adversely affect utility and service systems within the Study Area, this cumulative impact is considered potentially significant.

As discussed above, new physical development that would occur under the proposed 2040 General Plan would be required to comply with applicable plans, policies, and guidelines that are designed to protect utilities and service systems from potential negative impacts. Consequently, the contribution of the proposed 2040 General Plan to a cumulative impact would be **less than considerable**, and this impact would be **less than significant**.

Mitigation Measure

None required.

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CHAPTER 4
Alternatives

Pursuant to the provisions of CEQA, this chapter describes and evaluates alternatives to the proposed 2040 General Plan Update (the proposed project), including a "No Project" alternative, and identifies an "environmentally superior" alternative. The primary purpose of this section is to provide decision-makers and the public with a qualitative review of project alternatives that eliminate or substantially reduce any of a project's adverse environmental impacts while, at the same time, attaining most of the project objectives.

4.1 CEQA Requirements

CEQA requires that an EIR describe and evaluate a range of reasonable alternatives to the proposed project, and evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6(a), (d)). The "range of alternatives" is governed by the "rule of reason," which requires the EIR to set forth only those alternatives necessary to foster informed decision-making and public participation (Section 15126.6(a), (f)).

The range of alternatives shall include alternatives that would feasibly attain most of the basic objectives of the project and would avoid or substantially lessen any of the significant effects of the project (CEQA Guidelines Section 15126.6(a)-(c)). CEQA generally defines "feasible" to mean an alternative that is capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, technological, and legal factors. In addition, the following may be taken into consideration when assessing the feasibility of alternatives: site suitability; economic viability; availability of infrastructure; other plans or regulatory limitations; and jurisdictional boundaries (Section 15126.6(f)(1)). If the lead agency concludes that no feasible alternative exists, it must disclose the reasons for this conclusion, and should include the reasons in the EIR (Section 15126.6(f)(2)(B)).

The description or evaluation of alternatives does not need to be exhaustive, and an EIR need not consider alternatives for which the effects cannot be reasonably determined and for which implementation is remote or speculative. An EIR need not describe or evaluate the environmental effects of alternatives in the same level of detail as the proposed project, but must include enough information to allow meaningful evaluation, analysis, and comparison with the proposed project (CEQA Guidelines Section 15126.6(d)).

The "no project" alternative must be evaluated. This analysis shall discuss the existing conditions, as well as what could be reasonably expected to occur in the foreseeable future if the project were

not approved, based on current plans and consistent with available infrastructure and community services (CEQA Guidelines Section 15126.6(e)(2)).

CEQA also requires that an environmentally superior alternative be selected from among the alternatives. The environmentally superior alternative is the alternative with the fewest or least severe adverse environmental impacts. When the "no project" alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)).

4.2 Factors in the Selection of Alternatives

The nature and scope of the range of alternatives to be discussed is governed by the "rule of reason." The CEQA Guidelines recommend that an EIR briefly describe the rationale for selecting the alternatives to be discussed (Section 15126.6[c]). This alternatives analysis considers the following factors:

- The extent to which the alternative would accomplish most of the basic objectives of the proposed project;
- The extent to which the alternative would avoid or lessen the identified significant, or less-than-significant with mitigation, environmental effects of the proposed project;
- The feasibility of the alternative, taking into account availability of infrastructure and consistency with other applicable plans and regulatory limitations;
- The extent to which an alternative contributes to a "reasonable range" of alternatives necessary to permit a reasoned choice; and
- The requirement of the CEQA Guidelines to consider a "No-Project" alternative, and to identify an "environmentally superior" alternative in addition to the no-project alternative (Section 15126.6[e]).

4.2.1 Project Objectives

As stated above, the selection of alternatives shall consider the basic objectives of the proposed project. As previously presented in Chapter 2, *Project Description*, the project objectives are to:

- Provide a comprehensive update to the City's General Plan to more effectively address the issues facing Eureka and to reflect the current values and vision of the community (see the Preface of the General Plan for the General Plan Vision);
- Enhance Eureka's quality of life and enrich its sense of community;
- Support well planned infill projects that build upon Eureka's historic development patterns and that utilize development intensities and building heights that are in closer alignment with the City's pre-1950s history;
- Meet the housing needs of existing and future residents through a variety of housing types and designs including infill development, higher density products, and mixed use;
- Preserve and enhance existing neighborhoods;

- Promote a vital Core Area with a mix of uses that include retail, office, residential, entertainment, and cultural uses that attract local residents, regional visitors, and tourists;
- Provide additional opportunities for industry and employment to strengthen and diversify the economic base of the City;
- Foster a diverse and resilient local economy friendly to new business investment and the creation and retention of quality jobs;
- Minimize development regulations, such as parking requirements and other development standards, that unnecessarily complicate development processes.
- Improve mobility and safety for pedestrians, bicyclists, and vehicles; and
- Accommodate growth that protects important environmental resources, as well as ensures long term economic sustainability, and equity and social well-being for the entire community.

4.2.2 Elimination and/or Reduction of Significant Impacts

CEQA Guidelines Section 15126.6(b) states "Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."

Potentially significant environmental impacts that would result from the proposed project are evaluated in Chapter 3, *Environmental Analysis*, of this EIR. With implementation of the project design features, standard conditions and requirements, General Plan policies, and mitigation measures identified for each resource area significantly impacted, many of the potentially significant impacts resulting from the proposed project would be reduced to a less than significant level. The proposed project impacts listed below would remain significant and unavoidable even after mitigation, and the alternatives evaluated in this EIR have been selected because they are anticipated to reduce and/or eliminate one or more of the significant impacts associated with the proposed project.

Impact 3.3-2: Implementation of the Eureka 2040 General Plan would contribute to an existing or projected air quality violation during operations for PM10 emissions.

Impact 3.3-3: Implementation of the Eureka 2040 General Plan would result in a cumulatively considerable net increase of PM10 emissions for which the project region is in non-attainment.

Impact 3.5-1: Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

Impact 3.5-2: Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code

Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.

Impact 3.5-3: Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

Impact 3.5-4: Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.

Impact 3.12-1: Implementation of the Eureka 2040 General Plan Update would create an adverse effect with respect to vehicle miles traveled (VMT).

4.2.3 Alternatives Considered but Rejected from Further Evaluation

CEQA Guidelines Section 15126.6(c) requires an EIR to identify and briefly discuss any alternatives that were considered by the lead agency and rejected from further evaluation. In identifying alternatives to the proposed project, primary consideration was given to alternatives that would reduce impacts while still meeting most of the basic project objectives as well as the City's planning goals and objectives, such as those articulated in the Eureka General Plan. The alternative scenarios that the City considered but rejected are discussed briefly below, along with the specific reasons they were not evaluated further in this document.

Alternative Location

CEQA Guidelines Section 15126.6(f)(2) recommends considering an alternative location to reduce potential impacts of a project. However, the goals and policies of the proposed project are specific to the geographic context of the City's 2040 Planning Area. Buildout consistent with the goals and policies of the proposed project at another location is not feasible for a general plan that applies to all properties within the City limits and its associated Study Area. Thus, this EIR does not evaluate an Alternative Location Alternative.

Higher Density/More Housing Units

Many EIRs consider an alternative that considers greater levels of development intensity than a proposed project. This is usually done to consider the effects of a worst-case scenario. For the 2040 General Plan Update, however, there would be little value to be gained in such an exercise, since the proposed 2040 General Plan actually provides for a higher level of growth than has been occurring in recent decades, so the General Plan itself represents a worst case scenario, and provides for a level of development that is unlikely to be surpassed, given historical trends and future projections. In addition, alternatives are generally selected to determine if they could lessen or eliminate the significant impacts that have been identified for a proposed project. Since a higher intensity of development would only increase the level of identified impacts, evaluating

such a scenario would serve no purpose with respect to potentially lessening effects. For these reasons, this EIR does not evaluate a Higher Density/More Housing Units alternative.

Expanded City Limits

During the development of the General Plan, the City considered the possibility of annexing selected unincorporated areas around the City for inclusion into the City of Eureka. These areas included the Samoa Peninsula, Myrtletown, Fields Landing, Cutten, and several other areas. After assessing the fiscal impacts and the feasibility of extending City infrastructure and services into these areas, it was determined that annexation was not practicable for those areas at this time. Therefore, this EIR did not evaluate annexations into the City, and such a scenario is not offered as an alternative.

No Development

The No Development Alternative would prohibit additional future development within the City, and would hold all aspects of City development to that which was present when preparation of the EIR began. By stopping all future development, this alternative would lessen or eliminate some of the significant impacts identified in the EIR for the proposed project. However, while a No Development Alternative may be an option for an individual development project, eliminating all future development in the City would not be a realistic or feasible General Plan alternative. Therefore, the No Development Alternative is not considered further.

4.3 Description of Alternatives Selected for Analysis

The alternatives selected for analysis are designed to inform the public discussion and the final decisions by the Eureka City Council on the proposed 2040 General Plan Update. Specifically, the range of alternatives is designed to inform decision makers about:

- Potential modifications to the proposed project that might minimize or avoid environmental impacts.
- The relative change in environmental impact (increase or decrease) that might be expected by potential modifications to the proposed project.
- The impact on the City's ability to achieve the project objectives with the potential modifications to the project.

Based on these considerations, the City has identified the following range of reasonable alternatives to be addressed in this EIR.

- **Alternative 1**: No Project Alternative
- **Alternative 2:** Historic Growth Rate Alternative

4.3.1 Alternative 1: No Project Alternative

Section 15126.6(e) of the CEQA Guidelines requires that an EIR evaluate and analyze the environmental impacts of the "No Project" Alternative. Under this alternative current development patterns are assumed to occur in accordance with the adopted 1997 General Plan and all current land use regulations would remain in place.

The currently adopted General Plan allows for a full range of urban uses within the City (see Table 2-1 and Figure 2-3 in Chapter 2 of this EIR, *Project Description*). Under this alternative, the designated land uses in the City would remain unchanged, the management and location of the various uses in the City would carry on as they have been, and the City's currently adopted development intensities and densities would remain in place.

This alternative would realize few of the project objectives outlined previously in Section 4.2.1. For example, continuing with the existing 1997 General Plan would not allow the City to effectively address many of the issues currently facing Eureka, nor would it provide expanded opportunities for effective infill development of vacant or underutilized parcels. The No Project Alternative would also not provide additional opportunities for industry and employment to strengthen and diversify the economic base of the City.

4.3.2 Alternative 2: Historic Growth Rate Alternative

This alternative considers the environmental impacts of adopting the 2040 General Plan Update but projects for and allows development within the context of the same growth rate experienced in the City over the last 20 to 30 years. The proposed 2040 General Plan Update provides for a higher level of growth than has historically occurred during the last 30 years, and this alternative considers what growth in the City could look like if historical population trends continue in the same manner as they have since 1990 instead of increasing as envisioned in the 2040 General Plan project analysis.

According to the U.S. Census Bureau, the City of Eureka had 27,025 residents in 1990. The resident population declined to 26,128 residents by the year 2000. This represented a loss of nearly 900 residents, or 3.3 percent. From 2000 to 2010, the City regained the population lost during the prior period. During this time, the City grew at a rate of 0.4 percent per year, and added more than 1,000 new residents. This growth resulted in a total population of 27,191 in 2010. As of 2017, the California Department of Finance (DoF) estimated that the population of the City was 27,102, and the annual growth rate from the previous year (2016) was 0.9 percent.[1]

As the above population figures indicate, population growth in the City has been largely flat since 1990. While the population has modestly ebbed and flowed over the decades, the population has generally hovered around 27,000. The City's populations in 1990 and 2017, for example, are nearly identical (27,025 in 1990 and 27,102 in 2017). The rate of population growth in the larger Humboldt County area during the same period of time has been greater, with growth rates of

[1] California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State — January 1, 2016 and 2017. http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/. Accessed March 27, 2018.

6.2 percent between 1990 and 2000, and 6.4 percent between 2000 and 2010. However, the rate of growth in the County has been trending downwards since 2010, with a total growth of only 1.5 percent between 2010 and 2017. The DoF has projected a downward trend in population in the County as part of its long term projections through 2060,[2] and the County's recently-adopted General Plan estimates that peak population in the County will be reached in 2028, with gradual population declines thereafter.[3]

In comparison, the City's proposed 2040 General Plan Update envisions and provides for a sustained level of growth that could add up to 1,886 new residential units to the City during the planning period, with a resultant growth in population of 3,683 persons. This would provide for a total City population of 30,784 in 2040, which is 2,647 more than the City's peak population of 28,137, which occurred in 1960. The extent to which this additional growth is realized will be largely dependent upon economic factors, particularly expanded employment opportunities in the City and in the surrounding area that could attract new residents to the City. While the proposed 2040 General Plan Update would not directly cause this projected growth, it would accommodate such growth if it did, in fact, occur.

An alternative that assumes a flat level of population growth following adoption of the 2040 General Plan would provide for a useful comparison of effects between the growth allowed by the 2040 General Plan Update and the level of growth (or lack of growth) that has occurred historically. It would also provide an opportunity to consider the relative change in environmental impacts (increases or decreases) that might be expected if growth in the City remains unchanged.

This alternative would be able to achieve more of the objectives for the project than the No Project Alternative because it would still allow for many of the same infill and diversification opportunities as the proposed 2040 General Plan Update, but at a lessor intensity. This lessor intensity would be a result of fewer people and employers driving potential change in the City. As such, some of the project objectives would not be realized, or at least not to the same extent. As shown in **Table 4-2** at the end of this chapter, the Historic Growth Rate Alternative would be marginally better than the No Project Alternative in meeting the project objectives, but not as good as the proposed 2040 General Plan Update project.

4.4 Comparative Analysis of the Alternatives

This section presents a discussion of the comparative environmental effects of each alternative compared to the effects of the proposed project. As permitted by CEQA, the significant effects of the alternatives are discussed in this EIR in less detail than are the effects of the proposed project (CEQA Guidelines Section 15126.6[d]). All impacts are described after implementation of any applicable mitigation measures and/or General Plan policies identified in Chapter 3.

2 California Department of Finance. P-1: State Population Projections (2010-2060): Total Population by County (1-year increments). http://www.dof.ca.gov/Forecasting/Demographics/projections/. Accessed March 27, 2018.

3 Humboldt County. 2017. Humboldt County General Plan Update Revised Draft Environmental Impact Report.

4.4.1 Comparison of Impacts Identified for the Proposed Project and Alternatives

Alternative 1: No Project Alternative

This alternative would keep the currently adopted 1997 General Plan in place, and the management and distribution of the various uses in the City would carry on as they have been. Development within the City would still occur, but it would occur under the land use designations and goals and policies of the existing 1997 General Plan rather than the updated designations and policies of the 2040 General Plan. The following discussion summarizes a comparison between the potential effects of the No Project Alternative and the proposed 2040 General Plan Update. In this analysis and comparison, it is important to recognize that implementing a No Project Alternative (i.e., doing nothing) does not necessarily eliminate all of a proposed project's effects, be those effects positive or negative. For example, doing nothing could exacerbate a problem that a proposed project is attempting to address, thus creating or exacerbating an adverse effect that arises because nothing was done to address it. In such a situation, the benefits of taking an action would not be realized. As such, doing nothing can result in a range of negative, neutral, or positive effects. Accordingly, the discussion below presents information on all of the likely effects of implementing the No Project Alternative rather than the proposed 2040 General Plan Update.

Aesthetics

The No Project Alternative would result in adverse impacts to aesthetics, compared to the less-than-significant impact (no mitigation required) identified with the proposed project. The No Project Alternative would result in less opportunities for infill development or repurposing of vacant and/or underutilized parcels in the City, thereby creating or exacerbating urban blight conditions in portions of the City. Under the No Project Alternative, these parcels would be more likely to remain undeveloped and blighted, which would have negative consequences for the visual character of the City. Under the 2040 General Plan Update, many vacant or underutilized parcels, particularly in the City's Core Area, would be available for enhanced repurposing, which would improve the visual appearance of those areas by constructing new projects in alignment with the design and architectural standards of the City. Under the No Project Alternative, these beneficial effects would be less likely to be realized, and the No Project Alternative would thus result in a significant impact with respect to aesthetics.

Agricultural and Timber Resources

The No Project Alternative would result in no impacts to agricultural and timber resources, compared to the less-than-significant impact identified with the proposed project. The No Project Alternative would keep existing agricultural and timberland land uses in place, and would neither expand nor increase opportunities for agricultural or timber production. There would therefore be no effect on those resources.

Air Quality and Greenhouse Gas Emissions

The No Project Alternative would result in similar impacts to air quality and greenhouse gas emissions, much like the significant and unavoidable impacts identified with the proposed project. As identified in Section 3.3 of this EIR, *Air Quality and Greenhouse Gas Emissions* implementation of the 2040 General Plan Update would result in the following significant and unavoidable impacts to air quality and greenhouse gas emissions:

> **Impact 3.3-2:** Implementation of the Eureka 2040 General Plan would contribute to an existing or projected air quality violation during operations for PM10 emissions.
>
> **Impact 3.3-3:** Implementation of the Eureka 2040 General Plan would result in a cumulatively considerable net increase of PM10 emissions for which the project region is in non-attainment.

The region is already in violation for PM10 emissions. Under the No Project Alternative, all land uses in the City would continue as they are currently, and the current intensity of development would also continue, so it thus follows that the City's contribution to the ongoing PM10 violations would also continue, though they might not necessarily worsen. Similarly, under the No Project Alternative, land development or construction activity would not be increased over that which is currently occurring, so there would be no substantial change in greenhouse gas emissions. However, under the proposed 2040 General Plan Update, increased densification and infill development would be encouraged, which would likely result in a slight reduction in per-capita vehicle miles traveled (VMT), which would result in reductions in per-capita air quality and greenhouse gas emissions. Implementation and development under the 2040 General Plan Update would provide an overall beneficial effect in that it would reduce the average VMT and associated emissions of the City's residents. This benefit would not be realized under the No Project Alternative. Therefore, while both the No Project Alternative and the 2040 General Plan Update would both result in significant and unavoidable impacts to air quality and greenhouse gas emissions, the impact would be more severe under the No Project Alternative.

Biological Resources

The No Project Alternative would result in similar impacts to biological resources, compared to the less-than-significant impacts identified with the proposed project. Under the No Project Alternative, development would still occur within the City, but it would occur under the auspices of the existing 1997 General Plan. Even so, many of the same effects to biological resources that are typically associated with development would still occur. These effects could include impacts to special status species, sensitive habitats, wetlands, and other protected resources. However, and similar to the impacts associated with the proposed 2040 General Plan Update, these impacts would be regulated and managed under the same laws and regulations. The avoidance, minimization, and mitigation requirements associated with any identified impacts would be identical under either scenario, so the associated impacts would be largely identical as well. Therefore, there would be no appreciable change in impacts to biological resources, and the impact would remain less than significant under the No Project Alternative.

Cultural Resources

The No Project Alternative would result in similar impacts to cultural resources, compared to the significant and unavoidable impacts identified with the proposed project. As identified in Section 3.5 of this EIR, *Cultural and Historic Resources*, implementation of the 2040 General Plan Update would result in the following significant and unavoidable impacts to cultural resources:

> **Impact 3.5-1:** Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
>
> **Impact 3.5-2:** Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.
>
> **Impact 3.5-3:** Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
>
> **Impact 3.5-4:** Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.

Under the No Project Alternative, development would still occur within the City, but it would occur under the auspices of the existing 1997 General Plan. Even so, many of the same effects to cultural resources that are typically associated with development would still occur. These effects could include impacts to historic structures, archaeological resources, and tribal cultural resources. However, and similar to the impacts associated with the proposed 2040 General Plan Update, these impacts would be regulated and managed under the same laws and regulations. The avoidance, minimization, and mitigation requirements associated with any identified impacts would be identical under either scenario, so the associated impacts would be largely identical as well. Therefore, there would be no appreciable change in impacts to cultural resources, and the impact would remain significant and unavoidable under the No Project Alternative.

Geology, Soils, Mineral Resources, and Paleontological Resources

The No Project Alternative would result in similar impacts to geology, soils, minerals, and paleontological resources, compared to the less-than-significant impacts identified with the proposed project. As noted in Section 3.6, *Geology, Soils, Mineral Resources, and Paleontological Resources*, of this EIR, development in the City under the proposed 2040 General Plan Update could be affected by seismically induced ground shaking, spreading, subsidence, liquefaction or collapse. Impacts could also result from soil erosion, and impacts to paleontological resources could also occur. These impacts, however, would be mitigated through compliance with existing regulations, building codes, and policies contained within the 2040

General Plan Update. These same requirements would also apply under the No Project Alternative, in that construction of new buildings and other structures would also be required to comply with these same regulations and building codes, as well as with existing policies within the City's 1997 General Plan. On balance, the impacts of the No Project Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Hazards and Hazardous Materials

The No Project Alternative would result in similar impacts related to hazards and hazardous materials, compared to the less-than-significant impacts identified with the proposed project. As noted in Section 3.7, *Hazards and Hazardous Materials*, of this EIR, development in the City under the proposed 2040 General Plan Update could be affected by existing hazardous materials in buildings and soils in various areas of the City, and through the routine use and transport of hazardous materials in and through the City. These impacts, however, would be mitigated through compliance with existing regulations, as well as policies contained within the 2040 General Plan Update. These same requirements would also apply under the No Project Alternative, in that development within the City would also be required to comply with the same regulations, as well as with existing policies within the City's 1997 General Plan. Other impacts associated with hazards and hazardous materials (airport operations and wildfire risk) would also be unchanged, and would occur regardless of the alternative selected. On balance, the impacts of the No Project Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Hydrology and Water Quality

The No Project Alternative would result in similar impacts to hydrology and water quality, compared to the less-than-significant (with mitigation) impacts identified with the proposed project. As noted in Section 3.8, *Hydrology and Water Quality*, of this EIR, development activities envisioned under the 2040 General Plan Update could result in impacts to hydrology and water resources. These impacts, however, would be effectively minimized and avoided through compliance with existing agency regulations and policies within the 2040 General Plan Update. These same requirements would also apply under the No Project Alternative, in that development within the City would also be required to comply with these same regulations, as well as with existing policies within the City's 1997 General Plan. With respect to groundwater use, the No Project Alternative would presumably result in less development and therefore less demand on water resources than the level of development provided for in the 2040 General Plan Update. However, the EIR found that the effects of the General Plan Update on groundwater would be less than significant. The same would be true for the No Project Alternative. On balance, the impacts of the No Project Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Land Use, Housing, and Population

The No Project Alternative would result in similar land use and planning impacts, compared to the less-than-significant impacts identified with the proposed project. Under the proposed 2040 General Plan Update, impacts to land use, housing, and population were found to be less than significant. Under the No Project Alternative, land use within the City would be governed by the

land use designations and policies of the existing 1997 General Plan, and the impacts associated with continuing with that plan would also be less than significant. Therefore, the impacts of the No Project Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Noise and Vibration

The No Project Alternative would result in similar noise and vibration impacts, compared to the less-than-significant impacts identified with the proposed project. Under the proposed 2040 General Plan Update, impacts associated with noise and vibration were found to be less than significant. While higher intensities of development would be authorized under the General Plan Update, the marginally higher levels of construction and operational noise over what is occurring currently was found in the EIR to be less than significant and below City noise criteria thresholds. Under the No Project Alternative, land use within the City would be governed by the land use designations and policies of the existing 1997 General Plan, and the impacts associated with continuing with that plan would also be less than significant. Therefore, the impacts of the No Project Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Public Services and Recreation

The No Project Alternative would result in similar impacts to public services and recreation, compared to the less-than-significant impacts identified with the proposed project. Under the proposed 2040 General Plan Update, impacts to public services and recreation were found to be less than significant. While higher intensities of development and an associated increase in population would be authorized under the General Plan Update, the EIR found that the impact of additional persons living in the City could be accommodated by existing public service and recreational facilities. Under the No Project Alternative, land use within the City would be governed by the land use designations and policies of the existing 1997 General Plan, and the impacts associated with continuing with that plan would also be less than significant. Therefore, the impacts of the No Project Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Transportation and Traffic

The No Project Alternative would result in a more severe impact to transportation and traffic, compared to the significant and unavoidable impacts identified with the proposed project. As identified in Section 3.12 of this EIR, *Transportation* implementation of the 2040 General Plan Update would result in the following significant and unavoidable impacts to transportation and traffic:

> **Impact 3.12-1:** Implementation of the Eureka 2040 General Plan Update would create an adverse effect with respect to vehicle miles traveled (VMT).

Under the No Project Alternative, land use within the City would be governed by the land use designations and policies of the existing 1997 General Plan, and the impacts associated with continuing with that plan would also continue. With respect to VMT, per-capita VMT would be

expected to remain generally the same as it is currently, since the existing land use and development trends in the City would remain unchanged. Under the proposed 2040 General Plan Update, on the other hand, increased densification and infill development would be encouraged, which would likely result in a reduction in per-capita VMT. Therefore, implementation and development under the 2040 General Plan Update would provide an overall beneficial effect in that it would reduce the average VMT of the City's residents. This benefit would not be realized under the No Project Alternative. While both the No Project Alternative and the 2040 General Plan Update would result in significant and unavoidable impacts to transportation and traffic, the impact would be more severe under the No Project Alternative.

Utilities and Service Systems

The No Project Alternative would result in similar impacts to utilities and service systems, compared to the less-than-significant impacts identified with the proposed project. Under the proposed 2040 General Plan Update, impacts to utilities and service systems were found to be less than significant. While higher intensities of development and an associated increase in population would be authorized under the General Plan Update, the EIR found that the impact of additional persons living in the City could be accommodated by existing utilities and service systems. Under the No Project Alternative, land use within the City would be governed by the land use designations and policies of the existing 1997 General Plan, and the impacts associated with continuing with that plan would also be less than significant. Therefore, the impacts of the No Project Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Alternative 2: Historic Growth Rate Alternative

The following discussion summarizes impacts that would occur under the Historic Growth Rate Alternative in comparison to the impacts that would occur under the 2040 General Plan Update.

Aesthetics

The Historic Growth Rate Alternative would result in slightly greater impacts to aesthetics, compared to the less-than-significant impact identified with the proposed project. The Historic Growth Rate Alternative would allow for many of the same infill and diversification opportunities as the proposed 2040 General Plan Update, but at a lessor intensity. Therefore, the alternative would result in less overall development, and would be less likely to develop vacant and infill parcels, thereby continuing urban blight conditions in portions of the City. This lessor intensity would be a result of fewer people and employers driving potential change in the City. Under this alternative, a greater number of parcels would be more likely to remain undeveloped and blighted, which would have negative consequences for the visual character of the City. Under the 2040 General Plan Update, many vacant or underutilized parcels, particularly in the City's Core Area, would become more desirable for repurposing, which would improve the visual appearance of those areas by constructing new projects in alignment with the design and architectural standards of the City. Under the Historic Growth Rate Alternative, these beneficial effects would be less likely to be realized, and the Historic Growth Rate Alternative would thus result in a more severe impact with respect to aesthetics.

Agricultural and Timber Resources

The Historic Growth Rate Alternative would result in no impacts to agricultural and timber resources, compared to the less-than-significant impact identified with the proposed project. The Historic Growth Rate Alternative would keep the same agricultural and timberland land uses in place as those proposed under the 2040 General Plan Update, and would neither expand nor increase opportunities for agricultural or timber production. There would therefore be no effect on those resources.

Air Quality and Greenhouse Gas Emissions

The Historic Growth Rate Alternative would result in similar impacts to air quality and greenhouse gas emissions, much like the significant and unavoidable impacts identified with the proposed project. As identified in Section 3.3 of this EIR, *Air Quality and Greenhouse Gas Emissions*, implementation of the 2040 General Plan Update would result in the following significant and unavoidable impacts to air quality and greenhouse gas emissions:

> **Impact 3.3-2:** Implementation of the Eureka 2040 General Plan would contribute to an existing or projected air quality violation during operations for PM10 emissions.
>
> **Impact 3.3-3:** Implementation of the Eureka 2040 General Plan would result in a cumulatively considerable net increase of PM10 emissions for which the project region is in non-attainment.

The region is already in violation for PM10 emissions. Under the Historic Growth Rate Alternative, the same land use designations and policies as the proposed 2040 General Plan Update would be implemented, but the associated development would occur more slowly, if at all. In general, existing levels of PM10 emissions and associated violations would be expected to remain about the same as currently. It thus follows that the City's contribution to the ongoing PM10 violations would also continue, though they would not necessarily worsen. Similarly, under the Historic Growth Rate Alternative, there would not be a substantial increase in land development or construction activity than that which is currently occurring, so there would be no substantial change in greenhouse gas emissions. Some of the emissions reduction benefits associated with the 2040 General Plan Update (reduced per-capita VMT, in particular) would still occur, but those benefits would not be as fully realized. On the other hand, the level of population growth provided for in the 2040 General Plan Update would also not be realized, which would have the effect of potentially offsetting those loses in benefits. In general, the air quality and greenhouse gas emissions under both the Historic Growth Rate Alternative and the 2040 General Plan Update would still be significant and unavoidable, and the level of severity quite similar.

Biological Resources

The Historic Growth Rate Alternative would result in similar impacts to biological resources, compared to the less-than-significant impacts identified with the proposed project. Under the Historic Growth Rate Alternative, the same land use designations and policies as the proposed 2040 General Plan Update would be implemented, but the associated development would occur more slowly, if at all. Even so, many of the same effects to biological resources associated with development would still occur. These effects could include impacts to special status species,

sensitive habitats, wetlands, and other protected resources. However, and similar to the impacts associated with the proposed 2040 General Plan Update, these impacts would be regulated and managed under the same laws and regulations. The avoidance, minimization, and mitigation requirements associated with any identified impacts would be identical under either scenario, so the associated impacts would be largely identical as well. Therefore, there would be no appreciable change in impacts to biological resources, and the impact would remain less than significant.

Cultural Resources

The Historic Growth Rate Alternative would result in similar impacts to cultural resources, compared to the significant and unavoidable impacts identified with the proposed project. As identified in Section 3.5 of this EIR, *Cultural and Historic Resources*, implementation of the 2040 General Plan Update would result in the following significant and unavoidable impacts to cultural resources:

> **Impact 3.5-1:** Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
>
> **Impact 3.5-2:** Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.
>
> **Impact 3.5-3:** Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.
>
> **Impact 3.5-4:** Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.

Under the Historic Growth Rate Alternative, the same land use designations and policies as the proposed 2040 General Plan Update would be implemented, but the associated development would occur more slowly, if at all. Even so, many of the same effects to cultural resources associated with development would still occur. These effects could include impacts to historic structures, archaeological resources, and tribal cultural resources. However, and similar to the impacts associated with the proposed 2040 General Plan Update, these impacts would be regulated and managed under the same laws and regulations. The avoidance, minimization, and mitigation requirements associated with any identified impacts would be identical under either scenario, so the associated impacts would be largely identical as well. Therefore, there would be no appreciable change in impacts to cultural resources, and the impact would remain significant and unavoidable.

Geology, Soils, Mineral Resources, and Paleontological Resources

The Historic Growth Rate Alternative would result in similar impacts to geology, soils, minerals, and paleontological resources, compared to the less-than-significant impacts

identified with the proposed project. As noted in Section 3.6, *Geology, Soils, Mineral Resources, and Paleontological Resources*, of this EIR, development in the City under the proposed 2040 General Plan Update could be affected by seismically induced ground shaking, spreading, subsidence, liquefaction or collapse. Impacts could also result from soil erosion, and impacts to paleontological resources could also occur. These impacts, however, would be mitigated through compliance with existing regulations, building codes, and policies contained within the 2040 General Plan Update. These same requirements would also apply under the Historic Growth Rate Alternative, in that construction of new buildings and other structures would also be required to comply with these same regulations and building codes. On balance, the impacts of the Historic Growth Rate Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Hazards and Hazardous Materials

The Historic Growth Rate Alternative would result in similar impacts related to hazards and hazardous materials, compared to the less-than-significant impacts identified with the proposed project. As noted in Section 3.7, *Hazards and Hazardous Materials*, of this EIR, development in the City under the proposed 2040 General Plan Update could be affected by existing hazardous materials in buildings and soils in various areas of the City, and through the routine use and transport of hazardous materials in and through the City. These impacts, however, would be mitigated through compliance with existing regulations and policies within the 2040 General Plan Update. These same requirements would also apply under the Historic Growth Rate Alternative, in that construction of new buildings and other structures would also be required to comply with these same regulations and building codes. Transport and use of hazardous materials would similarly be regulated by existing regulations and policies. Other impacts associated with hazards and hazardous materials (airport operations and wildfire risk) would also be unchanged. On balance, the impacts of the Historic Growth Rate Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Hydrology and Water Quality

The Historic Growth Rate Alternative would result in similar impacts to hydrology and water quality, compared to the less-than-significant impacts identified with the proposed project. As noted in Section 3.8, *Hydrology and Water Quality*, of this EIR, development activities envisioned under the 2040 General Plan Update could result in impacts to hydrology and water resources. These impacts, however, would be effectively minimized and avoided through compliance with existing agency regulations and policies within the 2040 General Plan Update. These same requirements would also apply under the Historic Growth Rate Alternative, in that construction of new buildings and other structures would also be required to comply with these same regulations and building codes. With respect to groundwater use, the Historic Growth Rate Alternative would presumably result in less development and less demand on water resources than the level of development provided for in the 2040 General Plan Update. However, the EIR found that the effects on groundwater of the General Plan Update would be less than significant. The same would therefore be true for the Historic Growth Rate Alternative. On balance, the impacts of the Historic Growth Rate Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Land Use, Housing, and Population

The Historic Growth Rate Alternative would result in similar land use and planning impacts, compared to the less-than-significant impacts identified with the proposed project. Under the proposed 2040 General Plan Update, impacts to land use, housing, and population were found to be less than significant. Under the Historic Growth Rate Alternative, land use within the City would also be governed by the land use designations and policies of the 2040 General Plan Update, and the impacts would therefore also be less than significant. As such, the impacts of the Historic Growth Rate Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Noise and Vibration

The Historic Growth Rate Alternative would result in similar noise and vibration impacts, compared to the less-than-significant impacts identified with the proposed project. Under the proposed 2040 General Plan Update, impacts associated with noise and vibration were found to be less than significant. While higher intensities of development would be authorized under the General Plan Update, the marginally higher levels of construction and operational noise over what is occurring currently was found to be less than significant and below City noise criteria thresholds. Under the Historic Growth Rate Alternative, development within the City would occur at a lessor intensity, and would also be less than significant. Therefore, the impacts of the Historic Growth Rate Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Public Services and Recreation

The Historic Growth Rate Alternative would result in similar impacts to public services and recreation, compared to the less-than-significant impacts identified with the proposed project. Under the proposed 2040 General Plan Update, impacts to public services and recreation were found to be less than significant. While higher intensities of development and an associated increase in population would be authorized under the General Plan Update, the EIR found that the impact of additional persons living in the City could be accommodated by existing public service and recreational facilities. Under the Historic Growth Rate Alternative, the same land use designations and policies as the proposed 2040 General Plan Update would be implemented, but the associated development would occur more slowly, if at all. Therefore, the impacts associated with the alternative would also be less than significant. The impacts of the Historic Growth Rate Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

Transportation and Traffic

The Historic Growth Rate Alternative would result in slightly greater impacts to transportation and traffic, compared to the significant and unavoidable impacts identified with the proposed project. As identified in Section 3.12 of this EIR, *Transportation*, implementation of the 2040 General Plan Update would result in the following significant and unavoidable impacts to transportation and traffic:

Impact 3.12-1: Implementation of the Eureka 2040 General Plan Update would create an adverse effect with respect to vehicle miles traveled (VMT).

Under the Historic Growth Rate Alternative, the same land use designations and policies as the proposed 2040 General Plan Update would be implemented, but the associated development would occur more slowly, if at all. Some of the VMT reduction benefits associated with the 2040 General Plan Update would still occur, but those benefits would not be as fully realized. Therefore, while both the Historic Growth Rate Alternative and the 2040 General Plan Update would result in significant and unavoidable impacts to transportation and traffic, the impact could be slightly more severe under the Historic Growth Rate Alternative.

Utilities and Service Systems

The Historic Growth Rate Alternative would result in similar impacts to utilities and service systems, compared to the less-than-significant impacts identified with the proposed project. Under the proposed 2040 General Plan Update, impacts to utilities and service systems were found to be less than significant. While higher intensities of development and an associated increase in population would be authorized under the General Plan Update, the EIR found that the impact of additional persons living in the City could be accommodated by existing utility infrastructure. Under the Historic Growth Rate Alternative, the same land use designations and policies as the proposed 2040 General Plan Update would be implemented, but the associated development would occur more slowly, if at all. Therefore, the impacts associated with the alternative would also be less than significant. The impacts of the Historic Growth Rate Alternative and the 2040 General Plan would be largely identical, and would be less than significant.

4.5 Environmentally Superior Alternative

Based on the evaluation described in this section, the Historic Growth Rate Alternative would be the most environmentally superior alternative and would result in marginally less severe environmental impacts than the proposed 2040 General Plan Update. These marginal reductions in impacts would largely be a function of a lower population and less overall development within the City. However, these reductions in impacts could be offset in some instances by a reduction in the level of benefits that would occur if implementation and buildout of the proposed 2040 General Plan Update were fully realized. As indicated in the above analysis, potentially more severe impacts could be realized under the Historic Growth Rate Alternative than under the 2040 General Plan Update. Additionally, the following significant and unavoidable impacts would still occur under the Historic Growth Rate Alternative, though the level of impacts could be less severe, depending on the level of growth that would actually occur in the City.

Impact 3.3-2: *Implementation of the Eureka 2040 General Plan would contribute to an existing or projected air quality violation during operations for PM10 emissions.* These impacts would remain significant and unavoidable under both the Historic Growth Rate Alternative and the 2040 General Plan, though per capita emissions levels could be slightly more severe under the Historic Growth Rate Alternative, since some of the benefits of the full buildout of the 2040 General Plan Update would not be fully realized.

Impact 3.3-3: *Implementation of the Eureka 2040 General Plan would result in a cumulatively considerable net increase of PM10 emissions for which the project region is in non-attainment.* These impacts would remain significant and unavoidable under both the Historic Growth Rate Alternative and the 2040 General Plan, though per capita emissions levels could be slightly more severe under the Historic Growth Rate Alternative, since some of the benefits of the full buildout of the 2040 General Plan Update would not be fully realized.

Impact 3.5-1: *Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.* These impacts would remain significant and unavoidable under both the Historic Growth Rate Alternative and the proposed 2040 General Plan Update. However, since the level of development would be less under the Historic Growth Rate Alternative, the level of severity would generally be less.

Impact 3.5-2: *Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.* These impacts would remain significant and unavoidable under both the Historic Growth Rate Alternative and the proposed 2040 General Plan Update. However, since the level of development would be less under the Historic Growth Rate Alternative, the level of severity would generally be less.

Impact 3.5-3: *Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.* These impacts would remain significant and unavoidable under both the Historic Growth Rate Alternative and the proposed 2040 General Plan Update. However, since the level of development would be less under the Historic Growth Rate Alternative, the level of severity would generally be less.

Impact 3.5-4: *Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.* These impacts would remain significant and unavoidable under both the Historic Growth Rate Alternative and the proposed 2040 General Plan Update. However, since the level of development would be less under the Historic Growth Rate Alternative, the level of severity would generally be less.

Impact 3.12-1: *Implementation of the Eureka 2040 General Plan Update would create an adverse effect with respect to vehicle miles traveled (VMT).* Under the Historic Growth Rate Alternative, the same land use designations and policies as the proposed 2040 General Plan Update would be implemented, but the associated development would occur more slowly, if at all. Some of the VMT reduction benefits associated with the 2040 General Plan Update would still occur, but those benefits would not be as fully realized. Therefore, while both the Historic Growth Rate Alternative and the 2040 General Plan Update would result in significant and unavoidable impacts to transportation and traffic, the impact could be slightly more severe under the Historic Growth Rate Alternative.

TABLE 4-1
ALTERNATIVES IMPACT SUMMARY AND COMPARISON

Impact	Alternative 1: No Project	Alternative 2: Historic Growth Rate Alternative	Proposed 2040 General Plan Update
Aesthetics	Significant and Unavoidable ⇧	Less than Significant ⇧	Less than Significant
Agricultural and Timber Resources	Less than Significant	Less than Significant	Less than Significant
Air Quality and Greenhouse Gas Emissions	Significant and Unavoidable ⇧	Significant and Unavoidable ⇧	Significant and Unavoidable
Biological Resources	Less than Significant	Less than Significant	Less than Significant
Cultural and Historic Resources	Significant and Unavoidable ⇩	Significant and Unavoidable ⇩	Significant and Unavoidable
Geology, Soils, Mineral Resources, and Paleontological Resources	Less than Significant	Less than Significant	Less than Significant
Hazards and Hazardous Materials	Less than Significant ⇩	Less than Significant ⇩	Less than Significant
Hydrology and Water Quality	Less than Significant	Less than Significant	Less than Significant
Land Use, Population, and Housing	Less than Significant	Less than Significant	Less than Significant
Noise and Vibration	Less than Significant ⇩	Less than Significant ⇩	Less than Significant
Public Services and Recreation	Less than Significant ⇩	Less than Significant ⇩	Less than Significant
Transportation	Significant and Unavoidable ⇧	Significant and Unavoidable ⇧	Significant and Unavoidable
Utilities and Service Systems	Less than Significant ⇩	Less than Significant ⇩	Less than Significant

NOTES: ⇧/⇩ - The impact is more/less severe than compared to the proposed project.

TABLE 4-2
ABILITY OF ALTERNATIVES TO SATISFY PROJECT OBJECTIVES

Project Objective	Alternative 1: No Project	Alternative 2: Historic Growth Rate Alternative
1. Provide a comprehensive update to the City's General Plan to more effectively address the issues facing Eureka and to reflect the current values and vision of the community	Does not meet objective	Meets objective ⇩
2. Enhance Eureka's quality of life and enrich its sense of community	Does not meet objective	Meets objective ⇩
3. Support well planned infill projects that build upon Eureka's historic development patterns and that utilize development intensities and building heights that are in closer alignment with the City's pre-1950s history	Does not meet objective	Meets objective ⇩
4. Meet the housing needs of existing and future residents through a variety of housing types and designs including infill development, higher density products, and mixed use	Does not meet objective	Meets objective ⇩
5. Preserve and enhance existing neighborhoods	Does not meet objective	Meets objective ⇩
6. Promote a vital Core Area with a mix of uses that include retail, office, residential, entertainment, and cultural uses that attract local residents, regional visitors, and tourists	Does not meet objective	Meets objective ⇩
7. Provide additional opportunities for industry and employment to strengthen and diversify the economic base of the City	Does not meet objective	Meets objective ⇩
8. Improve mobility and safety for pedestrians, bicyclists, and vehicles	Does not meet objective	Meets objective ⇩
9. Accommodate growth that protects important environmental resources, as well as ensures long term economic sustainability, and equity and social well-being for the entire community	Does not meet objective	Meets objective ⇩

NOTES: ⇧/⇩ - The alternative is more/less aligned with the objective.

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CHAPTER 5
Other Statutory Considerations

Consistent with CEQA Guidelines Section 15126.2, this section discusses significant and unavoidable impacts, significant irreversible environmental changes, growth-inducing impacts, cumulative impacts, and impacts found to be less than significant.

5.1 Significant and Unavoidable Adverse Impacts

Potentially significant environmental impacts that would result from implementation of the proposed 2040 General Plan Update (proposed project) are evaluated in Chapter 3, *Environmental Analysis*, of this EIR. With implementation of the project design features, standard conditions and requirements, General Plan policies, and mitigation measures identified for each resource area significantly impacted, many of the potentially significant impacts resulting from the proposed project would be reduced to a less than significant level. The proposed project impacts listed below would remain significant and unavoidable even after mitigation.

Impact 3.3-2: Implementation of the Eureka 2040 General Plan would contribute to an existing or projected air quality violation during operations for PM10 emissions.

Impact 3.3-3: Implementation of the Eureka 2040 General Plan would result in a cumulatively considerable net increase of PM10 emissions for which the project region is in non-attainment.

Impact 3.5-1: Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

Impact 3.5-2: Implementation of the Eureka 2040 General Plan could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.

Impact 3.5-3: Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5.

Impact 3.5-4: Implementation of the Eureka 2040 General Plan, in combination with other cumulative development, could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5, or a tribal cultural resource as defined in Public Resources Code Section 21074, or could disturb human remains, including those interred outside of formal cemeteries.

Impact 3.12-1: Implementation of the Eureka 2040 General Plan Update would create an adverse effect with respect to vehicle miles traveled (VMT).

5.2 Significant Irreversible Environmental Changes

Pursuant to Section 15126.2(c) of the CEQA Guidelines, an EIR must consider any significant irreversible environmental changes that would be caused by the proposed project should it be implemented. Section 15126.2(c) states:

> *"Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."*

Resources that would be permanently and continually consumed by implementation of the proposed project include water, electricity, natural gas, and fossil fuels; however, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources. Construction activities related to the proposed project, though previously analyzed in Chapter 3 of this EIR, would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels, natural gas, and gasoline for automobiles and construction equipment. With respect to the operational activities of the proposed project, compliance with all applicable building codes, as well as proposed General Plan policies, would ensure that all natural resources are conserved to the maximum extent practicable. It is also possible that new technologies or systems would emerge, or would become more cost-effective or user-friendly, and would further reduce the project reliance upon nonrenewable energy resources.

The CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by an accident associated with the proposed project. Buildout of the proposed 2040 General Plan Update would not necessarily involve the routine use, transport, storage, or disposal of hazardous wastes other than small amounts of construction chemicals and non-acute hazardous materials by residents and other occupants of the City. As stated in Section 3.7, *Hazards and Hazardous Materials*, of this EIR, these materials are regulated through a series of federal, state, and local laws and regulations. Compliance with these existing requirements would ensure that the potential for the completed project to cause significant irreversible environmental damage from an accident or upset of hazardous materials would be less than significant.

5.3 Growth-Inducing Impacts

The CEQA Guidelines require that an EIR evaluate the growth-inducing impacts of a proposed action (Section 15126.2[d]). A growth-inducing impact is defined by the CEQA Guidelines as:

> *[T]he ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth.... It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

A project can have direct and/or indirect growth-inducement potential. Direct growth inducement could result if a project involved construction of new housing. A project can have indirect growth-inducement potential if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, under CEQA, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. Increases in population could tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The CEQA Guidelines also require analysis of the characteristics of projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

The timing, magnitude, and location of land development and population growth is based on various interrelated land use and economic variables. Key variables include regional economic trends, market demand for residential and non-residential uses, land availability and cost, the availability and quality of transportation facilities and public services, proximity to employment centers, the supply and cost of housing, and regulatory policies or conditions. Because general plans define the location, type, and intensity of growth within a given jurisdiction, they are the primary means of regulating development and growth in California.

The growth inducing impacts analysis addresses the potential of the project for growth inducement in the project vicinity or broader area. Under CEQA, a project is generally considered to be growth-inducing if it results in any one of the following:

1. Extension of urban services or infrastructure into a previously unserved area;
2. Extension of a transportation corridor into an area that may be subsequently developed; or
3. Removal of obstacles to population growth (such as provision of major new public services to an area where those services are not currently available).

5.3.1 Extension of Urban Services or Infrastructure

Although infrastructure improvements could occur during buildout of the 2040 General Plan Update planning period, the City is already urbanized, and any new or updated infrastructure would simply improve and upgrade the existing systems in the City, and would not require any major expansions of infrastructure. The City is already a fully developed area, and infrastructure would not be extended to any undeveloped areas. Hence, much of the infrastructure improvements that could be constructed would be infill in nature and would serve areas that are already populated, and would not be growth-inducing development.

5.3.2 Extension of Transportation Corridors

The City is already developed, and a long-established transportation network is already present throughout the City. The 2040 General Plan Update does not propose to extend transportation corridors into undeveloped areas that could result in growth inducing impacts.

5.3.3 Removal of Obstacles to Population Growth

Section 15126.2(d) of the CEQA Guidelines states that an EIR should discuss "the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Growth can be induced in a number of ways, including through the elimination of obstacles to growth, through the stimulation of economic activity within the region, or through precedent-setting action. CEQA requires a discussion of how a project could increase population, employment, or housing in the areas surrounding the project as well as an analysis of the infrastructure and planning changes that would be necessary to implement the project.

Projects that are characterized as having significant impacts associated with the inducement of growth are frequently those that would remove obstacles to additional growth, such as the expansion of sewer or water facilities that would permit construction of more development in the service area covered by the new facilities. The 2040 General Plan Update would not remove obstacles to additional growth in this manner, as new growth would be undertaken within the City limits of Eureka in a developed urban area that currently is served by utilities and services. Similarly, if a project would overburden existing infrastructure so as to require construction of new facilities that could result in significant impacts, then the project may be deemed to have a significant growth-inducing impact. As discussed in the Section 3.13, *Utilities and Service Systems*, the project would not require such additional public service facilities.

The 2040 General Plan Update is generally focused on providing opportunities for infill and redevelopment of vacant and underutilized parcels in the City, particularly within the Core Area. The overall goal of this focus on infill and redevelopment is to encourage enhanced economic activity within the City, and to provide opportunities for increased residential densification in areas of the City that are already urbanized. If these goals are fully realized, there would be an increase in population and economic activity in the City. However, this increase in population would be contained within an existing urban area, and an expansion of urban services and housing into surrounding areas would not be required. The City is bound by its own City limits and Humboldt Bay, and infill and redevelopment efforts within the City would be unlikely to facilitate population growth in surrounding areas. In fact, population growth and economic growth within the City limits of Eureka would be likely to reduce the impacts that would otherwise occur if the same growth were to occur in the undeveloped areas surrounding the City that are not currently served by streets, utilities, and other infrastructure.

Section 3.9, *Land Use, Population, and Housing*, analyzes the proposed General Plan Update's overall effect on population and housing, including growth-inducing considerations. Upon buildout, the General Plan Update provides for up to 1,886 new residential units, with a resultant increase in population of approximately 3,682 persons. However, as analyzed in Chapter 3 of this

EIR, this additional population could be accommodated with existing public services and infrastructure. Most importantly, the proposed 2040 General Plan Update would not directly cause this projected growth, but it would accommodate such growth if it did, in fact, occur.

5.3.4 Conclusions

The 2040 General Plan Update would encourage infill development and promote economic growth within a developed urban area, and new roads and infrastructure would not be extended into an undeveloped area. The proposed 2040 General Plan Update would not directly cause an increase in growth, but it would accommodate such growth if it did, in fact, occur. For the above-described reasons, the project would not cause a new impact related to a substantial increase in population growth, and the effects on population, housing, and employment would have a less than significant environmental effect.

5.4 Cumulative Impacts

CEQA defines cumulative impacts as two or more individual impacts which, when considered together, are substantial or which compound or increase other environmental impacts. The cumulative analysis is intended to describe the "incremental impact of the project when added to other, closely related past, present, or reasonably foreseeable future projects" that can result from "individually minor but collectively significant projects taking place over a period of time." (CEQA Guidelines Section 15355) The analysis of cumulative impacts is a two-phase process that first involves the determination of whether the project, together with existing and reasonably foreseeable projects, would result in a significant impact. If there would be a significant cumulative impact of all such projects, the EIR must determine whether the project's incremental "contribution" is cumulatively considerable, in which case, the cumulative impact would be significant (CEQA Guidelines Section 15130).

The analysis of each environmental topic included in Chapter 3, *Environmental Analysis*, of this EIR considers possible cumulative impacts and identifies circumstances in which the project would contribute to significant cumulative impacts.

Cumulative air quality, cultural resources, and transportation impacts were identified in the analysis. These identified impacts would be cumulatively considerable and not fully mitigable. No other cumulative impacts were determined to be significant.

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CHAPTER 6
Report Preparation

6.1 Lead Agency

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Stan Armstrong	Noise and Vibration
Daniel Sloat	Air Quality and Greenhouse Gas Emissions
Jon Teofilo	Agricultural and Timber Resources
Daniel Huang	Hydrology and Water Resources
Liza Ryan	Biological Resources
Johanna Khan	Cultural Resources
Brandon Carroll	Geology, Soils, Minerals, and Paleontological Resources

Michael Burns, CEG, CHG	Geology, Soils, Minerals, and Paleontological Resources
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