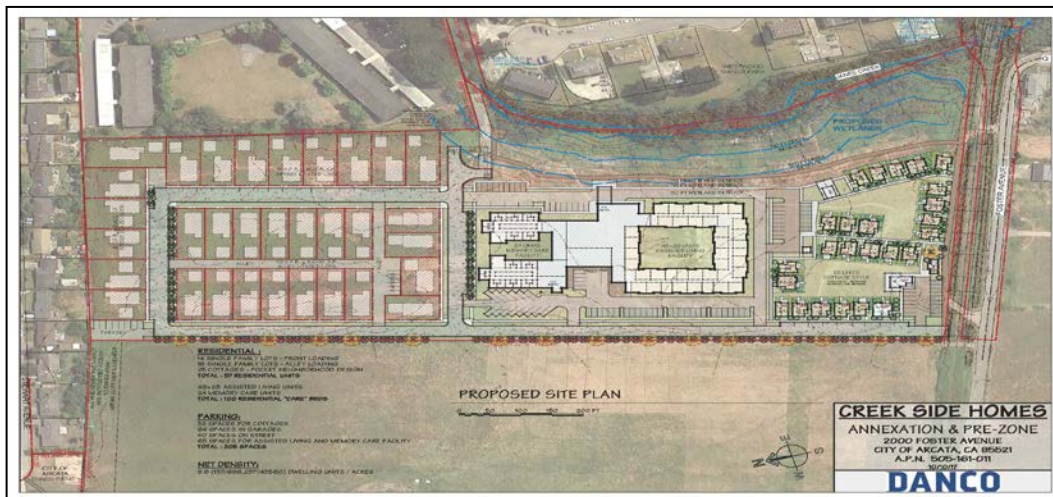




Creek Side Homes Project



Draft *Environmental Impact Report*

Lead Agency:

City of Arcata Community Development Department

State Clearinghouse # 2016022083

June 2019

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ACRONYMS AND ABBREVIATIONS

| | |
|----------|--|
| AB | Assembly Bill |
| AB32 | Global Warming Solutions Act of 2006 |
| ADT | average daily traffic |
| APE | area of potential effect |
| BAAQMD | Bay Area Air Quality Management District |
| BGS | below ground surface |
| BMPs | Best Management Practices |
| BOD | biochemical oxygen demand |
| BTEX | benzene, toluene, ethylbenzene, and xylene |
| CAA | Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| CalEEMod | California Emissions Estimator Model |
| Cal/EPA | California Environmental Protection Agency |
| CalFire | California Department of Forestry and Fire Protection |
| Caltrans | California Department of Transportation |
| CAPCOA | California Air Pollution Control Officers Association |
| CARB | California Air Resources Board |
| CBC | California Building Code |
| CCR | California Code of Regulations |
| CDFG | California Department of Fish and Game |
| CDFW | California Department of Fish and Wildlife |
| CDPH | California Department of Public Health |
| CDPR | California Department of Parks and Recreation |
| CEC | California Energy Commission |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CFGF | California Fish and Game Code |
| CFR | Code of Federal Regulations |
| CGS | California Geological Survey |
| CHP | California Highway Patrol |
| CHSC | California Health and Safety Code |
| CH4 | methane |
| CIWMB | California Integrated Waste Management Board |
| CNDDB | California Natural Diversity Database |
| CNEL | Community Noise Equivalent Level |
| CNPPA | California Native Plant Protection Act |
| CNPS | California Native Plant Society |
| CO | carbon monoxide |
| CO2 | carbon dioxide |
| CO2e | carbon dioxide equivalent |
| CPUC | California Public Utilities Commission |
| CRHR | California Register of Historical Resources |
| CRPR | California Rare Plant Rank |

ACRONYMS AND ABBREVIATIONS

| | |
|------------------|---|
| CUPA | Certified Unified Program Agency |
| CWA | Clean Water Act |
| dB | decibel |
| dBA | A-weighted sound level |
| DHS | California Department of Health Services |
| DOC | California Department of Conservation |
| DOT | U.S. Department of Transportation |
| DPM | diesel particulate matter |
| DTSC | Department of Toxic Substances Control |
| DWR | California Department of Water Resources |
| EDR | Environmental Data Resources |
| EIR | Environmental Impact Report |
| EOC | County Emergency Operations Center |
| EOP | Humboldt County Emergency Operations Plan |
| EPA | Environmental Protection Agency |
| ESA | Federal Endangered Species Act |
| FEMA | Federal Emergency Management Agency |
| FMMP | Farmland Mapping and Monitoring Program |
| FPD | Fire Protection District |
| ft/sec | feet per second |
| GHG | Greenhouse Gas |
| gpd | gallons per day |
| gpm | gallons per minute |
| HCAOG | Humboldt County Association of Governments |
| HCDEH | Humboldt County Division of Environmental Health |
| HP | horsepower |
| H ₂ O | water vapor |
| kWh | kilowatt-hours |
| L _{dn} | Day/Night Average Sound Level |
| Leq | equivalent noise level |
| LOP | Local Oversight Program |
| LOS | Level of Service |
| MBTA | Migratory Bird Treaty Act |
| MGD | million gallons per day |
| MG/L | Milligrams Per Liter |
| MtBE | methyl tertiary butyl ether |
| NAAQS | National Ambient Air Quality Standards |
| NAHC | Native American Heritage Commission |
| NCRWQCB | North Coast Regional Water Quality Control Board |
| NCUAQMD | North Coast Unified Air Quality Management District |
| NFIP | National Flood Insurance Program |
| NHPA | National Historic Preservation Act |
| N ₂ O | nitrous oxide |
| NOP | Notice of Preparation |

ACRONYMS AND ABBREVIATIONS

| | |
|----------|--|
| NOX | nitrogen oxides |
| NO2 | nitrogen dioxide |
| NPDES | National Pollutant Discharge Elimination System |
| NRHP | National Register of Historic Places |
| NSR | New Source Review |
| NWPRR | Northwestern Pacific Rail Road |
| OES | Office of Emergency Services |
| OWTS | onsite wastewater treatment systems |
| O3 | ozone |
| PAHs | polycyclic aromatic hydrocarbons |
| PGA | peak ground acceleration |
| PG&E | Pacific Gas & Electric |
| PM | particulate matter |
| PM10 | particulate matter 10 microns or less in diameter |
| PM2.5 | particulate matter 2.5 microns or less in diameter |
| Ppm | parts per million |
| PPV | Peak Particle Velocity |
| PRC | Public Resources Code |
| PSD | Prevention of Significant Deterioration |
| ROG | reactive organic gases |
| ROW | right of way |
| RTPA | Regional Transportation Planning Agency |
| RWQCB | Regional Water Quality Control Board |
| SF | square feet |
| SRA | State Responsibility Areas |
| SWPPP | Storm Water Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| TACs | Toxic Air Contaminants |
| THPO | Tribal Historic Preservation Officer |
| UBC | Uniform Building Code |
| USACE | U.S. Army Corps of Engineers |
| USA | North Underground Service Alert North |
| U.S. EPA | U.S. Environmental Protection Agency |
| USFWS | U.S. Fish and Wildlife Service |
| UST | underground storage tank |
| WDP | Waste Discharge Permit |
| WDR | Waste Discharge Requirements |



CHAPTER 1.

INTRODUCTION

The following Sections are included in this Chapter:

Introduction

Environmental Setting Summary

Proposed Project Description

Summary of Impacts and Mitigation Measures

Summary of Alternatives

Chapter 1

Introduction

Purpose and Intended Uses of this Environmental Impact Report

The City of Arcata has received an application from DANCO Communities for an Annexation, General Plan Amendment, Zoning Amendment, and Subdivision to allow the development of single-family residences, a senior assisted living and memory care facility, and senior-restricted neighborhood cottage units; these applications are collectively referred to as the **Creek Side Homes project**, or “project.” The residential development site consists of a single parcel (APN 505-161-011) located north of Foster Avenue (see Figure 1A [Location Map]), which is owned by Foster Avenue LLC. See Table 1-7 (Project Entitlements) for a list of the required entitlements for the proposed project.

The project requires discretionary approval and as such is subject to the California Environmental Quality Act (CEQA). The City, as the lead agency, must identify and document the potential environmental impacts of the project in accordance with CEQA (Public Resources Code § 21000 et seq.), and the CEQA Guidelines (California Administrative Code Section 15000 et seq.). To fulfill CEQA’s environmental review requirement, the City of Arcata determined that an Environmental Impact Report (EIR) be prepared for the project. The applicant, DANCO Communities, contracted the services of SHN Consulting Engineers & Geologists, Inc. and Streamline Planning Consultants to assist with EIR preparation. This is a project EIR.

The purpose of the EIR is to:

- Provide public disclosure of the potentially significant environmental effects of the project;
- Indicate means by which to avoid, minimize, or mitigate potentially adverse environmental effects;
- Analyze a range of alternatives to the project that may reduce or avoid one or more significant environmental effects; and
- Consider cumulative effects and other environmental effects.

The City of Arcata will use the EIR in determining whether or not to grant entitlements for the project. If the project is approved, all conditions and mitigations made in the adopted EIR will become part of any subsequent actions taken by the City to carry out the project. The EIR will also be used by permitting agencies to support project decisions (required project entitlements are described under the “Proposed Project” section below).

Processing the EIR

The environmental review process in accordance with CEQA contains many steps. For processing the EIR, formal steps began with the Notice of Preparation, and are completed with posting a Notice of Determination (for approved projects) and the conclusion of a 30-day statute of limitations period. The following steps will be completed.

Notice of Preparation

On February 24, 2016, a Notice of Preparation (NOP) was prepared and distributed to the State Clearinghouse, responsible and trustee agencies, potentially affected private parties, and to the general public (SCH #2016022083). The NOP announced that an EIR would be prepared for the Creek Side Homes Project, and it provided a summary and imports to be analyzed. The NOP is contained in the appendices to the EIR (Appendix A).

Scoping Meeting

On March 10, 2016, a Scoping Meeting was held at the residential development site (APN 505-161-011) with the applicant and their consultants and staff from several agencies including the City of Arcata, County of Humboldt, Humboldt Local Agency Formation Commission, Caltrans, California Department of Fish and Wildlife, Blue Lake Rancheria, and the Bear River Band of Rohnerville Rancheria. The applicant presented the project proposal and the agency staff provided comments concerning issues that should be addressed within the Environmental Impact Report being prepared for the project. Following the meeting, City of Arcata Community Development Staff provided a memorandum containing a list of the meeting participants and the comments received from the various agency staff. The Scoping Meeting memorandum is contained in the appendices of the EIR (Appendix B). Based on the NOP scoping process, the potentially significant resource areas were identified as the following:

- Cultural Resources (Section 2.5);
- Greenhouse Gas Emissions (Section 2.8);
- Hazards and Hazardous Materials (Section 2.10);
- Utilities and Service Systems (Section 2.11);
- Tribal Cultural Resources (Section 2.12);
- Transportation-Traffic (Chapter 3);
- Hydrology and Water Quality (Section 4.2);
- Biological Resources (Section 4.3);
- Agriculture and Forestry Resources (Section 4.4); and
- Cumulative Impacts (Chapter 7).

Public Review and Comment Period

The Draft EIR will be circulated for 45 days to allow public agencies and interested individuals to review and comment on the document. The Draft EIR will be available for review during this period at the following locations:

- 1) Arcata City Hall, 736 F Street, Arcata, California;
- 2) Arcata Public Library, 500 7th Street, Arcata, California;
- 3) Humboldt State University Library – Humboldt Room, Arcata, California; and
- 4) City of Arcata website (www.cityofarcata.org).

Public agencies and interested individuals are encouraged to submit written comments on the Draft EIR for consideration and inclusion in the Final EIR. (Note to Commenter's: To facilitate the response to comments, please list each comment separately and reference the EIR chapter and page number of the item you are responding to.) Comments must be sent by the end of the review period to:

David Loya, Community Development Director
City of Arcata
Community Development Department
736 F Street
Arcata, CA 95521

Public Hearing

Duly noticed public hearings will be held by both the Planning Commission and City Council for various aspects of the project (Annexation, General Plan and Zoning Amendments, Subdivision, etc.) which could occur during or subsequent to the public review and comment period for the EIR. These meetings will typically occur during regularly scheduled meetings of the City of Arcata Planning Commission and City Council. Several meetings may be held if the Planning Commission or City Council sees fit to do so. These meetings will provide opportunity for the public to comment on the project and the Environmental Impact Report. The City Council will be the review authority for all permits needed for the project and the EIR.

Final EIR

At the end of the public review period of the Draft EIR, written responses will be prepared for substantive comments (both written and oral) received during the public review and comment period. The comments and responses will then be included in the Final EIR and will be considered by the City prior to EIR certification.

EIR Certification

Prior to approval of the project, the City of Arcata must certify that the EIR has been completed in compliance with CEQA and must make one or more of the following findings for each potentially significant impact identified:

- That changes or alterations that avoid or substantially lessen the significant effects have been required or incorporated into the project; or
- That specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the Final EIR.

These findings must be supported by substantial evidence in the administrative record, which includes the NOP, comments on the NOP, Draft EIR, comments on the Draft EIR, Final EIR, comments received during public testimony, as well as all documents enumerated in Public Resources Code § 21167.6.

Each public agency is required to avoid or minimize the significant environmental effects of projects it approves or carries out whenever it is feasible to do so. If the significant effects cannot be avoided or mitigated, the public agency must make findings of overriding considerations prior to approving the project.

Notice of Determination

If the City (the lead agency) approves the proposed project, within five days it will file a Notice of Determination (NOD) with the Humboldt County Clerk who must then post it within 24 hours of receipt. The NOD will also be sent to the State Clearinghouse, and to anyone previously requesting notice. Posting the NOD begins a 30-day statute of limitations period for challenges to the City's decision under CEQA.

Organization of the EIR

The EIR for the Creek Side Homes project describes the proposed project and five project alternatives, and evaluates their anticipated environmental effects, including growth-inducing and cumulative impacts. The EIR also identifies mitigation measures that would avoid or minimize environmental effects that have been identified (in the EIR) as potentially significant. The EIR is organized as follows:

Chapter 1 - Introduction, Proposed Project, Mitigations, and Alternatives

In addition to describing the EIR process, this chapter summarizes: 1) project objectives and entitlements; 2) the regional and project site setting; 3) the proposed project description; 4) the environmental impacts and proposed mitigations (in table format); and 5) summary of alternatives.

Chapter 2 - Community Environment

Chapter 2 describes the existing environmental setting, thresholds of significance, potential environmental impacts, and proposed mitigation measures associated with the following "community environment" topics:

2.1 Land Use and Planning: The land use analysis describes existing land uses, identifies applicable General Plan policies and zoning standards, and analyzes the potential impacts of the project parcels being developed with the proposed residential uses and offsite improvements. Conformance with applicable annexation policies and procedures is also analyzed.

2.2 Population and Housing: The population and housing impacts of developing additional residential units is evaluated. The potential to induce population growth, and displace existing structures or population is also analyzed.

2.3 Public Services: The projected police, fire, school, park, and other service demands of the project are analyzed to determine whether existing services have adequate capacity to accommodate those demands. The comments from the City Departments and other agencies are discussed concerning potential impacts to public services.

2.4 Recreation: The potential impacts to existing recreational facilities in the project area and from construction of the proposed parkland and pedestrian/bicycle trails is evaluated. The City's applicable parks and recreation standards are applied to determine potential impacts.

2.5 Cultural Resources: The EIR analyzes the potential disturbance to known cultural or historical resources and potential disturbance to unknown archeological resources, and determines the potential significance of these impacts. This analysis is based on the information provided with the project application, historic and cultural resources records search by the Northwest Information Center (NWIC), Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D) by William Rich and Associates, and consultation with Native American tribes as required by AB 52 and SB 18.

2.6 Aesthetics: The EIR analyzes the effects on scenic resources such as potential impacts to views of the site from various locations in the area (e.g. Arcata Bottom area and Janes Creek area), potential degradation of visual character or quality of the site and its surroundings, and creation of new light or glare sources.

2.7 Air Quality: The EIR analyzes short-term construction emissions and long-term operational emissions from the development of the project parcels. The analysis describes typical air quality impacts from a residential development and uses the CalEEMod air emissions model to estimate emissions that will be generated during construction and operation of the project (Appendix E).

2.8 Greenhouse Gas Emissions: The EIR analyzes greenhouse gas emissions generated by short-term construction activity and long-term operation of the proposed residential development. The analysis describes typical greenhouse gas emissions generated by a residential development, uses the CalEEMod air emissions model to estimate greenhouse gas emissions that will be generated during construction and operation of the project (Appendix E), and analyzes the projects consistency with applicable regulations and plans designed to minimize GHG emissions.

2.9 Noise: The EIR analyzes the potential noise impacts of short-term construction activities and long-term operation of the project. The analysis discusses the findings of the Noise Study prepared by SHN Consulting Engineers & Geologist, Inc.

(Appendix F), which primarily evaluates the impacts of transportation noise levels on the proposed residential uses.

2.10 Hazards and Hazardous Materials: The EIR analyzes health and safety hazards associated with the project, including hazards from the potential hazardous materials remaining at the residential development site from past industrial uses and from demolition of the existing structures at the site. The analysis discusses the findings of the Environmental Site Assessments and Investigations completed by SHN Consulting Engineers & Geologists, Inc. (Appendices G - O) and Freshwater Environmental Services (Appendices P - R).

2.11 Utilities and Service Systems: The projected water, wastewater, drainage and solid waste demands of the project are analyzed to determine whether existing utilities and service systems have adequate capacity to accommodate the needs of the proposed project. The analysis includes the findings of the Memorandum prepared by the City of Arcata to assess the potential impacts to water and wastewater facilities from the approved/planned Sunset Area housing projects (Appendix S). The projects, referred to as the Sunset Area housing projects, are listed in Chapter 7 (Cumulative Impact Analysis) of the EIR.

2.12 Tribal Cultural Resources: The EIR analyzes the potential to cause a substantial adverse change in the significance of a tribal cultural resource (see definition in PRC Section 21074) listed or eligible for listing in the California Register of Historical Resources or in a local Register of Historical Resources. The EIR also analyzes the potential to cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the Lead Agency to be significant per Public Resources Code Section 5024.1. This analysis is based on the information provided with the project application, tribal cultural resources records search by the Northwest Information Center (NWIC), Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D) by William Rich and Associates, and consultation with Native American tribes as required by AB 52 and SB 18.

Chapter 3 - Transportation

Chapter 3 describes the environmental setting, thresholds of significance, impacts, and proposed mitigation measures associated with the following transportation components:

Roadways: Traffic related impacts on level-of-service at selected intersections is evaluated as well as proposed improvements to nearby streets. The analysis discusses the findings and recommendations of the Central Arcata Areawide Traffic Study completed by W-Trans (Appendices T.1 and T.2) and the Vehicle Miles Traveled analysis completed by W&S Solutions, LLC (Appendix U).

Pedestrian and Bicycle Systems: The EIR evaluates the condition of existing pedestrian and bicycle facilities serving the residential development site. The EIR also evaluates the potential impacts of the development of several pedestrian and bicycle trails designed to increase connectivity to the site.

Public Transit: The EIR evaluates the proximity of transit facilities to the residential development site and the proposed pedestrian/bicycle improvements that will provide increased connectivity to these facilities.

Chapter 4 - Natural Environment

Chapter 4 describes the environmental setting, impact evaluation criteria, potential environmental impacts, and proposed mitigation measures associated with the following “natural environment” topics.

4.1 Geology and Soils: The EIR analyzes geology and soils information, including the soils report prepared by LACO & Associates (Appendix V) and the subsurface investigations conducted by SHN (Appendices H & L). The potential for seismic ground effects, seismically-induced strong ground shaking, landslides, liquefaction, erosion, and expansive soils are analyzed using information provided in the soils report and subsurface investigations. The loss of top soil through the permanent conversion of prime agricultural land is also analyzed.

4.2 Hydrology and Water Quality: The EIR analyzes potential water quality issues related to increasing wastewater discharge to the City’s wastewater treatment plant. Since the residential development site is a former lumber mill site with remnant hazardous materials contamination, potential water quality impacts related remediation are analyzed. The potential floodplain safety issues associated with Janes Creek are also analyzed. Since the project proposes the replacement of two culverts and an extension of Foster Avenue over Janes Creek, this section discusses the finding of the Hydraulic Analysis (Appendix W) prepared by Domenichelli & Associates. The volume of surface run-off associated with development of the site is examined, and on-site stormwater management systems are evaluated based on the information provided in the Stormwater Management Assessment prepared by SHN Consulting Engineers & Geologists, Inc. (Appendix X). The potential erosion and sediment impacts to Janes Creek are also evaluated.

4.3 Biological Resources: The EIR evaluates potential impacts to biological resources, including protected plant and wildlife species, wetlands, and riparian vegetation, resulting from development of the site for residential and related uses. This section’s analysis is based on information provided in the Biological Assessment prepared by Mad River Biologists (Appendix Y), the Biological Report (Appendix Z), Wetland Delineation (Appendix AA), and Wetland Assessment – Ennes Park Expansion (Appendix BB) prepared by Streamline Planning Consultants, and the Wetland Assessment – Hammond Trail Section (Appendix CC) prepared by SHN. Since the project proposes mitigation for the filling of wetlands, the Wetland Mitigation and Monitoring Plan (Appendix DD) prepared by Winzler & Kelly Consulting Engineers is also discussed. Fisheries impacts associated with floodplain modifications in the Janes Creek corridor are also analyzed.

4.4 Agriculture and Forestry Resources: The EIR evaluates potential impacts to agriculture and forestry resources, including prime agricultural land, from the development of parcel 505-161-011 for residential development, parcel 505-151-001 for an emergency access road, and City-owned parcels 505-151-009, 505-284-009, and 505-284-010 for an expansion of Ennes Park.

4.5 Mineral Resources: The EIR evaluates potential impacts to mineral resources, including the loss of availability of an important mineral resource, from the proposed development.

Chapter 5 – Energy Conservation

Chapter 5 includes a discussion of the potential energy impacts of the proposed project and describes the energy conservation measures that will be incorporated to avoid or reduce inefficient, wasteful, and unnecessary consumption of energy during construction and operation.

Chapter 6 – Alternatives Analysis

Chapter 6 describes and evaluates the alternatives to the proposed project including the following: Alternative 1 (No Project Alternative), Alternative 2 (County General Plan Update), Alternative 3 (No Assisted Living Facility), Alternative 4 (Single-Family Residential Development), and Alternative 5 (No Foster Avenue Connection).

Chapter 7 – Cumulative Impact Analysis

Chapter 7 describes the potential cumulative impacts of the proposed project in conjunction with other past, present, and probable future projects.

Chapter 8 – Other CEQA Considerations

Chapter 8 includes discussion and analysis of the following required CEQA topics: growth inducing impacts, significant irreversible environmental changes, and significant environmental effects, which cannot be avoided.

Chapter 9 – Mitigation Monitoring and Reporting Program

Chapter 9 lists the mitigation measures required for the proposed project and describes the timing for implementation, the person/agency that is responsible for monitoring implementation, the frequency of monitoring, and what constitutes evidence of compliance.

Chapter 10 - Document Preparers

Chapter 10 lists the persons responsible for preparing the EIR.

Appendices

Certain documents referred to in the EIR are attached as appendices. Other documents are on file at the City or Arcata Community Development Department.

Background Information used in EIR Preparation

The following documents were referenced for background information during preparation of the EIR. Copies of these documents are available for review at the City of Arcata.

- City of Arcata. 2000. *Draft Final Program EIR (PEIR) for the Arcata General Plan: 2020 and Local Coastal Land Use Plan*. SCH# 98072069;
- City of Arcata. 2008. *Arcata General Plan and Local Coastal Land Use Plan*. Amended Oct. 2008;
- City of Arcata. 2008. *City of Arcata Municipal Code – Title 9 – Land Use Code*. Oct. 2008.
- City of Arcata. 2008. *CEQA Final Environmental Impact Report for the Creek Side Homes Annexation and Zoning Modification*. SCH# 2004022067.
- City of Arcata. 2010. *Pedestrian & Bicycle Master Plan*. April 2010.
- City of Arcata. 2014. *Arcata Housing Element*. Adopted 07/23/14.
- City of Arcata. 2017. *The Village Student Housing Project Draft Environmental Impact Report*. SCH# 2016102038.
- City of Arcata. 2018. *The Village Student Housing Project Final Environmental Impact Report*. SCH# 2016102038.
- County of Humboldt. 2017. *Humboldt County General Plan*. Adopted October 2017.
- Humboldt County Association of Governments (HCAOG). 2013. *Humboldt County Regional Housing Needs Allocation Plan, Covering the Period of January 1, 2014 – June 30, 2019*. Adopted December 2013.
- Humboldt County Association of Governments (HCAOG). 2014. *20-Year Regional Transportation Plan (RTP). Variety in Rural Options of Mobility (VROOM)*. 2014 Update.
- Humboldt County Association of Governments (HCAOG). 2014. *Humboldt Regional Transportation Plan 2013/14 Update. Final Environmental Impact Report*. SCH# 2013102063.
- SHN Consulting Engineers and Geologists. 1994. *Phase I Environmental Site Assessment, 2000 Foster Avenue, Arcata California, AP #5050-161-11*. June 1993.
- W-Trans. 2017. *Central Arcata Areawide Traffic Impact Study*. March 13.

For the Creek Side Homes Project, the City required the applicant (DANCO Communities) to prepare technical studies to assist the City in certifying an environmental document pursuant to the California Environmental Quality Act (CEQA) and obtain project approval. These include biological reports, wetland delineations, wetland mitigation and monitoring plan, air quality/GHG emissions modeling, cultural resources investigations, stormwater assessment, hydraulic analysis, hazardous materials investigations, soil assessments, noise measurements, and a traffic impact study. These studies are currently available at the City of Arcata Community Development Department (736 F Street, Arcata, CA 95521) and are included in the appendices of the EIR.

CEQA encourages tiering the environmental review for specific projects from earlier, program EIRs to avoid “repetitive discussions of the same issues and focus the later EIR ... on the actual

issues ripe for decision at each level of environmental review” (CEQA Guidelines Section 15152(b)). Further, CEQA Guidelines Section 15152, subdivision (e) states that tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration.

Here, this EIR is tiered from the Arcata 2000 General Plan EIR. The 2000 General Plan EIR specifically notes that it should be used for tiering in the environmental review of future development projects (pgs. 1-2 through 1-4). The planning horizon studied in the EIR is until 2020 (pg. 1-13). The GP EIR indicates that increased residential development is anticipated throughout the City (pg. 3-10). Increased use of undeveloped and vacant parcels is planned, as opposed to outward expansion (pg. 2-1). The General Plan establishes an Urban Services Boundary that limits the extension of City services. The project is consistent with the growth management assumptions in the GP EIR since it proposes a residential development within the City’s Urban Services Boundary and Sphere of Influence.

The project is consistent with transportation-related assumptions in the GP EIR: “Transportation, and other community infrastructure systems, are expected to increase in efficiency, due to increased travel choices and improved community facility management practices. The General Plan emphasizes bicycle and pedestrian pathway connections throughout the City, with the linking of neighborhoods to the downtown a high priority. More efficient transit service is planned, to reduce reliance on single-occupancy vehicles” (pg. 2-2).

The EIR also anticipated more efficient water, wastewater, energy conservation, drainage, and source-reduction measures over time, which is consistent with present-day requirements and elements of the project (pg. 2-2).

Additionally, this EIR is tiered from the 2014 Humboldt County Association of Governments’ Regional Transportation Plan (“RTP”) EIR. The RTP is a long-range planning document that identifies the region’s transportation needs and issues and sets forth actions, programs, and projects to address them. The RTP also adopts policies, sets goals, and identifies financial resources to encourage and promote the safe and efficient management, operation, and development of a regional intermodal transportation system that would serve the mobility needs of people and goods. The plan’s overall goal is for Humboldt County to have a comprehensive, coordinated and balanced multi-modal transportation system, so that people in the region can travel and move goods safely and efficiently by the modes that best suit the individual and society at large (pg. ES-1).

The RTP EIR assumes projects in Arcata including residential and other street improvements, highway improvements, and city bus route improvements (pg. 2-9), and various trails-related projects (pg. 2-25). The Initial Study prepared for the RTP EIR indicates that RTP objectives and policies are consistent with existing and projected land uses in adopted land use plans, including for the City of Arcata (Initial Study attachment to RTP EIR, pg. 45).

Pursuant to CEQA Guidelines Section 15152(g), a copy of these EIRs may be examined at the Community Development Department (736 F Street, Arcata, CA 95521). In addition, the Draft EIR and Appendices are available on the City's website.

ENVIRONMENTAL SETTING SUMMARY

This section describes the regional setting within Humboldt County, and the project setting in the City of Arcata.

Regional Setting

The project property is located on unincorporated lands adjacent to the western boundary of the City of Arcata. The City of Arcata has an estimated population of 18,374 persons (DOF, 2017). Arcata is located in Humboldt County, on the northern coast of California, and is the second largest City in the County. The City is approximately 7.25 square miles in size and is situated on a coastal terrace at the north edge of Humboldt Bay, the second largest marine embayment in California.

Arcata's natural landforms include forested hillsides to the east; a sloping coastal terrace in the central area of town; a river corridor to the north; and flat bottomlands known as the Arcata Bottom, forested coastal dunes, bay front and tidelands to the west and south. Arcata is bordered by the Mad River to the north, Arcata Bay to the south, the Arcata Bottom to the west, and Fickle Ridge to the east. These features form distinctive natural edges to the City's planning area and are some of its most important aesthetic resources. The project's location, relative to the city, is shown in Figure 1A (Location Map).

Project Site Description

The proposed project will develop approximately 22 acres which include the following areas (see Project Description below):

- Residential development site (APN 505-161-011) = 16 acres
- Park site (APNs 505-151-009, 505-284-009, and 505-284-010) = 4.69 acres
- Emergency access road site (APN 505-151-001) = 0.34 acres
- Hammond Trail sections (APNs 505-161-009 and 505-151-005) = 0.44 acres
- Pedestrian/bicycle pathway to Alliance Road (APN 505-341-048) = 0.09 acres
- Foster Ave Connection (public r-o-w, 505-161-009, -030, and 505-162-010) = 0.21 acres

Residential Development Site

The residential development site's street address is 2000 Foster Avenue (APN 505-161-011); it is located near the intersection of Foster Avenue and "Q" Street, west of the Sunset Neighborhood in the City of Arcata. The site is north of Foster Avenue, west of Heather Lane and Westwood Lane, and south of Stewart Avenue. Janes Creek runs along the southeastern boundary of the site. See Figure 1A (Location Map) and Figure 1D (Aerial Photo of the Residential Development Site) for a map and photo of the project area. The residential development site is currently zoned by Humboldt County as a mix of Limited Industrial (ML), Residential One-family (R-1), and Apartment Professional (R-4). This site is located within the City's Planning Area, Sphere of Influence, and Urban Services Boundary. As shown on Figure LU-a of the Arcata General Plan Land Use Element (see Figure 1B [Existing City of Arcata General Plan Land Use Designation]), the site has been planned by the City to be designated/zoned Residential - Medium Density (RM) upon annexation.

Surrounding uses include single-family and multi-family residential development to the north and east, agriculture uses to the west including Sun Valley Floral Farms, and a mix of single-family residential and agricultural uses to the south. The former Simpson Mill spur tracks are located along the southern boundary of the residential development site adjacent to the north edge of the Foster Avenue right-of-way. The railroad bed is now inactive and privately-owned. Foster Avenue is a two lane County roadway with a 40' right of way.

The residential development site was used as a lumber mill and whole-log chipping facility in the past, but has not been used for this purpose since the 1980s. The site contains remnants of the former mill structures as well as the western bank of Janes Creek and associated riparian corridor, fill materials and gravel, blackberry bushes, grasses, and other low growing shrubs. The site is essentially flat, sloping slightly from the northeast to the southwest. The site is surfaced with river run gravel fill interspersed with vegetation (see Figures 1C [Existing Land Uses, City Limits, Urban Services Boundary] and 1D [Aerial Photo of the Residential Development Site]).

Janes Creek forms the southeastern boundary of the residential development site. The 100-year floodplain for Janes Creek covers a small area in the southeast portion of the site. According to the Arcata General Plan, under Protected Watercourses, Janes Creek is a Class 1, fish-bearing stream. The City of Arcata Land Use Code (Section 9.59.050) establishes a Stream Protection (SP) Zone for undeveloped areas that requires a minimum setback of 100-feet from the top of bank. The City restricts development activities within the stream protection zone.

Park Site

The proposed park site (Ennes Park Expansion), which totals approximately 4.69 acres, would be located on City owned parcels 505-151-009, 505-284-009, and 505-284-010 (see Figure 1H [Parcels Proposed for Development]). Parcel 505-151-009 is currently located in the County and parcels 505-284-009 and 505-284-010 are located within City limits. The majority of the proposed park site is currently vacant but was used historically for agriculture and contains prime agricultural soils. The park site currently contains a graveled driveway access that is used for an adjacent community supported agriculture (CSA) operation on parcel 505-151-008.

Parcels 505-284-009 and 505-184-010 are currently zoned Public Facility (PF) by the City of Arcata. Parcel 505-284-009 (0.26 acres) is currently developed with a gravel driveway access. Parcel 505-284-010 (0.21 acres) is currently developed with a small park (Ennes Park). Ennes Park serves the single-family residential neighborhood to the north of the residential development site and was recently redeveloped by the City to contain a jungle gym, wiggly board, spinner pod, a see-saw type structure, and a corn hole court.

Parcel 505-151-009 is currently zoned by Humboldt County for agricultural (AG and AE) uses. Parcel 505-151-009 (4.22 acres) has been planned to be developed as a park by the City of Arcata for several decades. This parcel was re-designated as Public Facility (PF) as part of the Humboldt County General Plan update in Fall 2017, based on the City's desire to develop the property as parkland (see Section 2.1 [Land Use and Planning] of the EIR for further information).

Vegetation found on the park site primarily consists of non-native species such as Sweet Vernal Grass, Orchard grass, Italian Wildrye (*Festuca perennis*), Soft Chess (*Bromus hordeaceus*), and Wild Radish (*Raphanis sativum*). As indicated in the Wetland Delineations and Biological Report prepared by Streamline Planning Consultants (Appendices Z, AA, and BB), the parcels proposed to be developed for the park do not contain any riparian corridors, wetlands, or other sensitive habitat.

Emergency Access Road Site

The emergency access road site is located on parcel 505-151-001 (26.16 acres) (see Figure 1H [Parcels Proposed for Development]) and will cover approximately 0.34 acres of the parcel. Although the emergency access road will access Stewart Avenue through an approximately 0.11 acres portion of parcel 505-284-010, it will not convert this portion of parcel 505-284-010 into an emergency access road (see further discussion below under 'Proposed Project Description').

Parcel 505-151-001 was historically used for agricultural purposes and contains prime agricultural soils. Currently the parcel is used as grazing land by Tule Fog Farm. Parcel 505-151-001 is currently zoned by Humboldt County for agricultural (AG), industrial (ML), and residential (R-1) uses. Vegetation on this parcel primarily consists of non-native species such as Sweet Vernal Grass (*Anthoxanthum odoratum*) and Orchard grass (*Dactylis glomerata*).

Parcel 505-284-010 was also historically used for agricultural purposes and is currently developed as a small park (Ennes Park), which serves the single-family residential neighborhood to the north of the residential development site. As noted above, Ennes Park was recently redeveloped by the City to contain a jungle gym, wiggly board, spinner pod, a see-saw type structure, and a corn hole court. This parcel is currently zoned Public Facility (PF) by the City of Arcata.

As indicated in the Wetland Delineation, (Appendix AA), Wetland Assessment (Appendix BB), and Biological Report (Appendix Z) prepared by Streamline Planning Consultants, the area proposed to be developed for the emergency access road does not contain any riparian corridors, wetlands, or other sensitive habitat.

Hammond Trail Sections Site

The proposed Hammond Trail section that will be developed by the applicant will be located on parcel 505-161-009 (No address assigned) which totals approximately 0.94 acres (0.74 acres in County jurisdiction and 0.20 acres within City limits). This parcel is located along the southern boundary of the residential development site (see Figure 1H [Parcels Proposed for Development]). This parcel historically contained the Simpson Mill spur tracks which have been inactive for several decades. The property is privately owned and is planned to be developed as a section of the Hammond Trail in the Arcata Pedestrian and Bicycle Master Plan (2010). Parcel 505-161-009 is designated by Humboldt County as Railroad Urban Reserve (UR) and Medium Density Residential (RM). This parcel contains drainage ditches on either side of the railbed which were identified as three-parameter wetlands in the Wetland Delineation (Appendix AA) completed by Streamline Planning Consultants. This section of the Hammond Trail will cover approximately 0.15 acres (6,500 s.f.) of parcel 505-161-009.

In addition to the Hammond Trail section that will be developed by the applicant, the City of Arcata also proposes to construct a section of the Hammond Trail on parcel 505-151-005. This parcel occurs directly west of parcel 505-161-009 and also historically contained the Simpson Mill spur tracks. Parcel 505-151-005 also contains drainage ditches on either side of the railbed which were identified as two- and three-parameter wetlands in the Wetland Assessment (Appendix CC) completed by SHN. The property owner (Arcata Land Company LLC) will dedicate an access easement to the City of Arcata for construction of the proposed trail. This section of the Hammond Trail will cover approximately 0.29 acres (12,500 s.f.) of parcel 505-151-005.

Pedestrian/Bicycle Pathway Site to Alliance Road

A proposed pedestrian/bicycle pathway will be located on parcel 505-341-048 (2201 Alliance Road), which totals 0.68 acres. There is currently an unimproved pedestrian trail along this proposed pathway that provides access from the eastern boundary of the residential development site to the existing paved access that connects to Alliance Road adjacent to the Janes Creek Townhouses (South). This access contains an existing overcrossing over Janes Creek along the eastern boundary of the residential development site (see Figure 1H [Parcels Proposed for Development]). There is an existing private access easement through parcel 505-341-048 for the benefit of the residential development site (APN 505-161-011). Parcel 505-341-048 is zoned Residential High Density (RH) Planned Development (PD) by the City of Arcata. The proposed pathway will improve approximately 0.09 acres of parcel 505-341-048.

Foster Avenue Connection Site

The proposed Foster Avenue connection will be located within the City of Arcata public right-of-way and on parcels 505-161-009, -030, and 505-162-010. The Foster Avenue connection will cover an approximately 0.21-acre portion of these parcels and the existing road right-of-way (180 feet long by 50 feet wide). The majority of the Foster Avenue connection will occur in the Foster Avenue public right-of-way and on parcel 505-161-009. The area proposed for this road connection contains an existing railbed crossing over Janes Creek with an undersized culvert that is in disrepair.

The Janes Creek riparian corridor is approximately 160 feet wide in the area proposed for the road connection (see Figure 1H [Parcels Proposed for Development]). The Foster Avenue public right-of-way in this area is approximately 150 feet long from the end of the pavement east of Janes Creek to the residential development site to the west. The right-of-way varies in width from 50 feet at the edge of the pavement east of Janes Creek, to 30 feet at the eastern border of the residential development site. The right-of-way crosses Janes Creek and is bordered by parcels 505-161-009 (railroad bed) and 505-341-037, the residential development site, and Westwood Manor Park.

Figure 1A Location Map

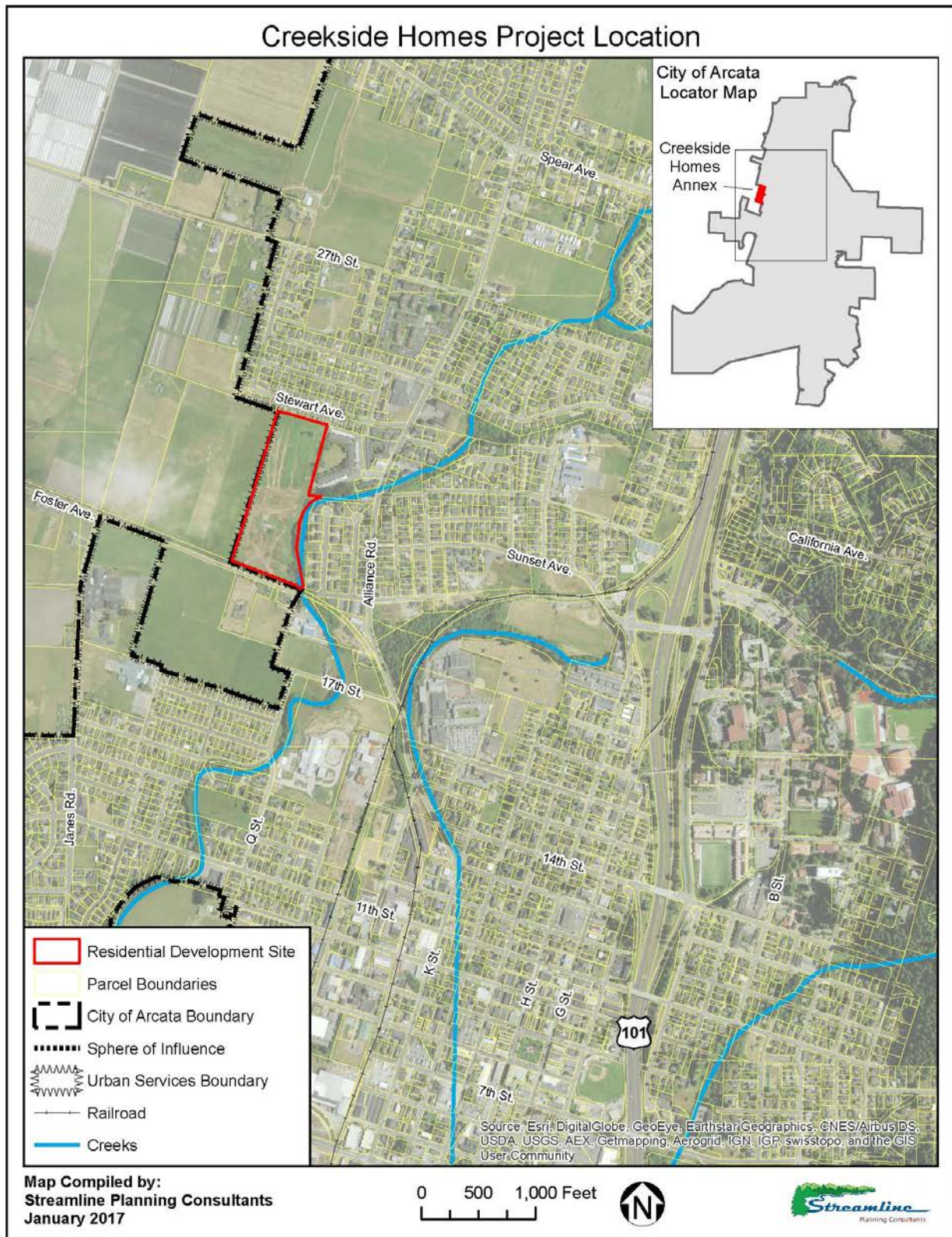


Figure 1B Existing City of Arcata General Plan Land Use Designation (Figure LU-a)

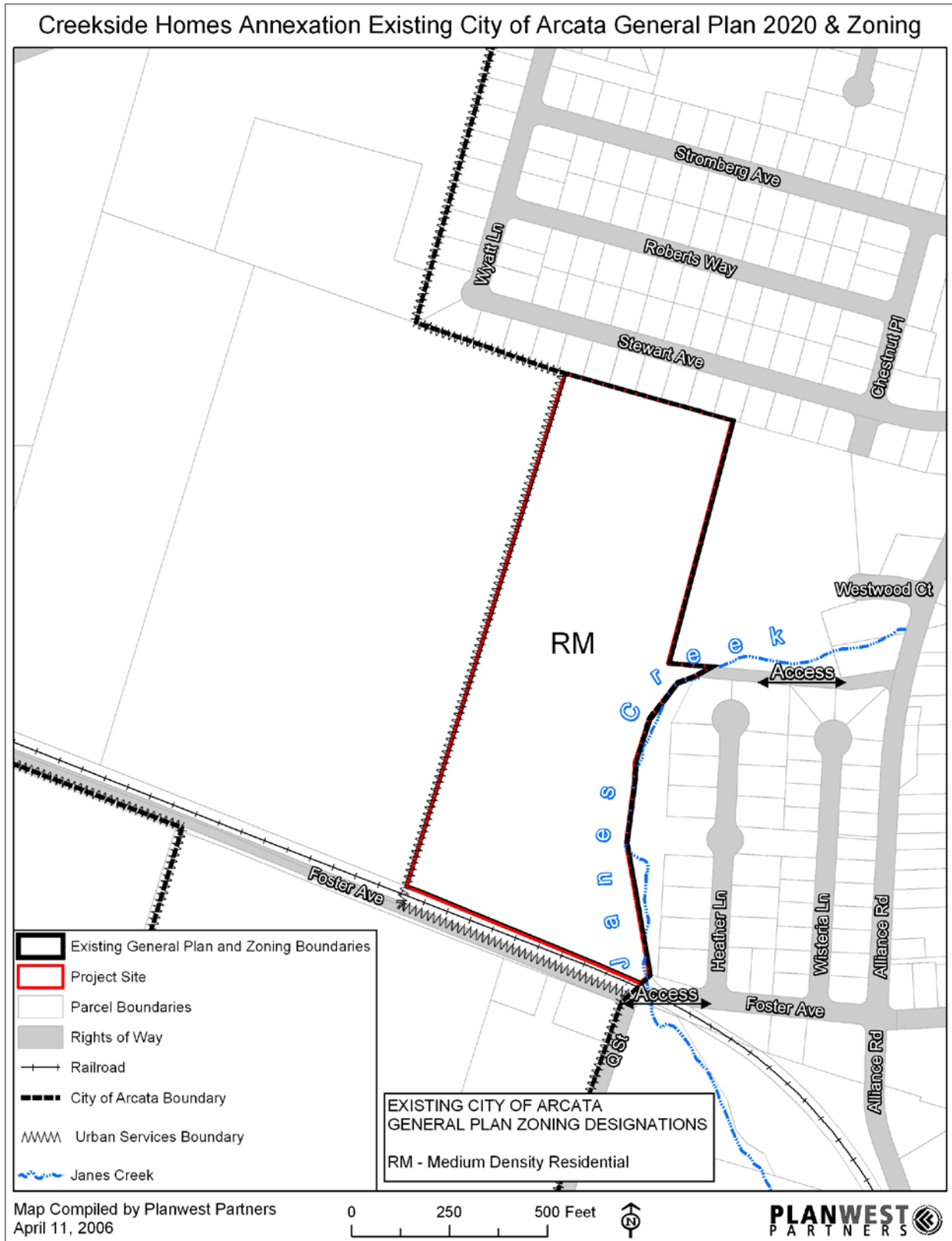


Figure 1C Existing Land Use, City Limits, Urban Services Boundary

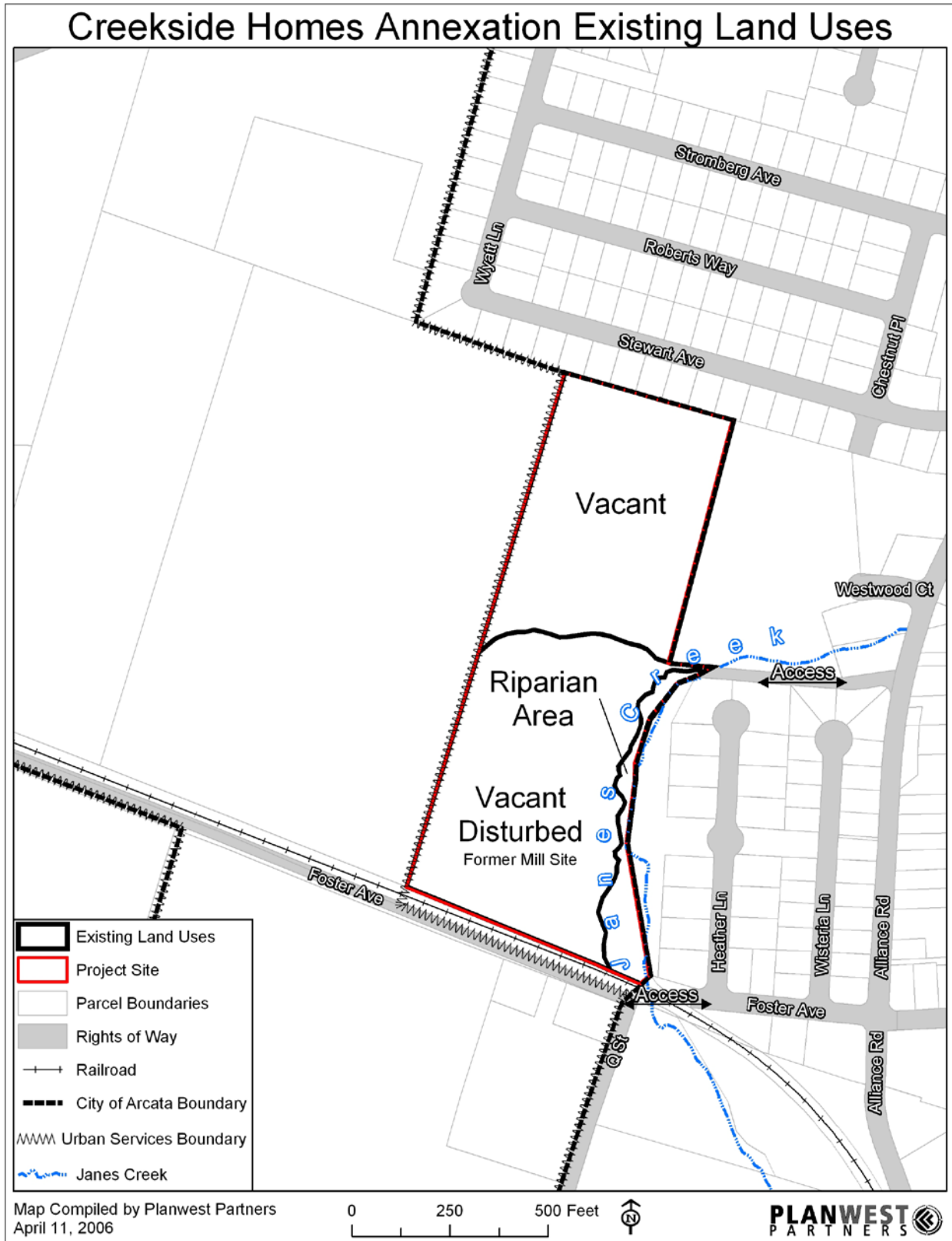
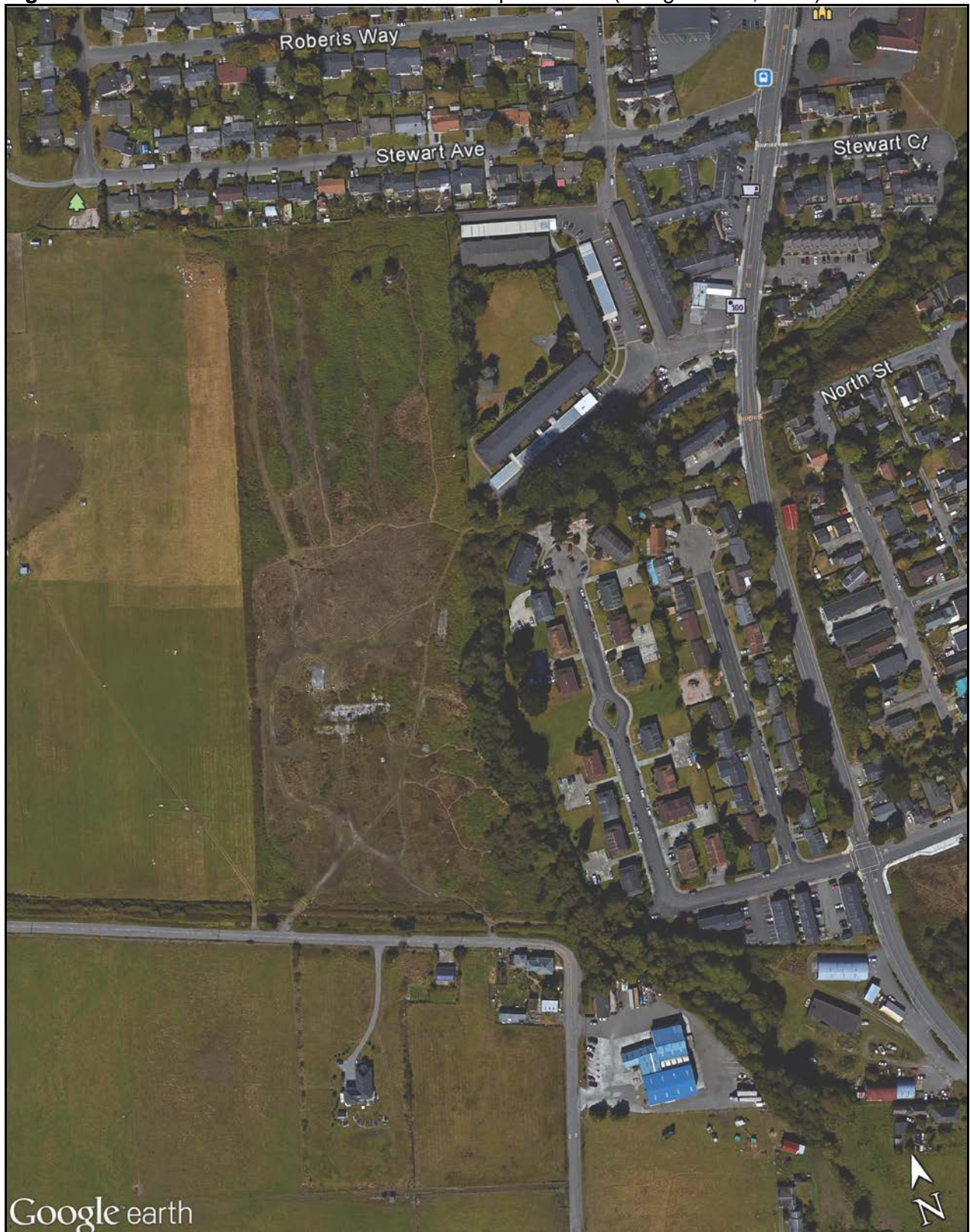


Figure 1D Aerial Photo of the Residential Development Site (Google Earth, 2017)



As noted above, parcel 505-161-009 totals approximately 0.94 acres (0.74 acres in County jurisdiction and 0.20 acres within City limits) and historically contained the Simpson Mill spur tracks which have been inactive for several decades. The proposed road connection will be located on a section of the eastern portion of this parcel which contains the railbed that crosses Janes Creek. Parcel 505-161-030 (1800 Q Street) is approximately 2.12 acres in size and is developed with the Q Street Service Center. This parcel is zoned Industrial Limited (IL) by the City of Arcata and is bordered on the northeastern boundary by Janes Creek. It is not clear without a land survey of the proposed road connection, but it appears from the City of Arcata GIS System that a portion of the Foster Avenue connection may occur on a very small portion of the northern edge of parcel 505-161-030. Parcel 505-162-010 is a small linear parcel located between parcel 505-161-009 and 505-161-030. This parcel contains a section of the Janes Creek riparian corridor. This parcel is located within Arcata City limits but has no assigned address or designation/zoning. It is not clear without a land survey of the proposed road connection, but it appears from the City of Arcata GIS System that a portion of the Foster Avenue connection may occur on parcel 505-162-010.

PROPOSED PROJECT DESCRIPTION

Project Objectives

Both the City of Arcata and the project applicant have set objectives for the proposed annexation and residential development. The proposed project's ability to meet these objectives is analyzed in the EIR.

- 1) To provide for orderly development of the City, including additional housing development within the City's Sphere of Influence and Urban Services Boundary;
- 2) To comply with the General Plan and other relevant adopted planning documents and implementing ordinances (e.g. Land Use Code);
- 3) Assist the City in implementation of the General Plan Housing Element goals by developing single-family and senior housing;
- 4) Provide housing adjacent to existing residential neighborhoods;
- 5) Provide infill residential development on an underutilized former lumber mill site that is planned by the County of Humboldt and City of Arcata for residential uses;
- 6) Create a strong sense of community by providing new connections between neighborhoods on the western edge of the City;
- 7) Provide a mix of housing types;
- 8) Develop trails connecting the residential development site to the existing City trail system, transit facilities, parks, neighborhoods, and schools;
- 9) Tree-lined streets & curb-separated sidewalks; and
- 10) Create enhanced streetscape and a walkable community.

Summary of Proposed Project

The Creek Side Homes project proposes the annexation, redesignation/rezoning, and subdivision of parcel 505-161-011 for single-family, multi-family, and assisted living residential development that would provide housing for approximately 269 residents (see Section 2.2 [Population and Housing]). The proposed development of parcel 505-161-011 will generally consist of 32 single-family residential units and 32 accessory dwelling units, an assisted living and memory care facility with 100 care beds, 25 senior-restricted neighborhood cottage units, a stream protection zone along Janes Creek, a wetland mitigation area, pedestrian/bicycle trails, and the development and dedication of public infrastructure (access roads, utilities, stormwater facilities, etc.). The project also includes the annexation of City-owned parcel 505-151-009, 0.74 acres of parcel 506-161-009 (total parcel size = 0.94 acres), and a portion of the right-of-ways for Foster Avenue and Q Street that are currently in County jurisdiction (see Figure 1E [Parcels Proposed for Annexation]).

Offsite improvements for the project will include development of parkland to the northwest of the residential development site, an emergency access road to Stewart Avenue, a section of the Hammond Trail, a pedestrian/bicycle pathway accessing to Alliance Road, and the connection of Foster Avenue over Janes Creek which will include sidewalks, bike lanes, and a “T” type intersection at Q Street and Foster Avenue (see Figure 1G [Site Plan] and Figure 1H [Parcels Proposed for Development]). The parcels where offsite improvements will be developed include the following:

- Park site (APNs 505-151-009, 505-284-009, and -010)
- Emergency access road site (APNs 505-151-001)
- Hammond Trail sections (APNs 505-161-009 and 505-151-005)
- Pedestrian/bicycle pathway to Alliance Road (APN 505-341-048)
- Foster Ave Connection (public r-o-w, 505-161-009, -030, and 505-162-010)

The project would involve modifications to the current zoning for parcels 505-161-011, 505-151-009, and a portion of parcel 505-161-009, which are proposed for annexation (see Figure 1E [Parcels Proposed for Annexation]). Table 1-1 (Existing and Proposed Zoning) lists the existing and proposed zoning for the annexation parcels.

Table 1-1 Existing and Proposed Zoning

| Parcel | Existing Zoning (County Jurisdiction) | Proposed Zoning (City Jurisdiction) |
|--------------------------------|--|--|
| (APN 505-161-011) 16 acres | ML (Limited Industrial) R-1 (Residential One Family) R4 (Apartment Professional) | RL (Residential-Low Density) with :PD (Planned Development) Combining Zone |
| (APN 505-151-009) 4.2 acres | AG (Agriculture General) AE (Agriculture Exclusive) | PF (Public Facility) |

| Parcel | Existing Zoning (County Jurisdiction) | Proposed Zoning (City Jurisdiction) |
|---------------------------------|--|--|
| (APN 505-161-009) 0.74 acres | Railroad | PF (Public Facility) |

The proposed actions for the project are described in greater detail below. Figure 1G shows the project Site Plan and Figure 1H shows the parcels proposed for development including the off-site improvements. Table 1-2 (Proposed Project Uses) gives the planned acreages and densities for the projects proposed uses of land.

Table 1-2 Proposed Project Uses

| Proposed Uses | # of Units | Acreage | Density (units/acre) |
|---|-------------------|----------------|---------------------------------|
| Residential Uses | | | |
| Senior-Restricted Cottage Units | 25 | 4.23 | 5.9 |
| Assisted Living Facility* | 100 | 5.49 | -- |
| Single-Family Units | 32 | 6.26 | 5.11 |
| Accessory Dwelling Units* | 32 | -- | -- |
| <i>subtotal</i> | <i>189</i> | <i>15.98</i> | <i>--</i> |
| Non-Residential Uses | | | |
| Park | -- | 4.69 | -- |
| Emergency Access Road | -- | 0.34 | -- |
| Hammond Trail Sections | -- | 0.44 | -- |
| Pedestrian/Bicycle Pathway to Alliance Road | -- | 0.09 | -- |
| Foster Ave Connection | -- | 0.21 | -- |
| <i>subtotal</i> | <i>--</i> | <i>5.77</i> | <i>--</i> |
| TOTAL | 189 | 21.75 | -- |

*Residential density requirements are not applicable to the assisted living facility and accessory dwelling units.

The applicant generally estimates that construction of the project will occur in several phases over approximately 6 years and would be fully operational in approximately 2025. The anticipated phasing of the proposed project is shown in Table 1-3 (Anticipated Project Phasing).

Table 1-3 Anticipated Project Phasing

| Unit Type | Year 1 (2019) | Year 2 (2020) | Year 3 (2021) | Year 4 (2022) | Year 5 (2023) | Year 6 (2024) |
|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Single-Family Units | 0 | 11 | 11 | 10 | 0 | 0 |
| Accessory Dwelling Units | 0 | 0 | 11 | 11 | 10 | 0 |
| Senior-Restricted Cottage Units | 0 | 0 | 0 | 0 | 25 | 0 |
| Assisting Living Units | 0 | 0 | 0 | 0 | 75 | 25 |
| TOTAL UNITS | 0 | 11 | 22 | 21 | 110 | 25 |
| TOTAL CUMULATIVE UNITS | 0 | 11 | 33 | 54 | 164 | 189 |

Residential Development

The project proposes a minor subdivision of the residential development site (APN 505-161-011) which would require approval of a tentative parcel map and would generally split the property into three large lots (see Figure 1F [Tentative Parcel Map]). As part of a future subdivision, the northern one-third (6.26 acres) of the site would be split into individual lots that would be developed with single-family residential and accessory dwelling units. The central one-third of the parcel would be developed with the assisted living and memory care facility (5.49 acres) and the southern one-third of the site would be developed with senior-restricted neighborhood cottage units (4.23 acres). The proposed residential mix would provide varied unit types, architectural styles, and densities (see Figure 1G [Site Plan]).

Approximately 2.5 acres of the 16-acre residential development site along Janes Creek will not be developed with residential uses but will include the wetland mitigation area, stormwater facilities (e.g., pre-treatment bioswale), and trails. The central parcel on the site would include approximately 1.4 acres and the southern parcel on the site would include approximately 1.1 acres of the area along Janes Creek that will not include residential development. Most of this area would be designated as a Stream Protection Zone as required by the Arcata Land Use Code. The wetland mitigation area, stormwater facilities (e.g., pre-treatment bioswale), and trails proposed by the project, are allowed uses in the Stream Protection Zone per Section 9.59.050 of the Arcata Land Use Code (see further discussion in Section 4.3 [Biological Resources] of the EIR).

Single Family Units

Single-family lots are proposed within the northern third of parcel 505-161-011 as part of a future subdivision. The size of the lots would be designed in compliance with the requirements of the Residential Low Density (RL) zone (average 6,000 s.f. lots) and would be developed with single-family dwellings. All single family lots would include a garage which have the potential to be developed into accessory dwelling units. Single family dwellings will be sold at market rates and will be accessed from streets constructed within the development.

Assisted Living and Memory Care Facility

The proposed two-story assisted living and memory care facility would be located on a common lot in the central portion of parcel 505-161-011 and would consist of 76 assisted living units and 24 memory care units. The facility will be accessed by streets constructed within the development and will have shared parking to the northeast and west of the development.

Senior-Restricted Neighborhood Cottage Units

The proposed senior-restricted neighborhood cottage units would be located in the southern portion of parcel 505-161-011, adjacent to Foster Avenue and the proposed primary access to the site. The cottages would share a common lot with parking provided in two areas to the northeast and southwest. The neighborhood cottage units would consist of 25 residential units in rows of individual cottages with shared parking, common walkways, gardens, lawns, and several common buildings. The units are proposed to be restricted to seniors and sold or rented at market rates. These units will be accessed by streets/driveways constructed within the development.

Figure 1E Parcels Proposed for Annexation

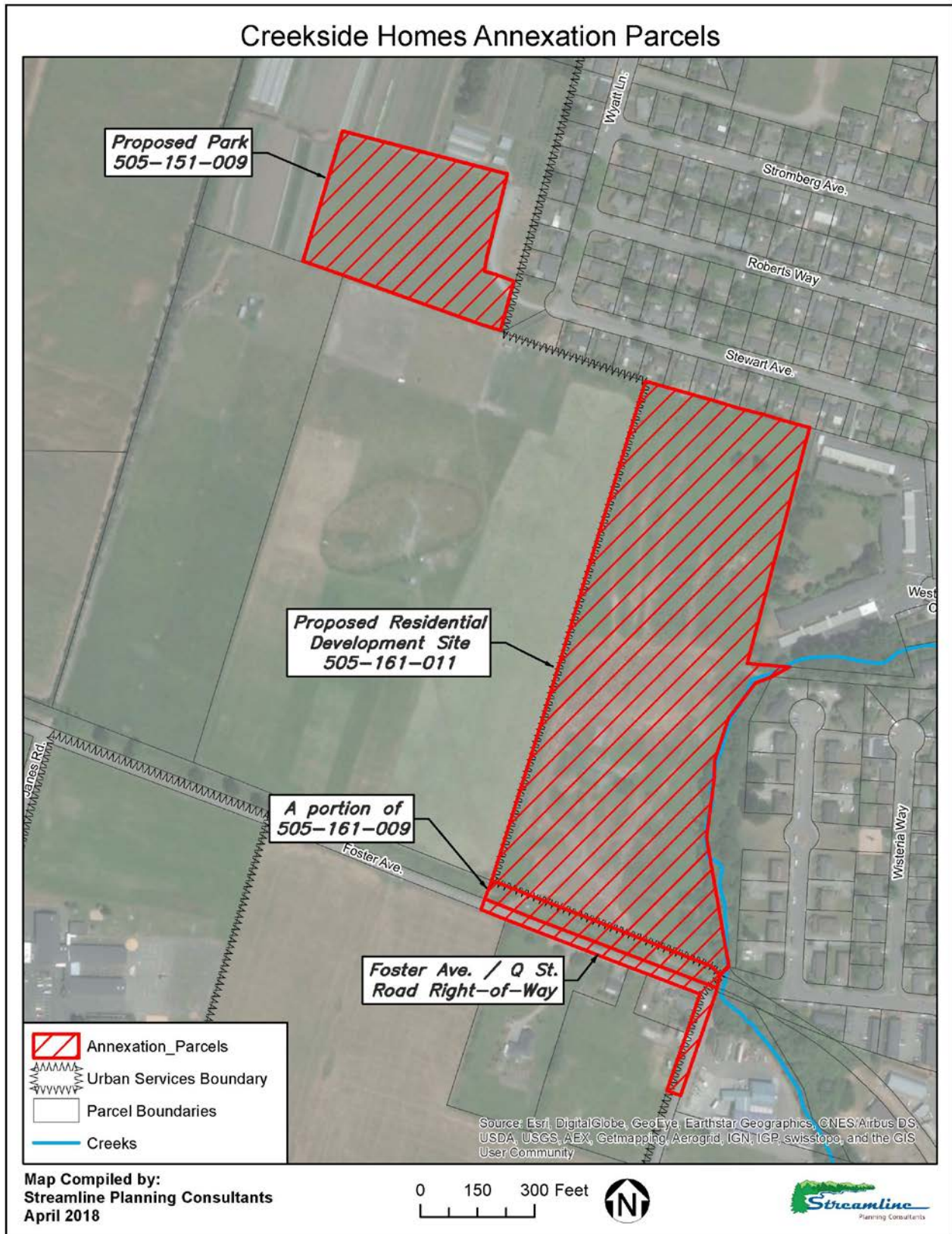


Figure 1F Tentative Parcel Map

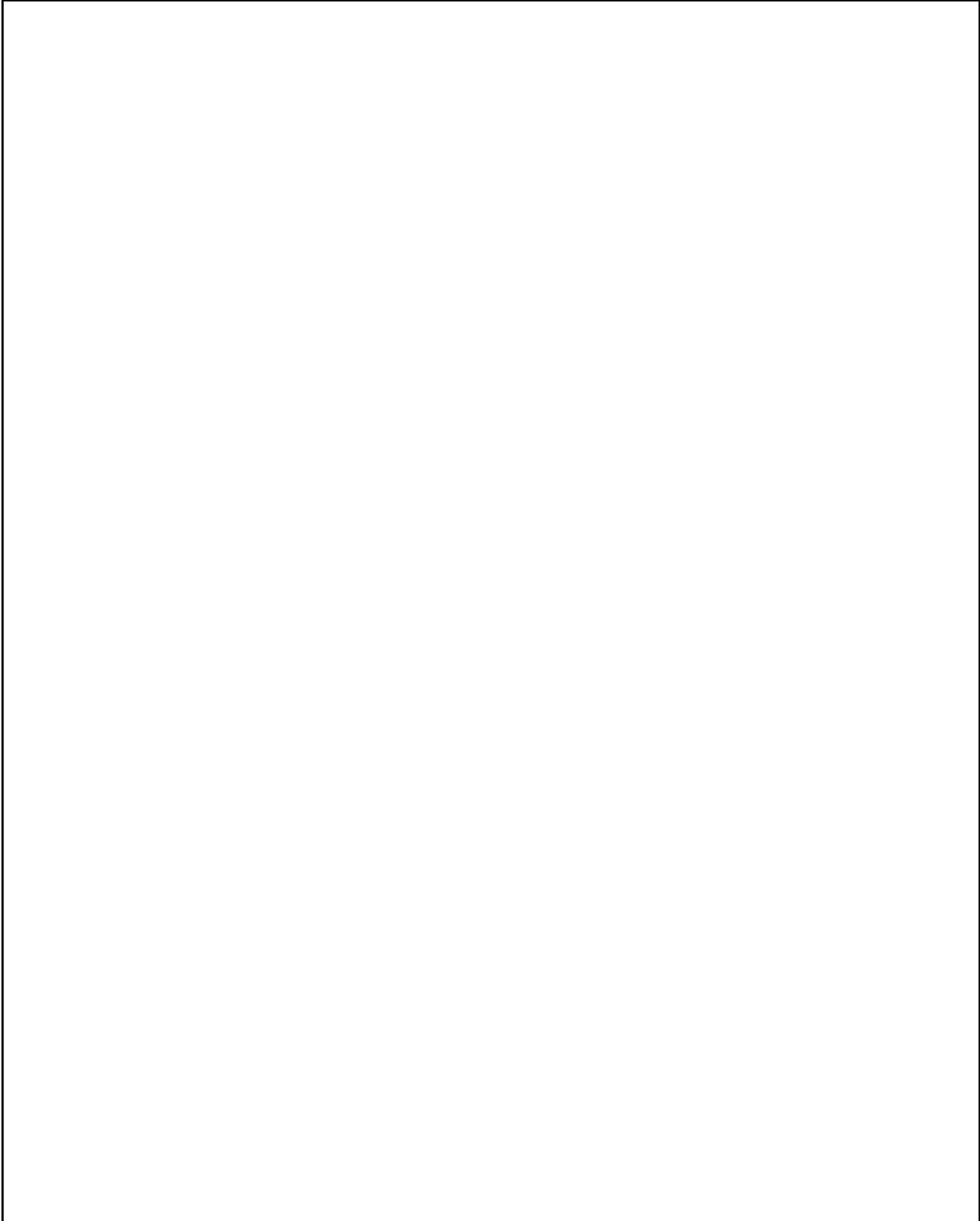


Figure 1G Site Plan

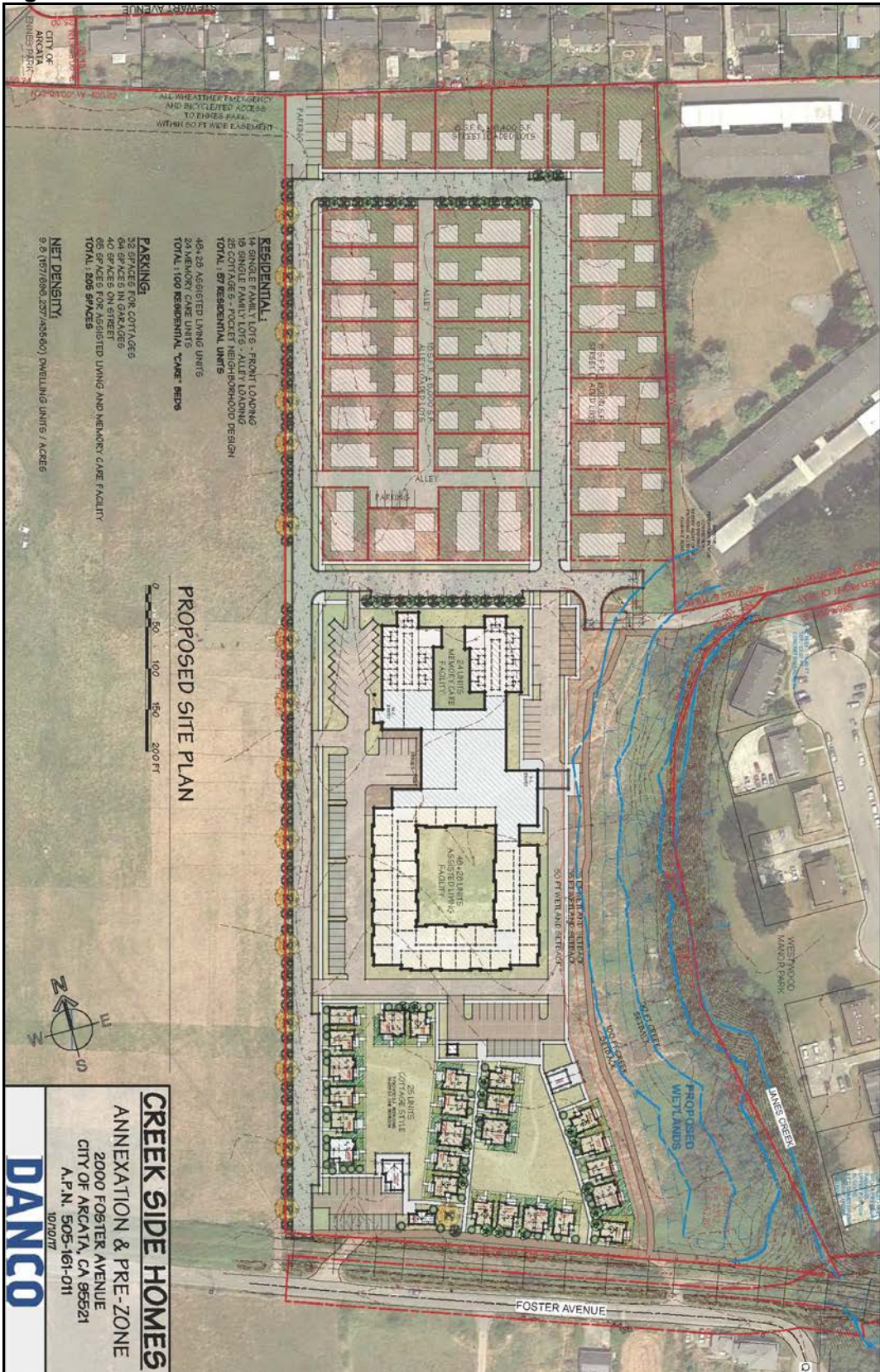
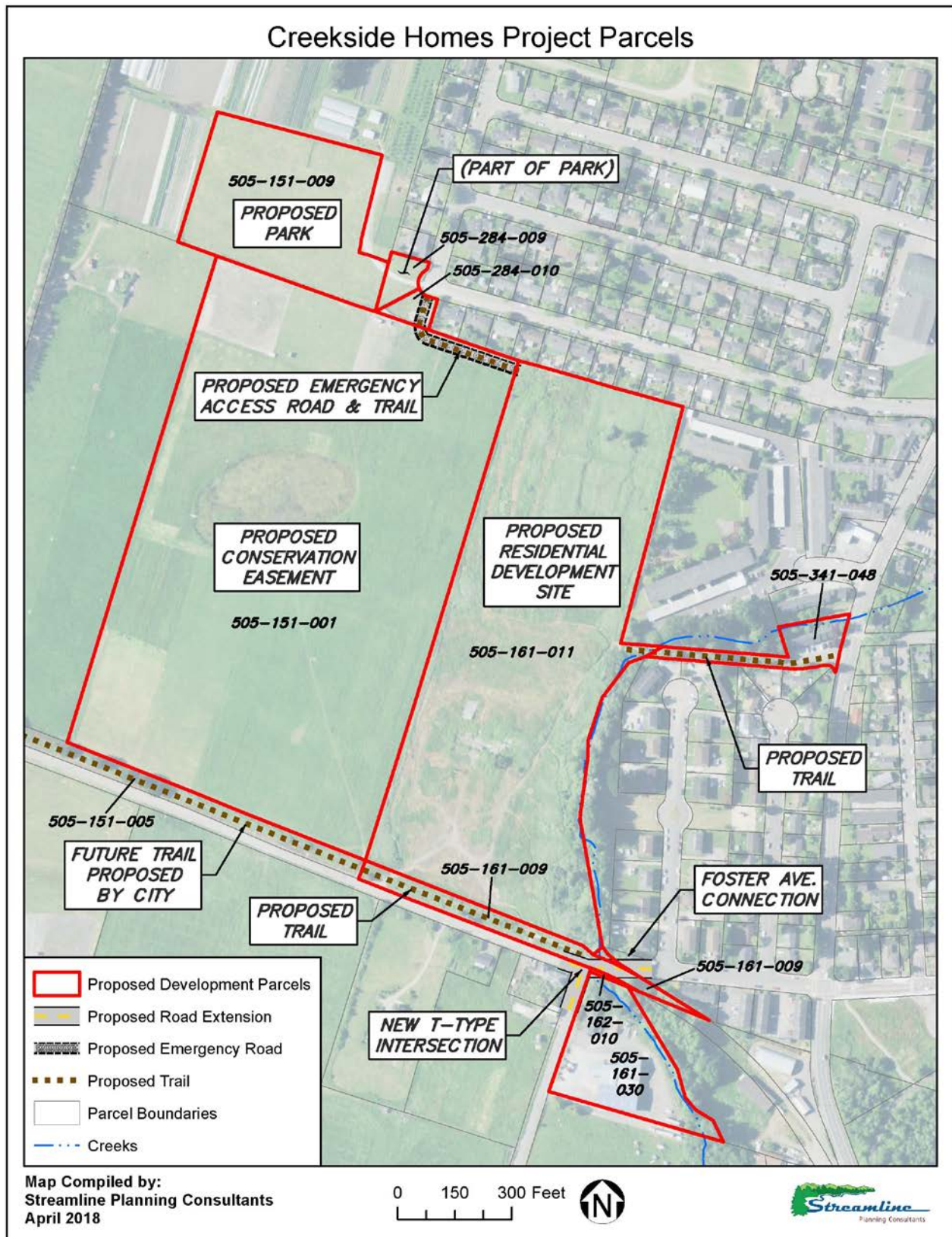


Figure 1H Parcels Proposed for Development



Access (Vehicular & Non-Vehicular)

The proposed project would construct new streets and driveways to serve the development. The project would include public internal streets with the primary ingress/egress (entrance/exit) via Foster Avenue (on the west side of Janes Creek). The new roadway access onto Foster Avenue would be located near the southwestern corner of the residential development site (APN 505-161-011), approximately 500-feet west of the Foster and “Q” Street intersection. This entry would cross the Simpson Mill Spur railbed (APN 505-161-009) and is proposed to be designed as a “T” type intersection. There is currently an access to the site near this location that would be reconstructed as part of the project including replacement of the culvert in the ditch along the railbed.

The proposed access improvements have been reviewed by, and will be constructed to, the standards of the City Engineer to ensure that adequate circulation is provided and no hazardous design features will be developed as part of the project. The City Engineer has reviewed the proposed transportation improvements for the project and determined that they are appropriate for the amount and type of traffic that will result from the proposed project.

The project’s ingress/egress and on-site circulation are required to meet the requirements of the Arcata Fire Protection District and Arcata Police Department, which ensures that new development provides adequate access for emergency vehicles. The project has been reviewed by the Fire and Police Departments, and their requirements have been included in the proposed project design. This includes development of an emergency access road to Stewart Avenue and a fire-truck turnaround on the eastern boundary of the residential development site (see Figure 1G [Site Plan] and Figure 1H [Parcels Proposed for Development]).

Foster Avenue Connection

Primary vehicular access from the proposed development to Alliance Road will occur through an extension of Foster Avenue over Janes Creek. The Foster Avenue connection would include a “T” type intersection at the intersection of Foster Avenue and Q Street. The road connection will be designed with two travel lanes, bike lanes, and sidewalks. The proposed road connection will be located within the Foster Avenue public right-of-way and on parcels 505-161-009, -030, and 505-162-010. The road connection will cover an approximately 0.21-acre portion of these parcels (180 feet long by 50 feet wide). The majority of this improvement will occur in the Foster Avenue right-of-way and on parcel 505-161-009.

The area proposed for this road connection contains an existing railbed crossing over Janes Creek with an undersized culvert that is in disrepair. This culvert is proposed to be replaced as part of the project with an arch culvert as shown in Figure 1J (Proposed Janes Creek Culvert Replacement). The Janes Creek riparian corridor is approximately 160 feet wide in the area proposed for the road connection (see Figure 1H [Parcels Proposed for Development]).

Emergency Access Road

An all weather emergency access road (compacted gravel), which complies with the emergency access design requirements of the Arcata Fire Department, is proposed to connect the northwest corner of the residential development site to the single-family residential neighborhood to the north. The access road would be developed along the northern boundary of parcel 505-151-001

and would also access through the parcel currently containing Ennes Park (APN 505-284-010), to connect the residential development site with Stewart Avenue. The proposed emergency access road would develop an approximately 300 by 50-foot strip (15,000 s.f. or 0.34 acres) of parcel 505-151-001. Although the emergency access road will access Stewart Avenue through an approximately 100 by 50-foot strip (5,000 s.f. or 0.11 acres) of parcel 505-284-010, it will not convert this portion of parcel 505-284-010 into an emergency access road. In the near future, the City of Arcata will pave this portion of parcel 505-284-010 and develop it as a multi-use court. The paved, multi-use court will be available to be used as an emergency access connection to Stewart Avenue. In total, the emergency access road would be developed on approximately 0.34 acres. Removable bollards or other similar structures will be installed on both ends of the emergency access road to prevent non-emergency vehicular use. This access will also be available to be used as a pedestrian/bicycle pathway.

Bicycle/Pedestrian Trails

The proposed project would construct new pedestrian/bicycle pathways to serve the development, some of which are identified in the Arcata Pedestrian and Bicycle Master Plan (2010), including the following (see Figure 1G [Site Plan] and Figure 1H [Parcels Proposed for Development]):

- A pedestrian/bicycle pathway through parcel 505-341-048 is proposed for access to Alliance Road that would include a crossing over Janes Creek. The proposed crossing would include the replacement of an existing overcrossing located mid-way along the eastern boundary of the residential development site. This pathway would connect the eastern edge of the residential development site to an existing paved access road that connects to Alliance Road adjacent to the Janes Creek Townhouses (South).
- A portion of the Hammond Trail is proposed to be constructed on parcel 505-161-009 along the southern boundary of the residential development site directly south of the proposed cottage units. This Class I shared use pathway will be a minimum of 10 feet wide.
- A north-south pathway is proposed on the southeastern portion of the residential development site that will connect the Hammond Trail with the pedestrian/bicycle pathway to Alliance Road.
- Sidewalks and bike lanes will be developed within the Foster Avenue connection to provide non-vehicular access from the residential development site to Alliance Road.
- The all-weather emergency access proposed to connect the residential development site (APN 505-161-011) with Stewart Avenue will also function as a pedestrian/bicycle pathway.

Parking

Section 9.36.040 (Number of Parking Spaces Required) of the Arcata Land Use Code lists the minimum and maximum number of off-street vehicle parking spaces required by land use type. With the residential uses proposed by the project, a minimum of 132 and a maximum of 264 parking spaces would be required by the Arcata Land Use Code. Table 1-4 (Vehicle Parking Space Requirements) shows the number of vehicle parking spaces required by unit type.

As shown on the Site Plan (Figure 1G), the project proposes parking dispersed throughout the site. The parking for the cottage style units will include 32 perpendicular off-street parking spaces and 9 parallel on-street parking spaces along the west side of the cottage neighborhood.

Table 1-4 Vehicle Parking Space Requirements

| Unit Type | Number Of Units | Min. # of Parking Spaces Required | Max. # of Parking Spaces Required | Range of Spaces Required |
|---------------------------------|------------------------|--|--|---------------------------------|
| Single-Family Units | 32 | 1 | 2 | 32 - 64 |
| Accessory Dwelling Units* | 32 | -- | -- | -- |
| Senior-Restricted Cottage Units | 25 | 1 | 2 | 25 - 50 |
| Assisting Living Facility Units | 100 | 0.75 | 1.5 | 75 - 150 |
| TOTAL | 189 | -- | -- | 132 - 264 |

*Vehicle parking space requirements are not applicable to the accessory dwelling units.

The parking for the assisted living and memory care facility will include 65 perpendicular and diagonal off-street parking spaces surrounding the facility and 8 parallel on-street parking spaces to the north of the facility. The single family residential units will include 64 off-street parking spaces provided in garages (2 garage spaces per lot) and approximately 21 parallel on-street parking spaces along the frontage of the larger single-family lots. In addition, 6 parking spaces are proposed off of the east-west trending alley serving the smaller single-family lots. In total 205 parking spaces are proposed for the project as shown on the Site Plan (Figure 1G).

Section 9.36.060 (Bicycle Parking) of the Arcata Land Use Code lists the minimum number of bicycle parking spaces required, which is based on the number of vehicle parking spaces required. For a site with 11 or more vehicle parking spaces, the minimum number of bicycle parking spaces required is equal to 50% of the number of vehicle parking spaces required. The bicycle parking requirement would only apply to the assisted living facility and senior-restricted cottage units since bicycle parking is not required for sites that are developed with one or two residential dwelling units. As noted above, a minimum of 75 vehicle parking spaces would be required for the assisted living facility and a minimum of 25 spaces would be required for the senior-restricted cottage units. As such, the minimum number of bicycle parking spaces that would be required for the assisted living facility would be 38 and the minimum number of spaces required for the senior-restricted cottage units would be 13. Based on this requirement, the minimum number of bicycle parking spaces required for the project would be 51.

Park Land & Other Open Space

The existing parks closest to the residential development site are Westwood Manor Park, Ennes Park, and Shay Park. Westwood Manor Park is located across Janes Creek from the residential development site, Ennes Park is located to the northwest of the site, and Shay Park is located to the southeast across Alliance Road. The City has also purchased land to the west, for future expansion of Ennes Park (APNs 505-151-009 and 505-284-009).

The project does not include on-site park facilities. Park facilities are proposed to be provided off-site on City property that is planned for the future expansion of Ennes Park (APNs 505-151-009, 505-284-009, and 505-284-010). Section 9.86.030 (Park Land Dedications and Fees) of the Arcata Land Use Code allows the payment of fees to the City for parkland development for projects that do not provide park facilities on-site. Section 9.86.030(D) contains a formula for determining the amount of parkland required which is based on the number of residential units proposed and the average number of persons per dwelling unit per the most recent Federal census. This formula was not used to determine the parkland requirement for the project because the 100 assisted living units will each have one bed which does not correlate with the average number of residents per household in the City. As such, the amount of parkland proposed by the project is based on the City's general standard of five acres of parkland per 1,000 persons. This results in a required parkland area of 1.35 acres for the estimated 269 residents. To provide the parkland necessary to serve the proposed residential development, the applicant will pay park in-lieu fees for the development of 1.35 acres of parkland on City-owned parcels 505-151-009, 505-284-009, and 505-284-010. Although the applicant is only responsible for providing park in-lieu fees for a portion of the proposed Ennes Park Expansion (1.35 acres), the annexation of parcel 505-151-009 into the City of Arcata and the development of all 4.69 acres of the Ennes Park Expansion are analyzed in the EIR.

As previously discussed in this chapter, an emergency access is proposed to connect the residential development site with Stewart Avenue. This all-weather emergency access would pass behind the existing neighborhood to the north, and would head west to access Stewart Avenue through the 0.21 acre property currently containing Ennes Park (APN 505-284-010). As noted above, although the emergency access road will access Stewart Avenue through parcel 505-284-010, it will not convert this portion of parcel 505-284-010 into an emergency access road. This portion of parcel 505-284-010 will be developed as a paved, multi-use court in the near future and will be available to be used as an emergency access connection to Stewart Avenue.

The proposed development also includes open space along Janes Creek which occurs on the southeastern boundary of the residential development site (APN 505-161-011). An open space area is proposed adjacent to Janes Creek and within the Janes Creek 100-foot stream protection zone. This area would include the proposed wetlands mitigation area, stormwater facilities (e.g., pre-treatment bioswale), and trails.

Landscaping

As shown on the Site Plan, it is proposed to install landscaping in various locations throughout the residential development site that will be effective in ornamenting the site. This includes planting trees and shrubs along the majority of the western property line of the residential development site to provide a vegetative screen. As it relates to outdoor water use for landscaping, it is proposed to use native and drought tolerant plant species for the site landscaping that do not require irrigation.

In addition, the majority of the naturally occurring vegetation within the Janes Creek riparian corridor and along the southern boundary of the residential development site will be retained.

These areas provide a vegetative screen for land uses to the south and east of the residential development site and for traffic on Foster Avenue and Heather Lane.

As described below in the discussion of wetland mitigation, it is proposed to plant native species within the 50-foot setback for the wetland mitigation area. These plantings will provide a vegetative buffer for the wetland mitigation area, expand the riparian corridor for Janes Creek, and provide additional habitat on the residential development site (see additional discussion under Wetland Mitigation Area section below).

Utilities and Easements

Proposed development of the residential development site (APN 505-161-011) would include provision of site utilities. All utilities (water, sewer, gas, electricity, and telecommunications services) are located adjacent to the site and would be extended underground to serve the proposed development. The City of Arcata, through its solid waste disposal contractor, would collect solid waste and recyclables.

The project would involve the use of existing easements or the development of new easements for access, utilities, and drainage. These would be necessary for some of the proposed improvements, including but not limited to, the Foster Avenue connection, emergency access road, pedestrian/bicycle trails, utilities, and drainage facilities (see Figure 1H [Parcels Proposed for Development]). The easements that will be required for the proposed project include, but are not limited to, the following:

Vehicular Access/Road Easements (Foster Ave Extension & Q St/Foster Ave Intersection):

- Vehicular access/road easement through parcel 505-161-009 for a portion of the Foster Avenue extension and Type-T intersection at Q Street and Foster Avenue. This parcel is owned by Arcata Land Company LLC and the easement would be to the benefit of the City of Arcata.
- Vehicular access/road easement through parcel 505-161-030 may potentially be needed for a portion of the Foster Avenue extension and Type-T intersection at Q Street and Foster Avenue. It will not be known if this easement will be needed until the property lines are surveyed and a design is developed for the Foster Avenue extension. This parcel is owned by the Lynette C Rose Trust and the easement would be to the benefit of the City of Arcata.

Emergency Vehicle Access Easement:

- Emergency vehicular access easement through parcel 505-151-001 to provide emergency access to City-owned parcel 505-284-010. This parcel is owned by Park Meadow Estates and the easement would be to the benefit of the City of Arcata and Foster Avenue LLC (owner of the residential development site [APN 505-161-011]).
- Emergency vehicular access easement through parcel 505-284-010 (existing Ennes Park) to provide access to Stewart Avenue. This parcel is owned by the City of Arcata and the

easement would be to the benefit of Park Meadow Estates (owner of parcel 505-151-001) and Foster Avenue LLC (owner of the residential development site [APN 505-161-011]).

Pedestrian/Bicycle Access Easements:

- Pedestrian/bicycle access easement through parcel 505-341-048 (2201 Alliance Road). There is an existing private access easement through parcel 505-341-048 for the benefit of Foster Avenue LLC (owner of the residential development site [APN 505-161-011]). This property is owned by the Diane R Parker Trust.
- Pedestrian/bicycle access easement through parcel 505-161-009 (railbed) for a section of Hammond Trail that will be constructed by the applicant. This property is owned by the Arcata Land Company LLC and the access easement would be to the benefit of the City of Arcata.
- Pedestrian/bicycle access easement through parcel 505-151-005 (railbed) for a section of the Hammond Trail that will be constructed by the City in the future. This property is owned by the Arcata Land Company LLC and the access easement would be to the benefit of the City of Arcata.

Utility Easements:

- Utility easements on the residential development site (APN 505-161-011) for water, sewer, drainage, and other necessary infrastructure to serve the proposed residential development. This property is owned by Foster Avenue LLC and the easements will be to the benefit of the City of Arcata.

Arcata Wastewater Treatment Plant

The City of Arcata prepared a memorandum (dated June 23, 2017) that analyzed the potential wastewater impacts of the approved/planned Sunset Area housing projects, which includes the Creek Side Homes project (Appendix S). The projects, referred to as the Sunset Area housing projects, are listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. The memorandum contains an analysis that estimates the increase in population and residential units that will occur from buildout of available land in the City in combination with upzoning and annexation proposed by the Sunset Area housing projects. The analysis determined that there is sufficient wastewater treatment capacity for the existing feasible residential development potential in the City as well as the upzoning and annexation proposed by the Sunset Area housing projects. However, as described above, the wastewater treatment facilities must be improved to meet the demand of both current and future population. The proposed project, which includes rezoning the residential development site to Residential Low Density (RL), will be required to pay standard sewer capital connection fees for residential development, as well as a Wastewater Treatment Plant Offset Fee (\$160,000) negotiated through a Development Agreement with the City, which will be used to fund some of the proposed improvements to the City's wastewater treatment system.

The standard sewer capital connection fees that will be paid by the applicant will be used to implement the City's Facility Plan for the wastewater treatment plant, as will occur for all new

development in the City that will have wastewater discharge. The \$160,000 Wastewater Treatment Plant Offset Fee that will be paid by the applicant through the Development Agreement is an amenity of the project and is not needed to ensure that the City's wastewater treatment plant has capacity to serve the project. Since the City has determined there is adequate wastewater treatment capacity to serve the project, any improvements to the wastewater treatment plant that occur using the sewer capital connection fees and Wastewater Treatment Plant Offset Fee, will be analyzed by the City as part of implementation of the City's Facility Plan.

Lighting

The proposed project includes various sources of new outdoor lighting (street, pedestrian-scale, security, and buildings). The project proposes outdoor lighting consistent with the City's design guidelines, Section 9.30.070 (Outdoor Lighting) of the Arcata Land Use Code, and the recommendations of the International Dark-Sky Association (IDA), which includes standards for fixtures, shielding, wattage, placement, height, and illumination levels. To comply with these requirements, lighting for the project will be the minimum lumens necessary, directed downward, shielded, and pedestrian level when feasible. This will ensure lighting is contained within the site and does not cause significant lighting and glare impacts for surrounding land uses and the Janes Creek riparian corridor.

Energy Conservation

Appendix F of the CEQA Guidelines requires that an EIR must include a discussion of the potential energy impacts of a proposed project and describe the energy conservation measures that will be incorporated to avoid or reduce inefficient, wasteful, and unnecessary consumption of energy. For the proposed project, this discussion is included in Chapter 5 (Energy Conservation) of the EIR, with the exception of the summarized discussion below.

Sources

In Humboldt County, energy is used as a transportation fuel and as electrical and heat energy in homes, businesses, industries, and agriculture. The majority of primary energy used in Humboldt County is imported, with the exception of biomass energy. Essentially all of the county's transportation fuels are imported. Although the majority of electricity is generated in the county, a large portion of it is generated using natural gas. The county imports about 90% of its natural gas; the rest is obtained locally from fields in the Eel River valley (Schatz Energy Lab, 2005; Pgs. 1-2).

Humboldt County is remotely located at the end of the electrical and natural gas supply grids, and this limits both energy supply options and system reliability. PG&E owns the natural gas and electricity transmission and distribution systems in Humboldt County. There is one major natural gas supply line that serves the county and four electrical transmission circuits (Schatz Energy Lab, 2005; Pg. 3).

Prior to May 2017, electricity to the project parcels would have been provided by the PG&E Humboldt Bay Generating Station (HBGS) which is located just south of the City of Eureka

along Humboldt Bay. The HBGS began commercial operation in 2010 and normally runs on natural gas, with ultra-low sulfur diesel as its backup fuel. As indicated on the PG&E website (www.pge.com), the HBGS is 33 percent more efficient than the previous Humboldt Bay Power Plant (HBPP) fossil fuel units.

Beginning in May 2017, electricity service for the City of Arcata was transitioned to the Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) program. The CCE program allows city and county governments to pool (or aggregate) the electricity demands of their communities in order to increase local control over electric rates, purchase power with higher renewable content, reduce greenhouse gas emissions, and reinvest in local energy infrastructure. The electricity continues to be distributed and delivered over the existing power lines by Pacific Gas & Electric (PG&E). The CCE program procures approximately 44% of its power from renewable and carbon-free sources, which is approximately 9% more renewable energy than the power sources previously provided by PG&E (RCEA, 2019). In addition, customers can choose to opt up to a premium service called Repower+, which is 100% renewable energy at only \$0.01 more per kilowatt hour (kWh). The proposed project will be automatically enrolled in the RCEA CCE program and will contribute towards increasing the amount of renewable power placed on California's grid, which has the effect of reducing greenhouse gas emissions and stimulating new renewable development in our region and State.

The proposed residential development will require electricity, natural gas for heating, and fuel for transportation. Energy will be consumed during both construction and operation of the proposed project, which is described below.

Construction

During construction of the proposed project, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project parcels, construction worker travel to and from the project parcels, as well as delivery truck trips; and to operate generators to provide temporary power for lighting and electronic equipment.

Construction would consist of demolition, site preparation, grading, building construction, trenching, paving, and architectural coating. As discussed in Chapter 5 (Energy Conservation) of the EIR, estimates of construction fuel consumption were developed for the project based on information provided by the California Emissions Estimator Model (CalEEMod) air quality computer model. During construction of the proposed project, off-road construction equipment, vendor trips, and hauling trips would consume a total of approximately 63,565 gallons of diesel fuel over the project's construction period. Worker trips would consume a total of approximately 26,719 gallons of gasoline over the project's construction period. These fuels would be consumed over a period of several years and would represent a small percentage of the total energy used in the State.

There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or State. The project would be required to comply with existing regulatory requirements and proposes various project measures that would prevent the wasteful and inefficient use of

nonrenewable resources during construction (see Chapter 5 [Energy Conservation] for further discussion).

Operation

During long-term operation of the proposed project, energy use will include electricity and natural gas consumption by the residents, energy consumption related to obtaining water, and fuel consumption by operation of vehicles. As described in Section 2.8 (Greenhouse Gas Emissions) of the EIR (see Table 2.8-3 [GHG Laws and Regulations Applicable to the Proposed Project]), the project is subject to existing regulatory requirements and proposes several measures that will reduce energy consumption during operation of the project.

As discussed in Chapter 5 (Energy Conservation) of the EIR, in compliance with existing regulatory requirements (e.g., exceedance of Title 24 Energy Efficiency Standards by at least 20 percent) and with implementation of the project design features and/or mitigation measures (see Mitigation Measure 2.8.1a), the project would result in an estimated 1,213 megawatt hours (MWh) of electricity use and 1.34 million kilo British Thermal Units (kBtu) of natural gas use annually.

CEQA Guidelines Appendix F indicates that "increasing reliance on renewable energy sources" is one of the means of achieving the goal of energy conservation (see Appendix F [I][3] and [II][D][4]). As described above, electricity service for the City of Arcata was transitioned to the Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) program in May 2017. The CCE program procures approximately 44% of its power from renewable and carbon-free sources, which is approximately 9% more renewable energy than the power sources previously provided by PG&E (RCEA, 2019). Accordingly, the electricity provider for the project is increasingly relying on renewable energy sources.

Energy in the form of fuel (gasoline or diesel) would be consumed by vehicles associated with the project through the generation of new vehicle trips. As discussed in Chapter 5 (Energy Conservation) of the EIR, with the proposed pedestrian/bicycle pathways that would provide connectivity to nearby trail systems and transit facilities (see Mitigation Measure 3.1b), the project would generate approximately 2.46 million VMT per year, or 6,740 VMT daily. This would result in the consumption of approximately 428 gallons of fuel daily, or 156,220 gallons annually. Based on the estimate of mitigated annual fuel consumption, the proposed project would result in an energy use of approximately 19.5 billion BTUs per year associated with transportation. The project would not result in any unusual characteristics that would result in excessive long-term operational fuel consumption in comparison to other developments in the region.

As summarized in Chapter 5 (Energy Conservation) of the EIR, the project proposes structures that would be energy efficient and by virtue of its location and design features, such as pedestrian and bicycle facilities and convenient access to transit, the proposed project would minimize petroleum-based fuel use and would not involve the inefficient, wasteful, and unnecessary use of energy during operation (see Chapter 5 [Energy Conservation] for further discussion).

Floodplain and Culvert Replacement

According to the Flood Insurance Rate Map (Community Panel Number 06023C0690F; Revised Nov. 4, 2016, the 100-year floodplain for Janes Creek covers a small area of the southeast portion of the residential development site (see Figure 1I [FEMA National Flood Hazard Mapping]).

Figure 1I FEMA National Flood Hazard Mapping (2017)



As described in Section 4.3 (Biological Resources) of the EIR, the Arcata Land Use Code requires a 100-foot setback from Janes Creek. Based upon review of the FEMA National Flood Hazard Mapping, it was observed that the 100-year floodplain area is contained within the 100-foot setback area from Janes Creek. The project proposes several improvements in the setback area including the wetland mitigation area, stormwater facilities (e.g., pre-treatment bioswale), replacement of culverts (see discussion below), and trails. These improvements are allowable uses within the setback area, per Arcata Land Use Code Section 9.59.050 (see further discussion in Section 4.3 [Biological Resources] of the EIR), and will not obstruct or redirect creek flows during flood conditions.

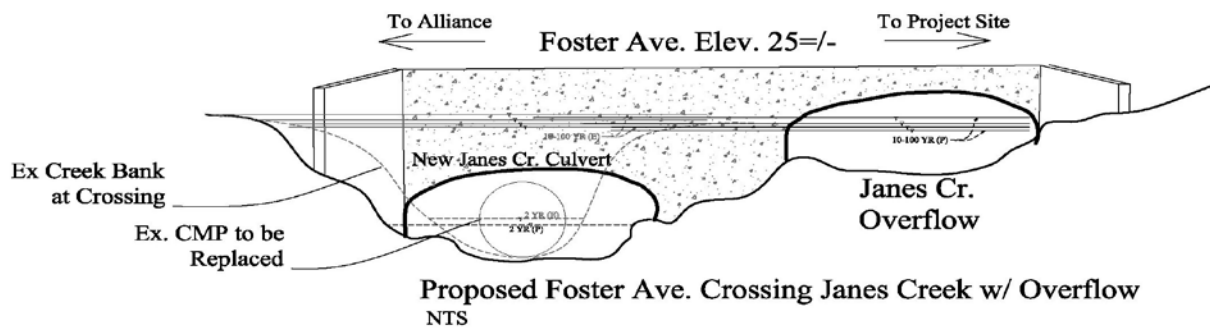
The project proposes modifications within the Janes Creek floodplain to improve creek flows and remove existing obstructions which includes the replacement of two culverts. Both culverts are proposed to be replaced with open bottom arch pipe crossings which are intended to improve creek flow capacities and improve biological functions. One of the culvert replacements is proposed at what is referred to as the Foster Avenue crossing which is located in the southeastern corner of the residential development site. As shown in Figure 1J (Proposed Janes Creek Culvert Replacement at Foster Avenue), the replacement of the culvert at this location will coincide with

the construction of the Foster Avenue road connection. The other culvert replacement is proposed at the pathway crossing which is located mid-way along the eastern boundary of the residential development site. The replacement of the culvert at this location will coincide with the construction of the pedestrian/bicycle pathway to Alliance Road. These proposed culvert replacements are described in further detail below.

Foster Avenue Crossing: The existing crossing at Foster Avenue contains a six-foot diameter corrugated metal pipe (CMP) culvert. This stream crossing currently overtops during major flood events. Under the proposed project, this stream crossing is proposed to be replaced with two CMP arch culverts in order to increase flood capacity while minimizing the effects on overall floodplain elevations (see Figure 1J [Proposed Janes Creek Culvert Replacement at Foster Avenue]). This crossing will be raised, placing the road at an elevation of 25 feet, thereby removing it from the 100-year floodplain.

Pathway Crossing to Alliance Road: The existing crossing at this location consists of a seven-foot wide by four-foot high box culvert. This stream crossing currently overtops during major flood events. This stream crossing will be replaced with a CMP arch culvert with a span of ten feet and a rise of five feet in order to increase flood capacity while minimizing the effects on overall floodplain elevations. This crossing will be constructed to provide pedestrian/bicycle access from the residential development site to an existing unimproved trail that travels east-west to Alliance Road adjacent to the Janes Creek Townhouses (South).

Figure 1J Proposed Janes Creek Culvert Replacement at Foster Avenue (CEC, 2006)



The report “Updated Hydraulic Analysis of Janes Creek” prepared by Domenichelli & Associates (Appendix W), states that the proposed culverts would: “...result in minimal changes to the FEMA floodplain elevations. Any changes in water surface elevation would occur only in the direct vicinity and upstream of the crossings.” Therefore, any changes made at either the Foster Avenue crossing or at the pathway crossing to Alliance Road would have no affect on the 17th Street crossing.

Wetland Mitigation Area

The residential development site (APN 505-161-011) contains approximately 0.69 acres (29,991 ft²) of two- and three-parameter wetlands including ditches along the railbed on the southern

boundary of the site. However, many of these wetlands are relatively small and isolated, and therefore lack conditions to form significant biological habitat that would support measurable wildlife (Appendix AA).

To pursue the development objectives of the project, the project proposes to fill approximately 0.47 acres (20,285 ft²) of the existing wetlands and mitigate the loss on the residential development site with a 1.8:1 replacement ratio (i.e., a ratio of 1.8 acres of replacement wetland for each acre filled/impacted). The project proposes to create a three-parameter (wetland hydrology, hydric soils, and hydrophytic vegetation) mitigation wetland along Janes Creek in the southeastern corner of the residential development site that will be 0.85 acres (37,026 ft²) in size (see Figure 1G [Site Plan]) and have 3:1 side slopes. The mitigation wetland will be constructed according to the design and recommendations in the Wetland Mitigation and Monitoring Plan prepared by Winzler & Kelly (Appendix DD) and the recommendations of the City of Arcata and other regulatory agencies. A detailed planting plan and long-term enhancement plan for the wetland mitigation area shall be developed to the satisfaction of the City of Arcata and regulatory agencies. Table 1-5 (Wetlands Planting Location, Spacing, and Species) contains information about the location, species, container size, and spacing of the planting proposed in the wetland mitigation area.

Table 1-5 Wetlands Planting Location, Spacing, and Species

| Location | Common Name | Species | Spacing (feet) | Size (gal) |
|---|-------------------|--------------------------|----------------|------------|
| Bottom of Wetland | Soft Stem rush | <i>Juncus effuses</i> | 4-6 | 1 |
| | Slough sedge | <i>Carex obnupta</i> | 4-6 | 1 |
| Bottom of Side Slopes (1/3 and 1/2 way up slope) | Willow species | <i>Salix sp.</i> | 4-6 | 5 |
| Top ½ of Side Slope and Top of Bank | Big leaf maple | <i>Acer macrophyllum</i> | 10-12 | 15 |
| | Red alder | <i>Alnus rubra</i> | 10-12 | 15 |
| | Western red cedar | <i>Thuja plicata</i> | 10-12 | 15 |
| | Sitka spruce | <i>Picea sitchensis</i> | 10-12 | 15 |

The wetland mitigation site has been designed to comply with City of Arcata General Plan Policy RC-3 (Wetlands Management) to provide wetland function with equal or greater functional capacity and value than the proposed filled wetlands. The proposed three-parameter wetlands are designed to be of higher functional capacity than those presently existing at the site. The proposed constructed wetland, as described in the Wetland Mitigation and Monitoring Plan (Appendix DD), will be designed to enhance/convert a compacted area of aggregate base near Janes Creek that is dominated by non-native vegetation, into a palustrine wetland habitat adjacent to an existing riparian area associated with Janes Creek. Former wetlands prior to mill use, if any existed at the site, would more than likely have been similar to open palustrine field. Palustrine habitats created the first year will be available immediately for wildlife use. The palustrine seasonal habitat is projected to mature in approximately three to five years. The riparian trees area is intended to provide habitat for land birds and other wildlife in approximately three to ten years. The mitigation area is intended to widen the wildlife corridor through the project area (see additional discussion in Section 4.3 [Biological Resources] of the EIR). Table 1-6 (Wetlands Mitigation Monitoring Program – Annual Performance Criteria) contains information about the annual performance criteria for the 5 years of proposed monitoring.

The project is proposed to maintain a 50-foot variable setback from the edge of the wetland mitigation area as required by Section 9.59.060 (Wetland Conservation and Management) of the Arcata Land Use Code for existing developed areas (see Figure 1G [Site Plan]). Use of the “existing developed areas” wetland setback standard for the project is appropriate since the wetland mitigation area will be developed as part of the proposed residential development. Since the project proposes the minimum standard required by the City of Arcata, it is proposed to plant the wetland setback area with regionally-appropriate evergreen native trees and shrubs that can serve as a vegetative “screen” (i.e., natural visual screen) between the wetland mitigation area and the proposed residential development and extend the Janes Creek riparian corridor.

Table 1-6 Wetlands Mitigation Monitoring Program - Annual Performance Criteria

| Year | Seasonal Wetland Vegetation Establishment |
|------|--|
| 1 | 30% cover of native plant species over mitigation area and 30% of all species counted are native FAC or wetter |
| 2 | 35% cover of native plant species over mitigation area and 35% of all species counted are native FAC or wetter |
| 3 | 40% cover of native plant species over mitigation area and 40% of all species counted are native FAC or wetter |
| 4 | 45% cover of native plant species over mitigation area and 45% of all species counted are native FAC or wetter |
| 5 | Greater than 50% cover of native plant species over mitigation area and Greater than 50% of all species counted are native FAC wet or obligate |

A schematic diagram of the planting plan showing individual plant species placement and spacing within the wetland setback area will be included in the Wetland Mitigation and Monitoring Plan.

The wetland mitigation area will be hydrologically connected to Janes Creek and will retain flood waters during storm events, improve groundwater recharge, and increase native wetland and riparian habitat directly adjacent to a mostly channelized creek section. In addition, the created wetland will receive pre-treated stormwater during peak storm events. Open water will exist at times within the wetland mitigation area, however the created wetland is designed to slope towards Janes Creek, which will allow floodwaters to escape and will prevent fish entrapment. The infrequent standing water will also prevent the creation of bullfrog habitat within the mitigation area as bullfrogs require standing water year round to complete development. The lowest elevations within the created wetland will most closely resemble a palustrine emergent wetland dominated primarily by native wetland vegetation as specified in the success criteria within the Wetland Mitigation and Monitoring Plan (Winzler and Kelly, Appendix DD). The top of bank and upper slopes of the created wetland will not support seasonal wetland hydrology or hydric soils but will act as an extension of the riparian woodland habitat as it will be planted with native riparian trees and shrubs. This area will also act as a buffer to the wetland and will eventually provide a canopy over the mitigation area.

Species likely to benefit from the wetland mitigation area include numerous native animal species including the foothill yellow-legged frog (*Rana boylei*), northern red-legged frog (*Rana*

aurora), Wilson's warbler (*Cardellina pusilla*), chestnut-backed chickadee (*Poecile rufescens*), and other nesting migratory birds that preferentially nest in riparian woodlands and associated wetlands. The wetland mitigation area will also improve habitat for several fish species that inhabit Janes Creek by creating off-channel habitat that currently does not exist at this location, which can act as refugia during storm events. Obligate wetland vegetation will benefit from the creation of wetland habitat. Existing conditions within the proposed wetland mitigation area do not support obligate wetland species that depend on saturated soils and persistent wetland conditions. Obligate species that may benefit from the wetland mitigation include slough sedge (*Carex obnupta*), water parsley (*Oenanthe sarmentosa*), and the panicled bulrush (*Scirpus microcarpus*) among many others.

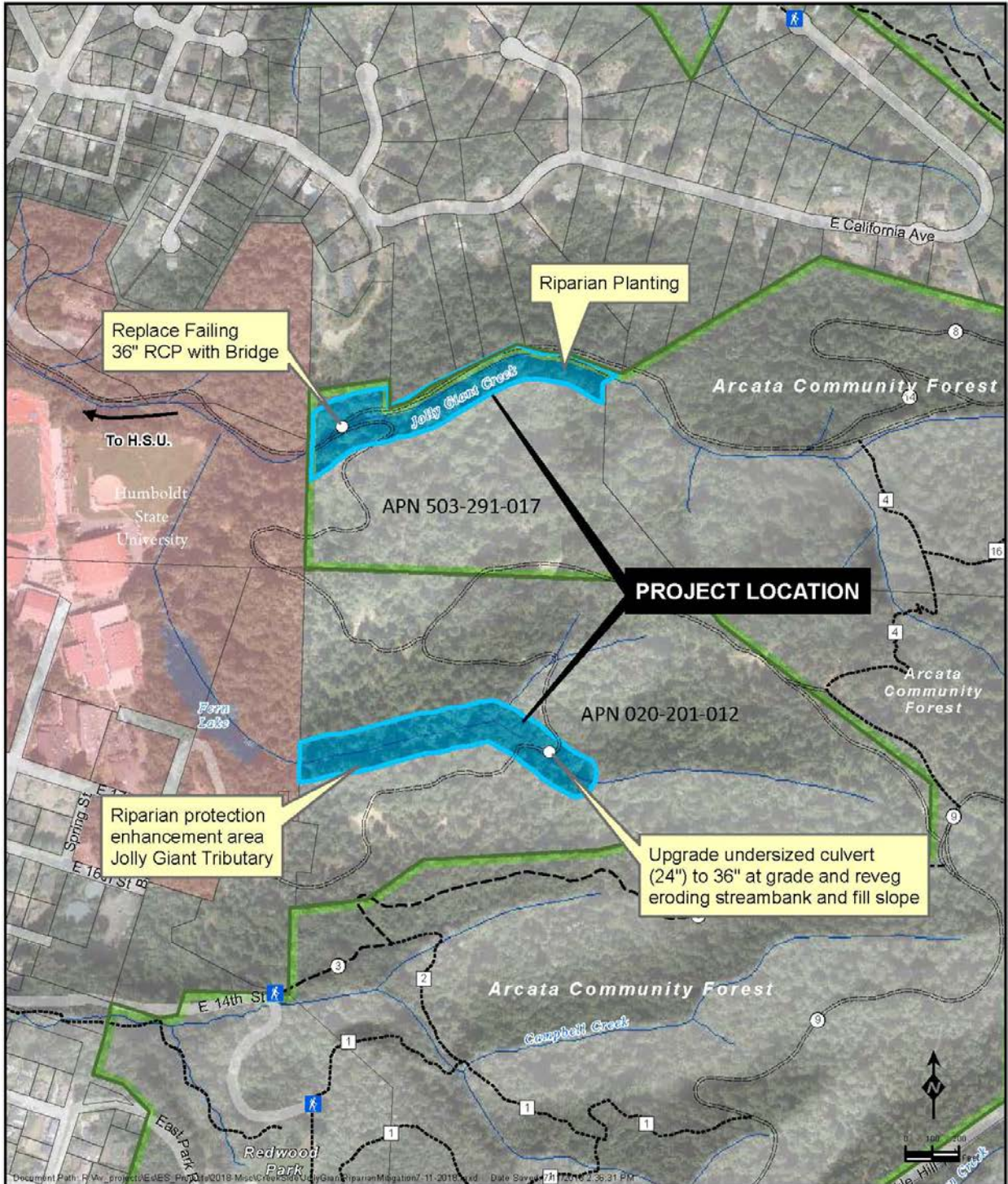
Riparian Mitigation Area




As noted above, Janes Creek forms the southeastern boundary of the residential development site (see Figure 1D [Aerial Photo of the Residential Development Site]). Some of the proposed project activities will temporarily and permanently affect the riparian vegetation and habitat along Janes Creek including replacement of two culverts in the creek, construction of the Foster Avenue connection, and construction of the wetland mitigation area. The Foster Avenue connection is estimated to permanently affect approximately 8,000 s.f. of riparian vegetation. The replacement of the culverts and construction of the wetland mitigation area are estimated to temporarily affect approximately 3,000 s.f. of riparian vegetation and are designed to improve the habitat conditions along this section of Janes Creek and improve flood flow capacity.

To mitigate for the permanent affect to 8,000 s.f. of riparian vegetation from construction of the Foster Avenue connection, the applicant proposes riparian mitigation at a ratio of 2:1 or 16,000 s.f. Due to the fact that there are limited opportunities for riparian mitigation on the residential development site, the applicant shall contribute towards City of Arcata riparian enhancement projects along Jolly Giant Creek within and adjacent to the Arcata Community Forest. To contribute towards these projects, the applicant shall provide the City with a riparian impact fee of \$26,500 that will be used towards riparian enhancement activities on parcels 020-201-012 and 503-291-017. Figure 1K (Map of Jolly Giant Creek Riparian Mitigation Areas) shows the location of these parcels and the proposed enhancement areas that would mitigate for the impacts to riparian vegetation from the Creek Side Homes project. In addition to these two sites, the City may use some of these funds for similar riparian enhancement activities in other stream sections.

Parcel 020-201-012 is a 49-acre property that is located within the upper Jolly Giant Creek Watershed and contains a tributary to Jolly Giant Creek which flows to Fern Lake and then joins the mainstem of Jolly Giant Creek, which flows towards Humboldt Bay. The forest, creeks, and streams within this parcel and the surrounding Arcata Community Forest serve as critical habitat for a variety of species, many of them rare, threatened, and/or endangered (see additional discussion in Section 4.3 [Biological Resources] of the EIR). Riparian enhancement activities proposed by the City on parcel 020-201-012 include, but are not limited to, removal of invasive species, replacement of an undersized culvert, planting of 2,250 additional trees, and the implementation of erosion control measures. Based on a conservative estimate of 25 s.f. of canopy per tree, the planting of these additional trees on parcel 020-201-012 has the potential to result in over 50,000 s.f. of new canopy.

Figure 1K Map of Jolly Giant Creek Riparian Mitigation Areas



| | | | | | | | | | | | | |
|---|---|--|---|--|---|---|---|---|--|---|--|---|
|  <p>City of Arcata Environmental Services</p> | <h2>Jolly Giant Creek Riparian Mitigation Areas</h2> | <table border="0"> <tr> <td>■ Riparian Protection Enhancement</td> <td> Trail Head</td> </tr> <tr> <td>■ Area Jolly Giant Tributary</td> <td> Creek</td> </tr> <tr> <td>■ Arcata Community Forest</td> <td> Trail (Multi-Use)</td> </tr> <tr> <td>■ Humboldt State University</td> <td> Hiking Only</td> </tr> <tr> <td>■ Waterbody</td> <td> Gravel Road/ Trail (Multi-Use)</td> </tr> </table> | ■ Riparian Protection Enhancement |  Trail Head | ■ Area Jolly Giant Tributary |  Creek | ■ Arcata Community Forest |  Trail (Multi-Use) | ■ Humboldt State University |  Hiking Only | ■ Waterbody |  Gravel Road/ Trail (Multi-Use) |
| ■ Riparian Protection Enhancement |  Trail Head | | | | | | | | | | | |
| ■ Area Jolly Giant Tributary |  Creek | | | | | | | | | | | |
| ■ Arcata Community Forest |  Trail (Multi-Use) | | | | | | | | | | | |
| ■ Humboldt State University |  Hiking Only | | | | | | | | | | | |
| ■ Waterbody |  Gravel Road/ Trail (Multi-Use) | | | | | | | | | | | |

Parcel 503-291-017 is a 20.7-acre parcel in the Arcata Community Forest that is located directly north of parcel 020-201-012. This parcel is also located in the upper Jolly Giant Creek Watershed and contains a portion of the main stem of Jolly Giant Creek. Similar to parcel 020-201-012, this parcel serves as critical habitat for rare, threatened, and/or endangered species. As indicated on Figure 1K (Map of Jolly Giant Creek Riparian Mitigation Area), riparian enhancement activities proposed by the City on parcel 503-291-017 would include additional riparian planting along Jolly Giant Creek and the replacement of a failing culvert with a bridge crossing.

Permits for the riparian enhancement projects proposed by the City within the Jolly Giant Creek channel and riparian corridor are required from the CDFW, USACE, and NCRWQCB. These permits will require the implementation of minimization measures designed to reduce potential impacts to riparian and other special status habitat, special status plant and animal species, and water quality. In addition, the City will implement standard minimization measures for riparian restoration activities. These measures include, but are not limited to, the following:

- Streams, riparian zones, and wetlands shall not be used as staging or refueling areas. Equipment shall be stored, serviced, and fueled a minimum of 150 feet from aquatic habitats and other sensitive areas.
- Prior to equipment use, special status plants and habitats shall be well-marked and communicated to equipment operators to avoid direct and indirect adverse effects.
- Snags shall be retained on project sites for cavity dependent wildlife species whenever possible.
- Bank stabilizing vegetation removed or altered because of restoration activities shall be replanted with native vegetation and protected from further disturbance until new growth is well established. Native shrubs, trees, and erosion control seed mixes from only local ecotypes shall be included in the reclamation and restoration of disturbed sites.
- Sedimentation and erosion controls shall be implemented, when and where appropriate, during riparian wetland restoration or creation activities to maintain the water quality of adjacent water sources.
- Weed free rice straw shall be used for mulching exposed bare mineral soil areas in excess of 100 s.f.

Invasive Species Removal

The majority of the residential development site, including the proposed wetland mitigation area is dominated by invasive or non-native plant species. These species include English ivy (*Hedera helix*), Himalayan blackberry (*Rubus armeniacus*), poison hemlock (*Conium maculatum*), teasel (*Dipsacus fullonum*), Cotoneaster (*Cotoneaster lacteus*), English holly (*Ilex aquifolium*), Canary reedgrass (*Phalaris arundinacea*), and mayten tree (*Maytenus boaria*). All of these species meet the technical definition of an invasive species and have the potential to cause economic harm (compromising mitigation success) and environmental harm (invading riparian and wetland ecosystems and displacing native vegetation).

It is proposed as part of this project to conduct invasive species removal, as these species could compromise the success of the wetland mitigation plan and other proposed landscaping plans by inhibiting the establishment of native plantings. Invasive species removal will be conducted using numerous methods targeting each specific species to ensure a higher rate of successful removal.

English Ivy (*Hedera helix*) is best controlled by repeated hand removal. This species was observed within the Janes Creek riparian area, and has a high potential of damaging native trees, and creating mono-dominant ivy cover along the streambanks. English ivy can be effectively removed year-round, however removal during the rainy months is preferred due to softer soils. All removed material must be properly disposed of, as this species can resprout from relatively small fragments.

Himalayan blackberry (*Rubus armeniacus*) occurs across the entire project parcel, but is especially dense within the location of the proposed wetland mitigation area adjacent to the tree canopy along Janes Creek. Himalayan blackberry is best removed using properly-timed mechanical removal. The highest success occurs when removal is conducted during flowering prior to seed set. Several follow-up treatments over several years will be needed as this species will readily resprout. Re-cutting should be scheduled following re-sprouting of the root systems to fully exhaust the root system. Root removal by digging is effective as well, although additional follow-up treatments will be required. Dense planting of native shrubs is also effective at limiting re-growth as Himalayan blackberry is relatively intolerant of shade.

Poison hemlock (*Conium maculatum*) occurs across the entire project parcel, however it is especially dense within the wetland mitigation location and outside of the tree canopy along Janes Creek within areas not yet dominated by Himalayan blackberry. Poison hemlock is best removed using a combination of hand pulling and weedwhacking/mowing. Gloves must be worn during hand pulling. It is best to pull plants prior to flowering; both rosettes and stalks should be pulled. It is not important that the entire root system be pulled. If weed-whacking or mowing is used, it is best to mow twice, once in spring, and again in late summer to destroy re-growth. Treatment will need to be repeated for at least two years to ensure that this species is removed from the site.

Only a few Cotoneaster (*Cotoneaster lacteus*) and English Holly (*Ilex aquifolium*) individuals were observed within the proposed project area along Janes Creek, however these individuals if left alone have the potential to infest the riparian area and the wetland mitigation area. Cotoneaster and English holly are best removed by cutting the plant and severely masticating the stump and root system. Follow-up treatment may be required unless complete removal of the stump is accomplished, although this can be difficult due to the deep-rooted nature of these species. It is best to conduct removal following flowering and prior to seed set. If stumps are not properly removed, it may take three years of treatment to kill the remaining root systems.

Teasal (*Dipsacus fullonum*) occurs across the entire project parcel, however it is especially dense within the area proposed for wetland mitigation and outside of the tree canopy along Janes Creek within areas not yet dominated by Himalayan blackberry. Teasel is best removed by hand-digging or pulling prior to flowering, however the root must be severed below the soil surface.

Mowing/weedwhacking can be used; however a single cutting can actually stimulate this plant. Mowing/weedwhacking must be conducted repeatedly during the growing season to reduce this species. Treatment may need to be conducted for the entire five years of wetland mitigation monitoring to exhaust the seed-bank potentially occurring onsite.

Canary reedgrass (*Phalaris arundinacea*) is very widespread within the Janes Creek riparian area, and removal could cause more harm than good. It is recommended that native species be planted to shade out the Canary reedgrass. This will be especially important in the area where Foster Avenue will be extended over Janes Creek. Species best suited to compete with the Canary reedgrass include evergreen trees, evergreen shrubs, and slough sedge (*Carex obnupta*).

Only one Mayten tree (*Maytenus boaria*) exists within the project area along Janes Creek, however this species is rapidly expanding within the Janes Creek riparian woodland with root suckers and seedlings observed. Removal of this tree and seedlings may prevent costly removal in coming years. It is recommended that the tree be removed and the stump removed with an excavator positioned at the top of the bank. Any suckers or seedlings should be cut below ground level. If stump removal is not feasible, then all bark should be stripped off of the stump and roots should be severely masticated. Follow-up treatment will be necessary until the remaining roots die. This could take three or more years, but could occur much quicker if resprouts are cut immediately.

Removal of invasive species will take several years to accomplish. Timing is central to the success of invasive species control. Treatment methods will be scheduled based on information and recommendations from monitoring visits conducted as part of the wetland mitigation monitoring plan, which is proposed to occur over the course of five years.

Stormwater Management

As noted above, the surface water features on the residential development site include Janes Creek on the southeastern boundary and small isolated wetlands scattered throughout the site. The site is an industrial property with drainage characteristics associated with former site uses. Currently, the majority of the residential development site is covered in compacted gravel fill, which exhibits slow to moderate infiltration. Development of the residential development site will create new impervious surfaces (e.g., buildings, pavements, etc.), which has the potential to increase the amount of surface runoff. Approximately 12 acres will be developed throughout the entire 16-acre residential development site. Of the developed area, approximately 6.28 acres will be impervious surfaces consisting of residential structures, roads, parking areas, and sidewalks (Appendix X).

The residential development site is not proposed to be connected to the City of Arcata stormwater system. All stormwater runoff as a result of the development and increased impervious surfaces is proposed to be managed within the 16-acre residential development site. Stormwater drainage facilities for the development are required to be designed to meet both State and local stormwater regulations which are focused on maintaining or improving a site's pre-development runoff characteristics. In order to help guide its communities to meet the MS4 low

impact development (LID) requirements, Humboldt County developed the Humboldt County Low Impact Development Stormwater Manual (HLIDSMS).

As described in the Stormwater Management Assessment completed by SHN (Appendix X), the stormwater system is designed to manage 14,758 ft³ of runoff from the 85th percentile storm event (0.65 inches). This will occur on the residential development site through a suite of best management practices including soil quality improvement and maintenance, tree planting and preservation, vegetated swales, permeable asphalt, stream setbacks and buffers, and rain gardens.

Since the proposed project will create and replace more than one acre of impervious area, it is subject to the hydro-modification requirement of the HLIDSMS. The HLIDSMS requires that the post-project runoff rate shall not exceed the estimated pre-project flow rate for the 2-year, 24-hour storm (storm event of 2.93 inches). During peak storm events, stormwater runoff from the residential development site will be directed to a pretreatment bioswale (5,700 ft³ of storage capacity) and ultimately the wetland mitigation area (53,762 ft³ of storage capacity), to meet the hydro-modification requirement of the MS4 Permit (Appendix X).

Based on an overall pre-construction versus post-construction condition calculation, 23,792 ft³ of the current stormwater runoff volume (runoff produced by the pre-project conditions) will be infiltrated and treated (rather than produced) by the improved surface conditions inherent to the proposed residential development. These surface conditions are not considered in the Regulated Projects calculation for managing the 85th percentile storm event, which gives credits based on inferred runoff reduction from square footage of site design measures such as vegetated swales, soil quality improvement, and infiltration trenches. This Regulated Project methodology overlooks the site engineering runoff coefficients used in the hydro-modification calculations, which consider site characteristics such as overall site flow lengths, evaporative surfaces, soil hydrological types, and surface cover types. Examples of the development features and site characteristics that will improve infiltration and reduce runoff include: 1) the transformation of compacted, rocky ground to lawn and landscape; 2) differences in surface cover types and their associated improvements in surface runoff reduction and infiltration (such as the difference between plant type, plant species, and mulch type); and 3) difference in cover percentages.

To ensure the desired factor of safety for flood control and watershed protection is built into the project, a conservative calculation was performed by disregarding the improved stormwater conditions predicted in the pre- versus post-construction calculations. This precautionary calculation ignores the reduced post-construction runoff volume and uses the 2-year, 24-hour storm event of 2.93 inches for the post-construction hydromodification requirement. This calculation is based on an urban area runoff curve number of 80 for pre-project conditions (the worst case scenario for this site), taken from the Texas DOT Hydraulic Design Manual (Texas, 2009 and Attachment C), and entered into the Solution of Runoff Equation (NRCS, 2011) to arrive at the runoff depth of 1.19 inches. This depth was multiplied by the residential development area of 15.94 acres to get 68,856 ft³ of runoff volume. By subtracting the 14,758 ft³ removed by the Regulated Project requirement LID measures, this leaves a total site runoff value (as opposed to the difference between pre and post conditions) of 54,098 ft³ of runoff to treat onsite for the 2-year event, 24-hour storm-event. Since the proposed wetland mitigation area will hold an approximate 53,762 ft³ of runoff volume, along with an additional 5,700 ft³ contained in

the adjacent pretreatment bioswale, this site will comply with the hydro-modification requirement and protect the surrounding watershed with a total runoff capture of 59,462 ft³. (Appendix X).

The proposed stormwater improvements will reduce the volume and rate of run-off at the residential development site and provide for greater infiltration, evaporation, and runoff quality treatment (see additional discussion in Section 4.2 [Hydrology and Water Quality] of the EIR).

Project Entitlements

In order to proceed, the project must receive entitlements from the City of Arcata and the Humboldt County Local Agency Formation Commission (LAFCO) as well as several other State and Federal agencies. These entitlements are listed in Table 1-7 (Project Entitlements) below.

The parcels proposed for annexation as part of this application (APNs 505-161-011 [residential development site], 505-151-009 [park site], and 505-161-009 [Hammond Trail site]) are located within the City of Arcata’s Planning Area and Sphere of Influence. Upon approval by the City, the annexation application would be submitted for review and action by the Humboldt County LAFCO. Subsequent to action by LAFCO on the proposed project, various City land use approvals would be required. The following is a listing of required project approvals and the appropriate local, state, or federal responsible agencies.

Table 1-7 Project Entitlements

| Agency | Approval | Description |
|----------------|------------------------|---|
| City of Arcata | General Plan Amendment | Approval of a General Plan amendment to Residential Low Density (RL) for the residential development site (APN 505-161-011). Approval of a General Plan amendment to Public Facility (PF) for parcels 505-151-009 and 505-161-009. |
| City of Arcata | Zoning Amendment | Approval of a zoning amendment to Residential Low Density (RL) with a Planned Development (PD) Combining Zone for the residential development site (APN 505-161-011). Approval of a zoning amendment to Public Facility (PF) for parcels 505-151-009 and 505-161-009. |
| City of Arcata | Minor Subdivision | Approval of a Tentative Map and Final Map subdividing the residential development site (APN 505-161-011) into three parcels. |
| City of Arcata | Major Subdivision | As part of a future subdivision, the proposed 6.26 acre parcel on the northern portion of the residential development site (APN 505-161-011) would be split into 32 individual lots that would be developed with |

| Agency | Approval | Description |
|------------------------------------|-----------------------------|---|
| | | single-family residential units and accessory dwelling units. |
| City of Arcata | Planned Development Permit | Approval of a Planned Development Permit pursuant to the Arcata Land Use Code (LUC). |
| City of Arcata | Design Review Permit | Approval of a Design Review Permit for the proposed residential structures and site design pursuant to the General Plan Design Element and Arcata Land Use Code (LUC). |
| City of Arcata | Development Agreement | Development Agreement by and between the City of Arcata and the applicant (DANCO Communities) to establish rights for development of the project and provide public benefits to the City and its residents. |
| City of Arcata | Acceptance of Dedications | Acceptance of the proposed streets, trails, and infrastructure improvements. |
| Humboldt County LAFCO | Annexation | Approval of the annexation of approximately 21 acres of unincorporated land within the Arcata Sphere of Influence (APNs 505-161-011, 505-151-009, and 505-161-009). This also includes the annexation of a portion of the Foster Avenue and Q Street right-of-ways that are currently in County jurisdiction. |
| Department of Fish and Wildlife | Streambed Alteration Permit | The California Department of Fish and Wildlife (DFW) has direct jurisdiction under Fish and Game Code sections 1601 - 1603 in regard to any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. These regulations require that private landowners or project developers obtain a "Streambed Alteration Agreement" from the DFW prior to any alteration of a lake bed, stream channel, or their banks, including riparian vegetation, within the high water mark. Through this agreement, DFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. A Streambed Alteration Agreement will be required for several of the proposed improvements, including but not limited to, the Foster Avenue Connection, wetland mitigation area, and the replacement of the two culverts in Janes Creek. |
| U.S. Army Corps of Engineers | Section 404 Permit | The U.S. Army Corps of Engineers (ACOE) regulates the discharge of dredged and fill material |

| Agency | Approval | Description |
|--------------------------------------|--|--|
| | | into three-parameter wetlands or within the Ordinary High Water line of the waters of the United States, per the Clean Water Act. A Section 404 permit will be required for several of the proposed improvements, including but not limited to, the Foster Avenue Connection, filling of three-parameter wetlands, and the replacement of the two culverts in Janes Creek. |
| Regional Water Quality Control Board | Section 401 Water Quality Certification | The North Coast Regional Water Quality Control Board (ACOE) regulates the discharge of dredge and fill material into “Waters of the State,” per the Clean Water Act. A Section 401 permit will be required for several of the proposed improvements, including but not limited to, the Foster Avenue Connection, filling of three-parameter wetlands, and the replacement of the two culverts in Janes Creek. |
| Regional Water Quality Control Board | MS4 Permit and Construction General Permit | The proposed project will be subject to the requirements of the Construction General Permit and MS4 Permit which require the on-site management of stormwater during construction and long-term operation of the project. A Storm Water Pollution Prevention Plan (SWPPP) must be prepared prior to initiation of construction activities that complies with the General Permit for Discharges of Stormwater Associated with Construction Activities. A Storm Water Control Plan (SWCP) must be prepared prior to the initiation of construction activities that complies with the MS4 Permit requirements for long-term storm water management at the site. |
| City of Arcata | Grading Permits | Permits for grading activities pursuant to the Arcata LUC (Chapter 9.64, Article 6). |
| City of Arcata | Building Permits | Permits for all construction activities subject to the City of Arcata Municipal Code (Title 8, Chapter 1). |

General Plan Amendment/Zoning Amendment

As noted above, the residential development site (APN 505-161-011) and the Ennes Park Expansion parcel (APN 505-151-009) are currently within County jurisdiction. Parcel 505-161-011 is currently zoned by the County as ML (Limited Industrial), R-1 (Residential One Family), and R4 (Apartment Professional). Parcel 505-151-009 is currently zoned by the County as AG (Agriculture General) and AE (Agriculture Exclusive). The project proposes to annex these parcels and redesignate/rezone the residential development site as RL (Residential Low Density), with a Planned Development (PD) Combining Zone, and parcel 505-151-009 as PF

(Public Facility). It is also proposed to annex and redesignate/re-zone a portion of parcel 506-161-009 as PF (Public Facility).

The allowable density in the RL zoning district ranges from 2 to 7.25 dwelling units per acre. As previously stated, the project proposes 32 single-family units and 25 senior-restricted cottage units. The single-family units will be developed on a 6.26 acre parcel which will result in a gross density of 5.11 units/acre. The proposed accessory dwelling units that may be developed on the single-family portion of the site are not counted toward the allowed density. The senior-restricted neighborhood cottage units will be developed on a 4.23 acre parcel which will result in a gross density of 5.9 units/acre. The assisted living facility is proposed to be developed on a 5.49 acre parcel, but these types of residential units are not subject to the density requirements of the zoning district. As such, the proposed residential development will be consistent with the density requirements of the RL zoning district.

Use Permit

As noted above, the project proposes to develop a 100-bed assisted living facility on a 5.49 acre parcel in the central portion of the residential development site. As described in Section 9.24.030 (Residential District Allowable Land Uses) of the Arcata Land Use Code, a Use Permit is required in the RL zoning district for Residential Care Facilities (7 or more clients). As described below, Section 9.72.070 (Planned Development Permit) of the Arcata Land Use Code requires application of the Planned Development (PD) Combining Zone for any residential development on sites one-acre and larger. All properties that have a PD Combining Zone shall require an approved Planned Development Permit prior to development. A Planned Development Permit Type B can allow uses conditionally permitted in the zone, and the project is required to obtain a Planned Development Permit; therefore, the Planned Development Permit will be required in-lieu of a Use Permit.

Planned Development Permit

As described in Section 9.72.070 (Planned Development Permit) of the Arcata Land Use Code, any residential development on sites one-acre and larger is required to apply the Planned Development (PD) Combining Zone. All properties that have a PD Combining Zone shall require an approved Planned Development Permit prior to development. For the project, the applicant proposes to apply for all three (Type “A” through Type “C”) of the PD permit types as described below.

The applicant proposes to apply for a Type “A” Planned Development Permit for the single-family residential units which are a principally permitted use in the RL zoning district. The applicant proposes to apply for a Type “B” Planned Development Permit for the assisted living facility which is a conditionally permitted use in the RL zoning district. The applicant proposes to apply for a Type “C” Planned Development Permit for the senior-restricted neighborhood cottage units which are not a principally or conditionally permitted use in the RL zoning district. The applicant may also propose to apply for a Type “B” Planned Development Permit for the purpose of allowing exceptions to the development standards in the RL zoning district.

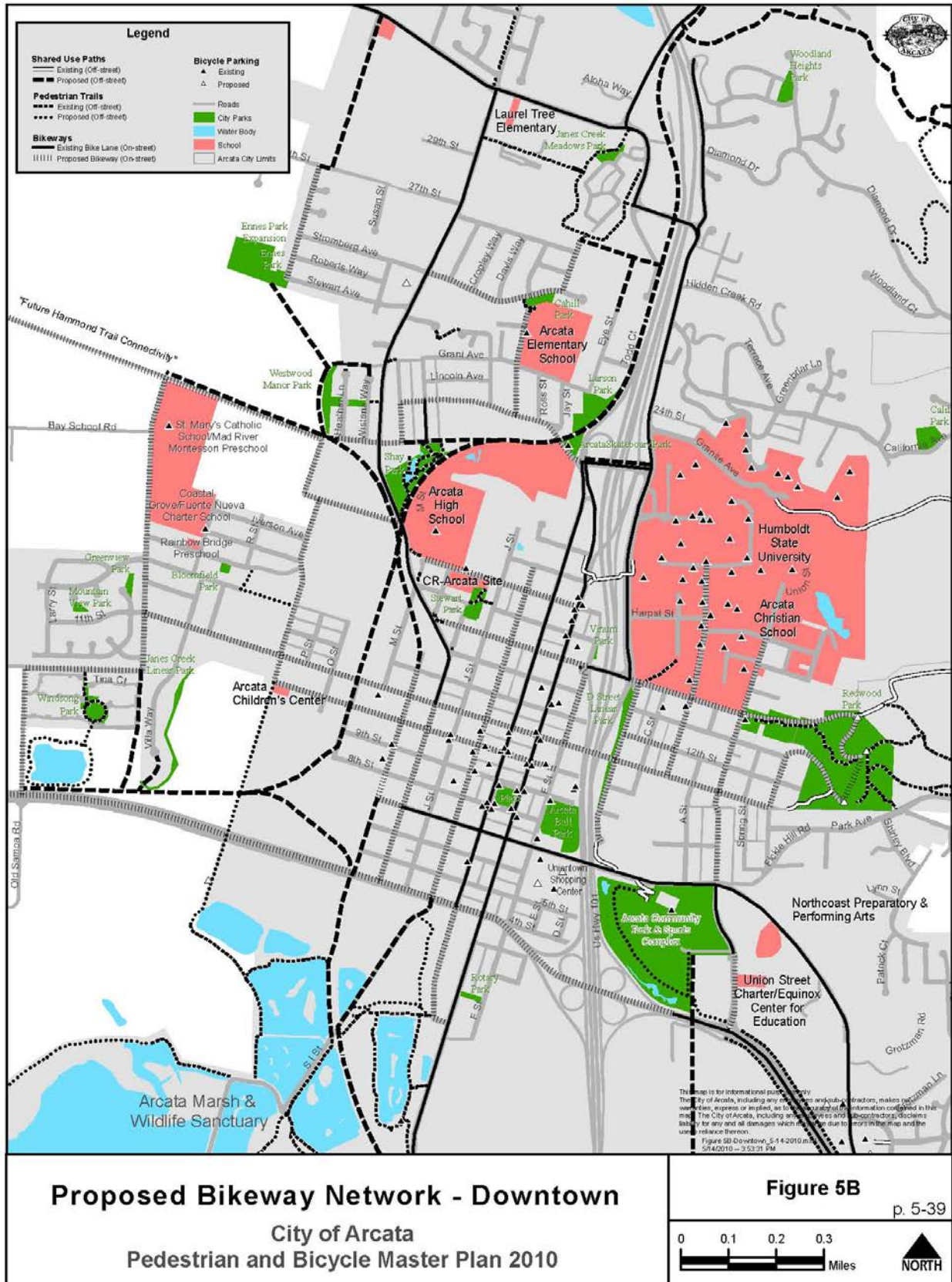
Development Agreement

As part of the proposed project, the City of Arcata and the applicant (DANCO Communities) will enter into a Development Agreement by which the extent of approval, timing and/or cost of improvements, and the provision of public amenities will be described. The EIR describes and analyzes all onsite and offsite development that is required through City and other regulatory requirements and as mitigation for the proposed project. Any improvements included in the Development Agreement that would result in potential environmental impacts are also addressed in the EIR. The obligations of the developer and the City in the Development Agreement are still being negotiated and are not currently available in their entirety. However, it is currently known that one of the developer obligations in the Development Agreement has the potential to result in environmental impacts. It is not currently anticipated that the other terms of the Development Agreement will require or result in improvements that have the potential to cause environmental impacts.

The item contained in the Development Agreement that has the potential to result in environmental impacts is the dedication of a pedestrian/bicycle access easement to the City of Arcata on parcel 505-151-005. As noted above, the applicant plans to develop a portion of the Hammond Trail on the former railbed on parcel 505-161-009 which would occur along the southern boundary of the residential development site (APN 505-161-011). Parcel 505-151-005 occurs directly west of parcel 505-161-009. The Arcata Pedestrian and Bicycle Master Plan (2010) also plans for the former railbed on parcel 505-151-005 to be developed as a section of the Hammond Trail (see Figure 1H [Parcels Proposed for Development] and Figure 1L [Planned Pedestrian and Bicycle Facilities]). The property owner (Arcata Land Company LLC) will provide an access easement to allow the City to develop and maintain this section of trail. Since the dedication of this easement would reasonably result in the future development of a trail by the City of Arcata, the potential environmental impacts of this improvement are analyzed in the EIR.

As described in Section 4.4 (Agriculture and Forestry Resources) of the EIR, a conservation easement is proposed on approximately 22.65 acres of parcel 505-151-001 to mitigate for the permanent conversion of prime agricultural land from the proposed project and the City proposed Ennes Park Expansion. Although the proposed project would only result in the conversion of 1.69 acres of prime agricultural land (1.35 acres for parkland and 0.34 acres for the emergency access road), the EIR analyzes and provides mitigation for the conversion of an additional 3.34 acres from the City's proposed Ennes Park Expansion. The additional area of conservation easement not required to mitigate the impacts of the proposed project is an added benefit of the project, and will be included in the Development Agreement between the City of Arcata and the applicant.

Figure 1L Planned and Existing Bicycle and Pedestrian Facilities (Arcata, 2010; Figure 5B)



SUMMARY OF IMPACTS AND MITIGATION MEASURES

This section contains a summary of the potentially significant impacts that would result from the Creek Side Homes project as identified in Chapter 2 (Community Environment), Chapter 3 (Transportation-Traffic), Chapter 4 (Natural Environment), Chapter 5 (Energy Conservation), and Chapter 7 (Cumulative Impact Analysis) of the EIR.

Under the proposed project, most project-related actions will result in either “Less Than Significant Impacts” or “No Impact” to the various resource areas investigated. Detailed mitigation measures have been identified in the EIR and are intended to avoid or minimize project effects to the extent feasible. These mitigation measures are summarized in Tables 1-8 through 1-12. The two resource categories that are determined to result in significant and unavoidable impacts from the proposed project include Transportation-Traffic and Greenhouse Gas Emissions.

Chapter 2 – Community Environment

Table 1-8 Community Environment Impacts and Mitigation Measures

| Impact | Mitigation Measures Summary | Significance After Mitigation |
|---|--|--|
| Section 2.3 (Public Services) | | |
| 2.3.4: Result in Substantial Adverse Physical Impacts Associated with the Provision of New or Physically-Altered Governmental Facilities (Parks), the Construction of Which Could Cause Significant Environmental Impacts. | Same as Mitigation Measure 4.4.1a (Conservation Easement) . | Less than significant with Mitigation incorporated |
| Section 2.4 (Recreation) | | |
| 2.4.2: Include Recreational Facilities or Require the Construction or Expansion of Recreational Facilities that Might Have an Adverse Physical Effect on the Environment. | Same as Mitigation Measure 4.4.1a (Conservation Easement) . | Less than significant with Mitigation incorporated |
| Section 2.8 (Greenhouse Gas Emissions) | | |

| Impact | Mitigation Measures Summary | Significance After Mitigation |
|--|---|---|
| <p>2.8.1: Generate Greenhouse Gas Emissions, Either Directly or Indirectly, that May Have a Significant Impact on the Environment.</p> | <p>Mitigation Measure 2.8.1a: To mitigate the greenhouse gas (GHG) emissions generated by the proposed project, the applicant shall implement several GHG reduction measures including pedestrian/bicycle improvements, area source reductions, energy efficiency measures, water conservation measures, solid waste reductions, and landscaping. These measures are estimated to reduce GHG emissions from the project by approximately 22 percent.</p> <p>Mitigation Measure 2.8.1b: To mitigate the greenhouse gas (GHG) emissions generated by the proposed project, the applicant shall purchase carbon offsets to offset 9,000 metric tons of GHG emissions. This will ensure that at full build-out the proposed project will generate GHG emissions that are below the project-level efficiency threshold of 4.6 metric tons of CO₂e per service population per year (MT CO₂e/SP/yr).</p> | <p>Less than significant with Mitigation incorporated</p> |
| <p>2.8.2: Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing Emissions of Greenhouse Gases.</p> | <p>Same as Mitigation Measures 2.8.1a (GHG Reduction Measures) and 2.8.1b (Purchase of Carbon Offsets). With the proposed project design features, mitigation measures, and compliance with existing regulatory requirements, it cannot be found with certainty that the proposed project would be consistent with the GHG reduction goals in SB 32 (i.e., 40 percent emissions reductions below 1990 level). Therefore, the proposed project is conservatively assumed to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.</p> | <p>Significant and unavoidable impact with Mitigation incorporated</p> |
| <p>Section 2.10 (Hazard and Hazardous Materials)</p> | | |
| <p>2.10.2: 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.</p> | <p>Mitigation Measure 2.10.2a: Due to the remaining petroleum hydrocarbon contamination in the debarker slab area on the residential development site, the applicant shall submit a plan for soil removal and cleanup to the Humboldt County Division of Environmental Health (HCDEH) and the North Coast Regional Water Quality Control Board (NCRWQCB), for review and approval, prior to the issuance of a grading permit by the City of Arcata for the first phase of the project. Prior to the issuance of the certificate of occupancy by the City of Arcata for the first phase of the project, the HCDEH and the NCRWQCB must certify the site cleanup. Implementation of these requirements will reduce potential impacts from the release of hazardous materials into the environment and provide compliance with applicable regulations.</p> <p>Mitigation Measure 2.10.2b: Due to the potential for unknown hazardous materials to exist on the residential development site from past lumber mill uses, the applicant shall implement the Site Development Contamination Contingency and Site Safety Plan (SHN, 1998), during site development, to minimize impacts to workers and future residents from development of the site for residential uses. Following the identification of potentially contaminated soils at the site during construction, construction activities shall cease and an investigation shall occur to identify the extent and magnitude of contamination following procedures outlined in the Safety Plan. Any contaminated soils exceeding regulatory screening levels for residential development shall be remediated to the satisfaction of regulatory agencies. Prior to the completion of construction and occupation of the site for residential uses, the HCDEH and NCRWQCB must certify site cleanup. Implementation of these requirements will reduce potential impacts from the release of hazardous materials into the environment and provide compliance with applicable regulations.</p> | <p>Less than significant with Mitigation incorporated</p> <p>Less than significant with Mitigation incorporated</p> |
| <p>2.10.3: Release of</p> | <p>Same as Mitigation Measures 2.10.2a (Hazardous Materials)</p> | <p>Less than significant</p> |

| Impact | Mitigation Measures Summary | Significance After Mitigation |
|---|---|--|
| Hazardous Emissions or Handling of Hazardous Materials within ¼ mile of an Existing or Proposed School. | Remediation). | with Mitigation incorporated |
| 2.10.4: Creation of a Significant Hazard to the Environment due to the Location on a Site Included on a List of Hazardous Materials Sites Compiled Pursuant to Government Code Section 65962.5. | Same as Mitigation Measures 2.10.2a (Hazardous Materials Remediation) and 2.10.2b (Site Development Contamination Contingency and Site Safety Plan). | Less than significant with Mitigation incorporated |
| Section 2.11 (Utilities and Service Systems) | | |
| 2.11.2: 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 | Same as Mitigation Measures 2.10.2a (Hazardous Materials Remediation), 2.10.2b (Site Development Contamination Contingency and Site Safety Plan), and 4.3.1a (Biological Surveys). | Less than significant with Mitigation incorporated |
| 2.11.3: 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 | Same as Mitigation Measures 2.10.2a (Hazardous Materials Remediation), 2.10.2b (Site Development Contamination Contingency and Site Safety Plan), and 4.3.1a (Biological Surveys). | Less than significant with Mitigation incorporated |

Chapter 3 – Transportation-Traffic

Table 1-9 Transportation-Traffic Impacts and Mitigation Measures

| Impact | Mitigation Measures Summary | Significance After Mitigation |
|--|--|--|
| 3.1: Conflict with an Applicable Plan, Ordinance, or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System, Taking into Account all | Mitigation Measure 3.1a: To minimize the traffic impacts of the proposed project, the applicant will be responsible for paying a fair share proportion for near-term and future transportation improvements identified in the W-Trans Central Arcata Areawide Traffic Study (Appendix T.1) and as recommended by the City of Arcata. These improvements will reduce potential traffic impacts and provide compliance with the City’s General Plan Transportation Element. As discussed in Chapter 3 (Transportation/Traffic), until the transportation improvements are constructed at the intersections of LK Wood | Significant and unavoidable impact until construction of the future transportation improvements identified in Mitigation Measure |

| Impact | Mitigation Measures Summary | Significance After Mitigation |
|---|--|--|
| Modes of Transportation | <p>Bldv/Sunset Ave and Alliance Rd/Foster Ave, there is the potential for significant and unavoidable traffic impacts from the proposed project. As such, a Statement of Overriding Considerations would need to be adopted for the proposed project.</p> <p>Mitigation Measure 3.1b: To comply with the City’s General Plan policies, related to alternative modes of transportation, the proposed project will construct new pedestrian/bicycle pathways to serve the development, which are identified in the Arcata Pedestrian and Bicycle Master Plan (2010) and W-Trans Traffic Study (Appendix T.1). These improvements will encourage the use of alternative modes of transportation and provide compliance with the City’s General Plan.</p> | <p>3.1a.</p> <p>Less than significant with Mitigation incorporated</p> |
| <p>3.6: Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities, or Otherwise Decrease the Performance or Safety of such Facilities</p> | <p>Same as Mitigation Measure 3.1b (Pedestrian/Bicycle Improvements).</p> | <p>Less than significant with Mitigation incorporated.</p> |

Chapter 4 – Natural Environment

Table 1-10 Natural Environment Impacts and Mitigation Measures

| Impact | Mitigation Measures Summary | Significance After Mitigation |
|---|---|---|
| Section 4.1 (Geology and Soils) | | |
| <p>4.1.5: Result in Substantial Soil Erosion or the Loss of Topsoil.</p> | <p>Same as Mitigation Measure 4.4.1a (Conservation Easement).</p> | <p>Less than significant with Mitigation incorporated</p> |
| Section 4.2 (Hydrology and Water Quality) | | |
| <p>4.2.1: Violate any Water Quality Standards or Waste Discharge Requirements</p> | <p>Same as Mitigation Measure 2.10.2a (Hazardous Materials Remediation).</p> | <p>Less than significant with Mitigation incorporated</p> |
| Section 4.3 (Biological Resources) | | |
| <p>4.3.1: Have a Substantial Adverse Effect on Any Species Identified as a Candidate, Sensitive, or Special-Status Species</p> | <p>Mitigation Measure 4.3.1a: Prior to construction activities for each phase of the proposed project, the applicant shall have a qualified biologist conduct a focused survey for protected wildlife species identified in the MRB Biological Assessment (Appendix Y) and SPC Biological Report (Appendix Z) as having potential habitat on the residential development site, including birds, mammals, amphibians, and fish. Surveys shall be performed within 30 days of the beginning of construction activity. If construction is delayed for more than 30 days from the date of the survey, and is to then commence during the nesting season (March 1 to September 15) an additional survey</p> | <p>Less than significant with Mitigation incorporated</p> |

| Impact | Mitigation Measures Summary | Significance After Mitigation |
|---|---|---|
| | <p>shall be conducted. The results of the surveys shall be submitted to the City of Arcata for review and approval. If protected wildlife species are observed, the qualified biologist shall design appropriate project activity buffer widths and operational restrictions. Project-related activities shall only commence when the City has approved the report in writing, and the buffer widths and operational restrictions are applied. These measures will ensure that protected wildlife species are not significantly impacted during construction of the proposed project.</p> <p>Mitigation Measure 4.3.1b: To minimize potential impacts to sensitive fish species during replacement of the two culverts in Janes Creek, the applicant shall follow applicable measures from the CDFW Salmonid Habitat Restoration Manual. This could include measures such as exclusion fencing upstream and downstream of the work area and the relocation of sensitive fish species to another section of Janes Creek outside of the work area. Implementation of these measures will prevent significant impacts to sensitive fish species in Janes Creek during project construction activities.</p> | <p>Less than significant with Mitigation incorporated</p> |
| <p>4.3.2: Have a Substantial Adverse Effect on any Riparian Habitat or Other Sensitive Natural Community in Local or Regional Plans, Policies, or Regulations, or by the CDFW or USFWS.</p> | <p>Mitigation Measure 4.3.2a: To mitigate for the permanent affect to 8,000 s.f. of riparian vegetation from construction of the Foster Avenue connection, the applicant proposes riparian mitigation at a ratio of 2:1 or 16,000 s.f. Due to the fact that there are limited opportunities for riparian mitigation on the residential development site (APN 505-161-011), the applicant shall contribute towards City of Arcata riparian enhancement projects along Jolly Giant Creek within and adjacent to the Arcata Community Forest. Prior to the issuance of grading and building permits by the City of Arcata for construction of the Foster Avenue connection, the applicant shall provide the City with a riparian impact fee of \$26,500 that will be used towards riparian enhancement activities on parcels 020-201-012 and 503-291-017. In addition to these two sites, the City may use some of these funds for similar riparian enhancement activities in other stream sections. Riparian enhancement activities proposed by the City on parcel 020-201-012 include, but are not limited to, removal of invasive species, replacement of an undersized culvert, planting of 2,250 additional trees, and the implementation of erosion control measures. Riparian enhancement activities proposed by the City on parcel 503-291-017 would include additional riparian planting along Jolly Giant Creek and the replacement of a failing culvert with a bridge crossing. Implementation of this measure will ensure that impacts to riparian vegetation and habitat from the proposed project are adequately mitigated.</p> | <p>Less than significant with Mitigation incorporated</p> |
| <p>4.3.3: 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.</p> | <p>Mitigation Measure 4.3.3a: To mitigate the impacts of filling 0.47 acres of wetlands on the residential development site, the applicant shall create a three-parameter (wetland hydrology and hydrophytic vegetation) mitigation wetland at the site that will be 0.85 acres in size, or a 1.8 mitigation ratio. The mitigation wetland will be constructed according to the design and recommendations in the Wetland Mitigation and Monitoring Plan prepared by Winzler & Kelly (Appendix DD) and the recommendations of the City of Arcata and other regulatory agencies (e.g., CDFW, RWQCB, and USACE). A planting plan and long-term enhancement plan for the wetland mitigation area shall be developed to the satisfaction of the City of Arcata. Implementation of this measure will ensure that impacts to wetlands from the proposed project are adequately mitigated.</p> | <p>Less than significant with Mitigation incorporated</p> |

| Impact | Mitigation Measures Summary | Significance After Mitigation |
|--|--|---|
| | <p>Mitigation Measure 4.3.3b: The applicant will plant the variable 50-foot wetland setback area for the mitigation wetland with regionally-appropriate evergreen native trees and shrubs. This will serve as a vegetative “screen” (i.e., natural visual screen) between the wetland mitigation area and the proposed residential development, extend the Janes Creek riparian corridor, and provide additional habitat on the residential development site. A schematic diagram of the planting plan showing individual plant species placement and spacing within the wetland setback area shall be included in the Wetland Mitigation and Monitoring Plan.</p> <p>Mitigation Measure 4.3.3c: The applicant shall include measures for the control of invasive species in the Wetland Mitigation and Monitoring Plan. Invasive species removal shall occur within the wetland mitigation area and its corresponding 50-foot setback that is required by Section 9.59.060 (Wetland Conservation and Management) of the Arcata Land Use Code. Invasive species that will be targeted include English ivy, Himalayan blackberry, poison hemlock, teasel, English holly, Cotoneaster, Canary reedgrass, and mayten tree. Annual performance criteria for invasive species control shall be specified in the Monitoring Plan. The applicant shall conduct invasive species removal during construction of the wetland mitigation area and shall conduct long-term control of invasive species as specified in the Monitoring Plan. This measure will ensure that non-native invasive vegetation species do not inhibit the success of the native plantings in the wetland mitigation area.</p> | <p>Less than significant with Mitigation incorporated</p> <p>Less than significant with Mitigation incorporated</p> |
| <p>4.3.4: 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</p> | <p>Same as Mitigation Measure 4.3.1a (Biological Surveys).</p> | <p>Less than significant with Mitigation incorporated</p> |
| <p>Section 4.4 (Agriculture and Forestry Resources)</p> | | |
| <p>4.4.1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as Shown on the Maps Prepared Pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to Non-Agricultural Use.</p> | <p>Mitigation Measure 4.4.1a: To mitigate for the permanent conversion of 5.03 acres of prime agricultural land from the proposed project and the City proposed Ennes Park Expansion, the applicant shall dedicate a conservation easement to the benefit of the City of Arcata, on approximately 22.65 acres of parcel 505-151-001, which would result in a 4.5:1 mitigation ratio. Although the proposed project would only result in the conversion of 1.69 acres of prime agricultural land (1.35 acres for parkland and 0.34 acres for the emergency access road), the EIR analyzes and provides mitigation for the conversion of an additional 3.34 acres from the City’s proposed Ennes Park Expansion. This measure will permanently preserve over 22 acres of prime agricultural land within the City’s Sphere of Influence for future agricultural use.</p> | <p>Less than significant with Mitigation incorporated.</p> |

Chapter 5 – Energy Conservation

Table 1-11 Energy Conservation Impacts and Mitigation Measures

| Impact | Mitigation Measures Summary | Significance After Mitigation |
|---|--|---|
| 5.2: Result in the Wasteful and Inefficient Use of Nonrenewable Resources during Long-Term Operation of the Project. | Same as Mitigation Measures 2.8.1a (GHG Reduction Measures) and 3.1b (Pedestrian/Bicycle Improvements) . | Less than significant with Mitigation incorporated. |

Chapter 7 – Cumulative Impact Analysis

Table 1-12 Cumulative Impacts and Mitigation Measures

| Impact | Mitigation Measures Summary | Significance After Mitigation |
|---|--|--|
| 7: Result in Significant Cumulative Impacts Related to Transportation-Traffic. | Same as Mitigation Measures 3.1a (Transportation Improvements) . As discussed in Chapter 3 (Transportation/Traffic) of the EIR, the recommended future transportation improvements in the W-Trans Traffic Study may not be constructed for several years. During this time, there is the potential that several of the Sunset Area housing projects may be constructed and become operational. If this scenario were to happen, there is the potential for significant and unavoidable cumulative traffic impacts to occur until the transportation improvements are installed. Because the EIR identifies traffic as an impact that cannot be reduced to a less than significant level until the transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1) are constructed, a Statement of Overriding Considerations would need to be adopted by the City of Arcata for the Creek Side Homes project (see Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion). | Significant and unavoidable impact until construction of the future transportation improvements identified in Mitigation Measure 3.1a. |

SUMMARY OF ALTERNATIVES

The California Environmental Quality Act (CEQA) requires that an EIR shall describe a range of reasonable alternatives to the project that would “*feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives*” (CEQA Section 15126.6(a)). The CEQA guidelines also note in Section 15126.6(a) that an EIR “*need not consider every conceivable alternative to a project*” and that “*An EIR is not required to consider alternatives which are infeasible*”. The development of alternatives is a means to provide ways of “*avoiding or substantially lessening any significant effects of the project*” (CEQA Section 15126.6(b)). Refer to Chapter 6 (Alternatives Analysis) of the EIR for a detailed discussion of alternatives.

Several alternatives were identified but were eliminated from further review because they do not meet several of the basic requirements of CEQA; Section 15126.6(c) states “*The EIR should also identify any alternatives that were considered . . . but were rejected as infeasible during the scoping processAmong the factors that may be used to eliminate alternatives from detailed consideration in the EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.*”

The alternatives considered but eliminated from detailed study included (see Chapter 6 [Alternatives Analysis] for additional discussion):

- **Offsite Location:** This alternative would have located the proposed project at another location in the City of Arcata Planning Area.
- **Medium Density Residential Development:** This alternative would have developed the property for the maximum density allowed under the City’s planned designation/zoning for the residential development site (APN 505-161-011) of Residential Medium Density (RM) which allows 7.26 to 15 units per acre. This would have allowed the development of 240 residential units on the 16-acre site that would provide housing for approximately 506 residents.
- **High Density Residential Development:** This alternative would have developed the residential development site (APN 505-161-011) for the maximum density allowed under the Residential High Density (RH) zone which allows 15.01 to 32 units per acre. This would have allowed the development of 512 residential units on the 16-acre site that would provide housing for approximately 1,080 residents.

In addition to the Proposed Project, the alternatives analyzed in the EIR are the following (see Chapter 6 [Alternatives Analysis] for additional discussion):

- **Alternative 1 - No Project:** As the name implies, the No Project Alternative is an alternative in which there is no project. As such, no changes would occur and the project parcels would remain in their current state and use (i.e., vacant, agricultural grazing, riparian corridor, and Ennes Park).
- **Alternative 2 - County General Plan Update:** Under the County General Plan Update Alternative, it is assumed that the site would not be annexed into the City of Arcata and would be developed for single-family residential uses. Since the residential development site would not be annexed into the City of Arcata, it is assumed that the residential units would be served by onsite septic systems and a community water system. Due to the density limitations for on-site septic systems and community water systems, the County General Plan Update alternative would allow the development of one single-family residence and one accessory dwelling unit per acre. For this alternative, it is assumed that the residential development site would be subdivided into fourteen one-acre parcels with access and utilities (excluding water and sewer utilities from the City of Arcata) extended from Foster Avenue. This alternative would provide 14 new single-family residential units and 14 new accessory dwelling units that would provide housing for

approximately 65 residents. Approximately 2 acres of the site along Janes Creek would be left as a remainder parcel, which would contain the community water system well and treatment facilities, a wetland mitigation area, and the 100-foot Streamside Management Area (SMA) setback required by the Humboldt County Zoning Code.

- **Alternative 3 - No Assisted Living Facility:** The No Assisted Living Facility Alternative would exclude development of the Assisted Living and Memory Care Facility on the central portion of the residential development site (APN 505-161-011). This alternative would include the other residential uses included in the Proposed Project (e.g., 32 single-family residential units, 32 accessory dwelling units, and 25 senior-restricted cottage units). This alternative would provide housing for approximately 169 residents instead of the 269 residents that would be provided housing by the Proposed Project. This alternative would require the same discretionary approvals as the Proposed Project (e.g., annexation of parcels 505-161-011 and 505-151-009 into the City of Arcata, redesignation/rezoning of parcel 505-161-011 to Residential Low Density, minor subdivision of parcel 505-161-011, etc.). Under this alternative, the residential development site would still be subdivided into three parcels, but the 5.5-acre parcel in the central part of the site would remain vacant. This alternative would propose most of the same improvements as the Proposed Project, with the exception of the access roads, parking, utilities, landscaping, and low impact development (LID) site design measures proposed for the assisted living facility property.
- **Alternative 4 - Single-Family Residential Development:** The Single-Family Residential Development Alternative would propose the annexation of the residential development site (APN 505-161-011) into the City of Arcata to be developed for single-family residential uses. Similar to the Proposed Project, this alternative would propose the annexation of parcels 505-161-011 and 505-151-009 into the City of Arcata and the redesignation/rezoning of parcel 505-161-011 to Residential Low Density (RL). For this alternative, it is assumed that the residential development site would be subdivided into 55 parcels with an average size of 6,000 square feet as required by the Arcata Land Use Code. This would result in a density of approximately 3.4 units per acre. This alternative would provide 55 new single-family residential units and 55 accessory dwelling units that would provide housing for approximately 232 residents. Approximately 2 acres of the site along Janes Creek would be left as a remainder parcel, which would contain the wetland mitigation area, stormwater facilities (e.g., bioswales), a pedestrian/bicycle pathway, and the 100-foot stream setback required by the City of Arcata Land Use Code.
- **Alternative 5 - No Foster Avenue Connection:** The No Foster Avenue Connection Alternative would exclude the proposed Foster Avenue Connection which would construct a road crossing over Janes Creek to provide direct vehicular access from the residential development site (APN 505-161-011) to Alliance Road. This alternative would also exclude the new “T” type intersection at the intersection of Foster Avenue and Q Street. As such, vehicular access to the site from Alliance Road would occur via the 17th Street and Q Street connection to the section of Foster Avenue on the west side of Janes Creek. A smaller crossing, providing only pedestrian/bicycle access, would be constructed over Janes Creek to provide direct access to Alliance Road. The smaller

crossing could include a multi-use trail or separated pathways for pedestrian and bicycle traffic (e.g., sidewalk and bike lane). Construction of the crossing would include replacement of the culvert at the existing railbed crossing over Janes Creek. The pedestrian/bicycle crossing will cause impacts to riparian vegetation in Janes Creek, but to a lesser degree since it will be narrower in width than the road crossing that would occur as part of the Proposed Project.



CHAPTER 2.

Community Environment

The following Sections are included in this Chapter:

- Land Use and Planning**
- Population and Housing**
- Public Services**
- Recreation**
- Cultural Resources**
- Aesthetics**
- Air Quality**
- Greenhouse Gas Emissions**
- Noise**
- Hazards and Hazardous Materials**
- Utilities and Service Systems**
- Tribal Cultural Resources**

Section 2.1

LAND USE AND PLANNING

This section contains a discussion of the existing land use and planning setting for the proposed project and surrounding area, and evaluates the potential impacts related to land use and planning during construction and operation of the project. To provide the basis for this evaluation, the Environmental Setting section describes the existing land use and zoning for the project area and the Regulatory Framework section describes the regulatory background that applies to the project. The Impact Analysis section establishes the thresholds of significance, evaluates potential land use and planning impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less-than-significant levels.

ENVIRONMENTAL SETTING

The residential development site (APN 505-161-011) is located within the unincorporated area of Humboldt County, at the western edge of the City of Arcata urbanized area. The City boundary is located adjacent to the site to the north and east. An area of unincorporated land is located south of the site. The site was used as a sawmill and whole-log chipping facility in the past, but has not been used for these purposes since the 1980s. The site contains remnants of the former saw mill structure as well as the western bank of Janes Creek, riparian areas, fill materials and gravel, and vegetation including grasses, blackberry bushes, and other low-growing shrubs. The site is essentially flat, sloping slightly from the northeast to the southwest.

Lands adjacent to the residential development site are predominantly used for agriculture and residential activities. Land to the west of the site is used for either grazing or by the Sun Valley Floral Farms agricultural industrial bulb farming and production. Land to the north along Stewart Avenue includes single-family residential uses that make up the western portion of the Westwood neighborhood. Land to the east and across Janes Creek includes single-family and multi-family residential uses on Foster Avenue and Heather Lane. Land uses to the south along Foster Avenue and Q Street include agricultural lands, several single-family residences, and a small light industrial area. The following table describes the current land uses and land use designations of land adjacent to the project.

Table 2.1-1 Adjacent Land Uses and General Plan Land Use Designations

| Direction | Current Usage | Arcata General Plan | Humboldt County General Plan ¹ |
|--------------|--|--|---|
| North | Single family residential and agricultural uses, | Residential Low Density (RL) | Medium Density Residential |
| East | Janes Creek and single-family and multi-family housing | Residential High Density (RH) and Public Facility (PF) | Not Applicable |
| South | Agricultural uses, single-family housing, and | Agriculture Exclusive (AE) and Industrial Limited (IL) | Medium Density Residential |

| Direction | Current Usage | Arcata General Plan | Humboldt County General Plan¹ |
|------------------|--|----------------------------|--|
| | automotive repair facility | | |
| West | Agricultural uses including grazing and industrial flower production | Agriculture Exclusive (AE) | Medium Density Residential, General Industrial, Agricultural Exclusive |

¹Arcata Community Plan, 1966.

The residential development site is currently subject to the Humboldt County General Plan and is designated Urban Reserve (UR) and Medium Density Residential (RM) and zoned Limited Industrial (ML), Residential One Family (R-1), and Apartment Professional (R4) (see Figure 2.1A [Existing County Zoning]). The zoning applied to portions of the site is not consistent with the RM land use designation (see further discussion under Regulatory Framework section).

The City of Arcata has included the residential development site within its Sphere of Influence (SOI). An SOI is a planning boundary generally located outside of a city’s corporate boundary that designates the City’s probable future boundary and service area. The City of Arcata coordinates with Humboldt County in regards to land use planning within the Arcata SOI. The land use designation planned for the residential development site is found in Figure LU-a of the Arcata General Plan Land Use Element (2008). The site is also located within the City of Arcata Urban Service Boundary (General Plan Figure GM-a). The Urban Service Boundary is the outer limit beyond which urban services will not be extended. This boundary is determined by the City’s interest in extending infrastructure (water, wastewater, drainage, etc.) to urban uses and reflects the area within which development may occur during the twenty-year timeframe of the Arcata General Plan.

The following table sets forth the Arcata General Plan and the Humboldt County Framework Plan land use designations for the residential development site, and zoning pursuant to the Humboldt County Zoning Regulations and the Arcata Land Use and Development Guide:

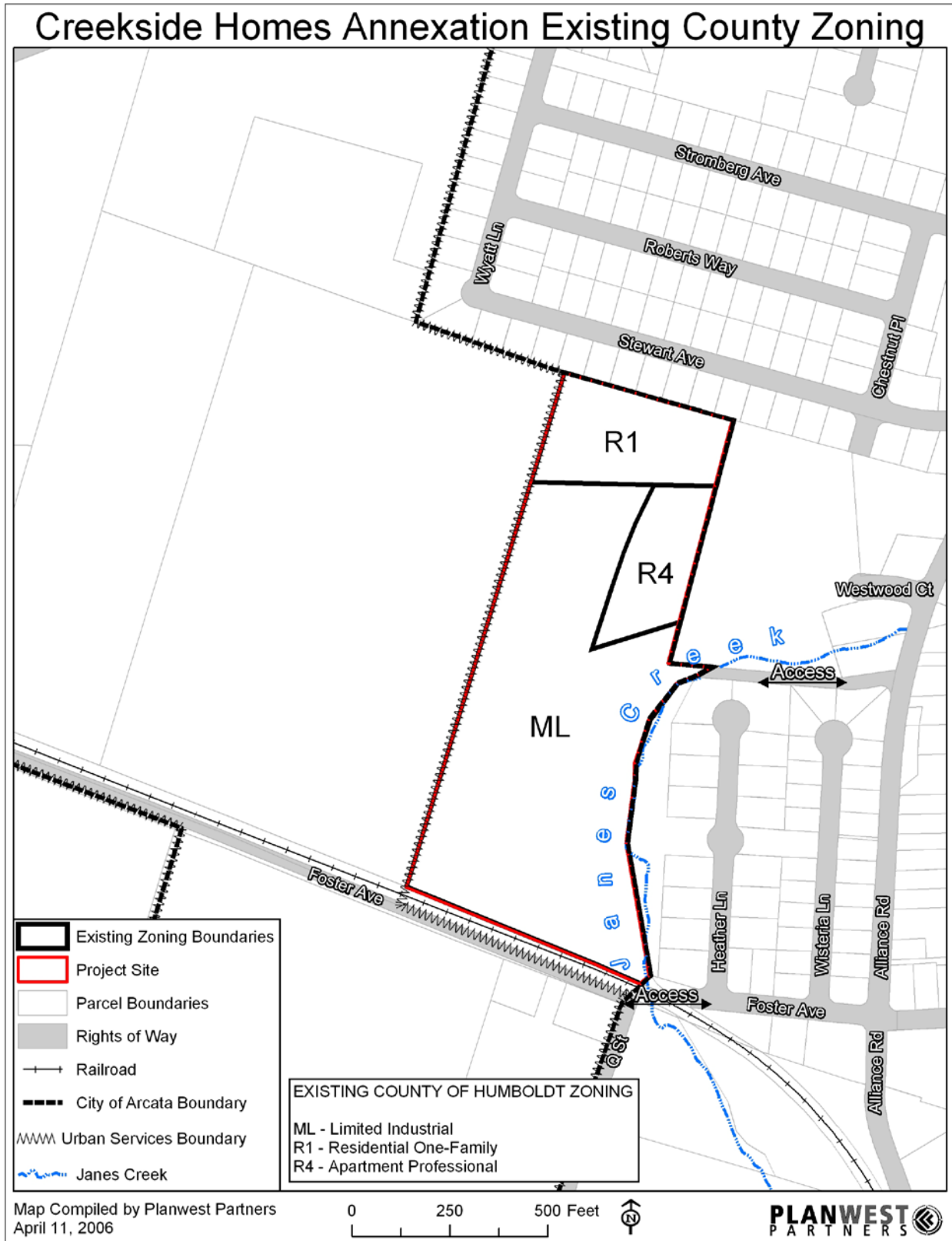
Table 2.1-2 Residential Development Site Existing General Plan Designation and Zoning

| Parcel | City of Arcata | Humboldt County |
|---------------------------------|--|---|
| General Plan Designation | RM (Residential Medium Density) ¹ | Urban Reserve (UR) Medium Density Residential (RM) |
| Zoning | RM (Residential Medium Density) ² | ML (Limited Industrial) ¹ R-1 (Residential One Family) ¹ R4 (Apartment Professional) ¹ |

¹Arcata Community Plan, 1966.

²Pursuant to Arcata General Plan Policy GM-2e, the City of Arcata will not prezone lands within the Sphere of Influence until the City “considers particular annexation requests.” To the extent that the annexation request meets the criteria contained in policy GM-3c, the residential development site would likely be zoned RM by the City of Arcata as shown on Figure LU-a of the Arcata General Plan Land Use Element.

Figure 2.1A Existing County Zoning of the Residential Development Site



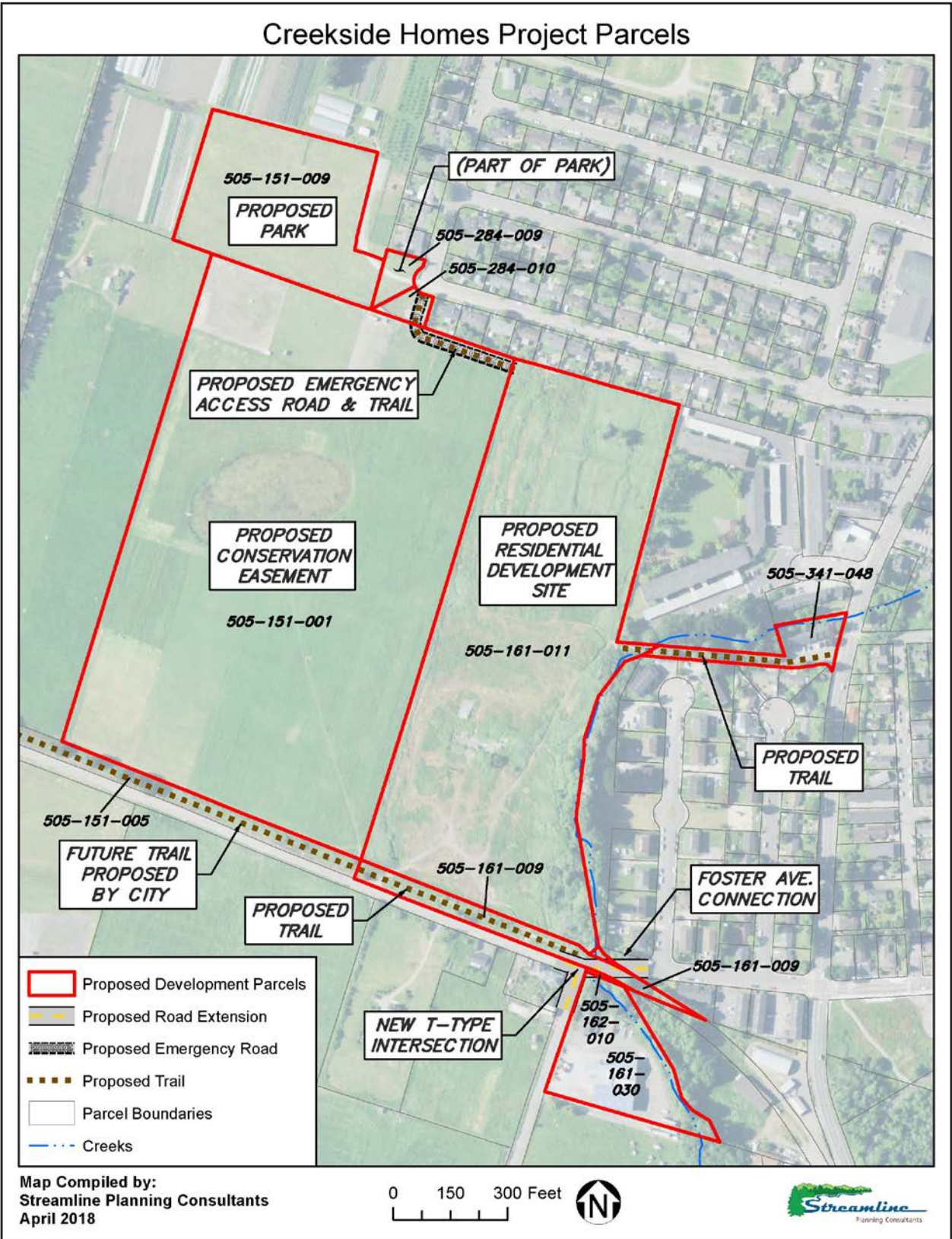
The proposed park site (Ennes Park Expansion), which totals approximately 4.69 acres, is located on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (see Figure 2.1B [Parcels Proposed for Development]). Parcel 505-151-009 is currently located in the County and is within the City's Sphere of Influence, but outside of the Urban Service Boundary. Parcels 505-284-009 and 505-284-010 are located within City limits. The majority of the proposed park site (APN 505-151-009) is currently vacant but was used historically for agriculture and contains prime agricultural soils. The park site currently contains a graveled driveway access that is used for an adjacent community supported agriculture (CSA) operation on parcel 505-151-008.

Parcels 505-284-009 and 505-284-010 are currently zoned Public Facility (PF) by the City of Arcata. Parcel 505-284-009 (0.26 acres) is currently developed with a gravel driveway access. Parcel 505-284-010 (0.21 acres) is currently developed with a small park (Ennes Park). Ennes Park serves the single-family residential neighborhood to the north of the residential development site and was recently redeveloped by the City to contain a jungle gym, wiggly board, spinner pod, a see-saw type structure, and a corn hole court.

Parcel 505-151-009 is currently zoned by Humboldt County for agricultural (AG and AE) uses. Parcel 505-151-009 (4.22 acres) has been planned to be developed as a park by the City of Arcata for several decades. This parcel was re-designated as Public Facility (PF) as part of the Humboldt County General Plan update in Fall 2017 based on the City's desire to develop the property as parkland.

The proposed Hammond Trail section that will be developed by the applicant will be located on parcel 505-161-009 (No address assigned) which totals approximately 0.94 acres (0.74 acres in County jurisdiction and 0.20 acres within City limits). This parcel is located in County jurisdiction along the southern boundary of the residential development site (see Figure 2.1B [Parcels Proposed for Development]) and is within the City's Sphere of Influence and Urban Service Boundary. This parcel historically contained the Simpson Mill spur tracks which have been inactive for several decades. The property is privately owned and is planned to be developed as a section of the Hammond Trail in the Arcata Pedestrian and Bicycle Master Plan (2010). Parcel 505-161-009 is designated by Humboldt County as Urban Reserve (UR) and Medium Density Residential (RM). This parcel contains drainage ditches on either side of the railbed, which were identified as three-parameter wetlands in the Wetland Delineation (Appendix AA) completed by Streamline Planning Consultants.

Figure 2.1B Parcels Proposed for Development



REGULATORY FRAMEWORK

County of Humboldt

Humboldt County General Plan and Zoning Regulations

The Humboldt General Plan (Volume I – Framework Plan) was developed in 1984 and establishes land use designations to allow for the orderly development and use of lands within the County. An update of the County General Plan was recently adopted in October 2017. In the near future the County will update the Zoning Regulations to be consistent with the recently adopted General Plan update.

The parcels proposed for annexation (APNs 505-161-011, 505-151-009, and 505-161-009) are located within the Arcata Community Plan area. The residential development site (APN 505-161-011) and the parcel that will be developed with a portion of the Hammond Trail by the applicant (APN 505-161-009), have a land use designation of Urban Reserve (UR) and Medium Density Residential (RM). The purpose of the UR land use designation is to *“protect from premature subdivision and development, urban lands not now developed to urban densities or adequately provided with urban services but expected to develop to urban uses and densities when services are available. This designation is used where annexation is required for urban services and full build-out.”* The RM designation is *“used in areas with full urban services and where common-walled units and apartments are appropriate, including duplexes, townhouses, and apartments and manufactured home park developments. Design review can be used to ensure compatibility with neighborhood character.”* The proposed park site (APN 505-151-009) has a land use designation of Public Facility (PF). The PF designation is *“utilized to classify land appropriate for use by a governmental agency or public agency, which has the purpose of serving the public health, safety, convenience, or welfare.”*

Table 2.1-3 below contains a list of policies from the Humboldt County General Plan concerning the urban reserve designation, annexations, sphere of influence boundaries, the provision of services, and the conversion of agricultural land.

Table 2.1-3 Applicable Humboldt County General Plan Policies

| Section | Policy |
|-------------------------------------|--|
| HUMBOLDT COUNTY GENERAL PLAN | |
| Section 4.24, Standard GP-S9 | Urban Reserve. Lands given the land use designation “Urban Reserve”, as defined in the Land Use Element, may be developed when urban services are available and, if outside city or district limits, require annexation to the adjacent city or service district. Development within Urban Reserves prior to extension of water and sewer services shall not prevent attainment of planned urban level densities. In the event the applicable service provider has acted to deny an annexation request, the property may be developed consistent with available services and the base |

| Section | Policy |
|---|--|
| | land use designation. |
| Section 4.25, Implementation Measure GP-IM2 | Map Urban Development Areas. Identify and map Urban Development Areas for all community plan areas with existing or planned public wastewater systems. Planning for urban development areas shall include the review of LAFCo adopted spheres of influence and district boundaries, municipal service reviews, and capital improvement programs, as well as consultation with appropriate special districts, cities, public utilities, and LAFCo. Review and revise boundaries to ensure compatibility with community needs as part of Housing Element updates. |
| Section 4.25, Implementation Measure GP-IM4 | Map Water Service Areas. Identify and map water service areas for all Community Plan Areas with existing or planned public water systems. Planning for water service areas shall include the review of LAFCo adopted spheres of influence and district boundaries, municipal service reviews, and capital improvement programs, as well as consultation with appropriate special districts, cities, public utilities, and LAFCo. Review and revise boundaries to ensure compatibility with community needs as part of updates to the Housing Element. |
| Section 4.53, Policy AG-P6 | Agricultural Land Conversion - No Net Loss. Lands planned for agriculture (AE, AG) shall not be converted to non-agricultural uses unless the Planning Commission makes the following findings: A. There are no feasible alternatives that would prevent or minimize conversion; B. The facts support an overriding public interest in the conversion; and C. For lands outside of designated Urban Development Boundaries, sufficient off-setting mitigation has been provided to prevent a net reduction in the agricultural land base and agricultural production. This requirement shall be known as the “No Net Loss” agricultural lands policy. “No Net Loss” mitigation is limited to one or more of the following: 1. Re-planning of vacant agricultural lands from a non-agricultural land use designation to an agricultural plan designation along with the recordation of a permanent conservation easement on this land for continued agricultural use; or 2. The retirement of non-agricultural uses on lands planned for agriculture and recordation of a permanent conservation easement on this land for continued agricultural use; or 3. Financial contribution to an agricultural land fund in an amount sufficient to fully offset the agricultural land conversion for those uses enumerated in subsections a and b. The operational details of the land fund, including the process for setting the amount of the financial contribution, shall be established by ordinance. |
| Section 4.53, Policy AG-P12 | Advice from Agricultural Community. Seek advice from organizations and affected individuals within the agricultural community for any future evaluation of land areas needed for urban development or for any consideration of requests by Humboldt’s Local Agency Formation Commission (LAFCo) to change spheres of influence or urban service boundaries next to or near agricultural lands. |

| Section | Policy |
|--|--|
| Section 5.4, Policy IS-P9 | District Boundaries, Spheres of Influence, and Community Plans. District boundaries, spheres of influence, municipal service reviews, and community plans shall be mutually compatible and support the orderly development and timing of infrastructure and services. |
| Section 5.6, Implementation Measure IS-IM1 | Coordination with Service Providers. Coordinate as appropriate with special districts, cities, LAFCo, and other local service providers by reviewing and commenting on capital improvement plans, proposed spheres of influence, municipal service reviews, annexations, and changes in organization. Enter into formal cooperative relationships when appropriate to plan, fund, and implement infrastructure and service delivery projects. |

The residential development site (APN 505-161-011) is zoned Limited Industrial (ML), Residential One Family (R-1), and Apartment Professional (R-4). The zoning applied to portions of the site is not consistent with the Medium Density Residential land use designation. For example, the majority of the site is zoned Limited Industrial (ML) which is not consistent with the Medium Density Residential land use designation. However, the Residential One Family (R-1) and Apartment Professional (R4) zoning within the northern portion of the site are likely consistent with the Medium Density Residential land use designation. It is anticipated that the County would intend to correct this inconsistency when updating the County Zoning Regulations in the near future.

The proposed park site (APN 505-151-009) is zoned Agriculture General (AG) and Agriculture Exclusive (AE). This zoning is inconsistent with the Public Facility (PF) designation that was recently adopted for the parcel in Fall 2017 as part of the County General Plan Update. It is anticipated that the County would intend to correct this inconsistency when updating the County Zoning Regulations in the future.

The parcel proposed to be developed with a section of the Hammond Trail by the applicant (APN 505-161-009) is zoned Limited Industrial (ML). This zoning is inconsistent with the Medium Density Residential (RM) designation that was recently adopted for the parcel in Fall 2017 as part of the County General Plan Update. It is anticipated that the County would intend to correct this inconsistency when updating the County Zoning Regulations in the future.

Humboldt Local Agency Formation Commission (LAFCo)

Local Agency Formation Commissions, known as LAFCos, were created in each County by the California State Legislature in 1963. LAFCos have regulatory and planning responsibilities to coordinate the timely development of local governmental agencies and their services while protecting agricultural and open-space resources. Most importantly, this includes managing local governmental boundary changes by approving or disapproving proposals involving the formation, expansion, or dissolution of cities and special districts (LAFCo, 2016).

LAFCos are tasked with administering a section of the Government Code (Section 56000, et seq.) known as the Cortese-Know-Hertzberg (CKH) Local Government Reorganization Act of

2000. The CKH Act requires LAFCo to operate within a set of state-mandated parameters encouraging planned, well-ordered, efficient urban development patterns, the preservation of open-space lands, and the discouragement of urban sprawl.

City of Arcata

Arcata General Plan and Land Use Code

The City of Arcata General Plan was developed in 2000, amended in 2008, and establishes land use designations to allow for the orderly development and use of lands in the City. The City of Arcata General Plan addresses residential development in their Land Use Element and Housing Element. The City's Housing Element has specific Goals and related Policies that address the housing needs in the City. The City's Land Use Code establishes zones for residential development and contains development standards to ensure orderly housing development that is consistent with the character of existing residential neighborhoods.

As shown on Figure LU-a of the Arcata General Plan Land Use Element, the residential development site (APN 505-161-011) and the parcel proposed to be developed with a section of the Hammond Trail by the applicant (APN 505-161-009), have been planned by the City to be designated/zoned Residential Medium Density (RM) upon annexation. The RM land use designation and zone allows residential densities from 7.26 to 15 units per acre and the following types of residential development: single-family dwellings, accessory (2nd) dwelling units, duplexes, multi-family dwellings, planned developments, group residential, and small residential care facilities and modular housing located in mobile home parks (Arcata General Plan Table LU-2). As shown on Figure LU-a of the Arcata General Plan Land Use Element, the proposed park site (APN 505-151-009) was planned by the City to be designated/zoned Agriculture Exclusive (AE) upon annexation. The proposed AE designation/zoning shown in Figure LU-a is therefore inconsistent with the City's plans to develop parcel 505-151-009 as parkland (see further discussion under Finding 2.1.2).

The Arcata General Plan Growth Management Element contains the City's policies that define the procedures for the extension of the urban services and expansion of the city boundaries. General Plan Policy GM-3 provides for logical annexations of unincorporated areas to the City of Arcata and establishes specific annexation criteria and procedures. The following policies guide the City's annexation process:

GM-3a City annexation procedure. The City prefers to consider annexation requests prior to LAFCo consideration. If a property owner(s) or residents request that the City initiate an annexation request to LAFCo, the following procedures shall apply:

1. Initiation:
 - a. If lands are inhabited, a petition must be signed by no less than fifty percent of the resident voters, or at least twenty-five percent of owners of property located within the annexation area;

- b. If lands are uninhabited but consist of more than one parcel and owner, a petition must be signed by a majority of owners representing more than fifty percent of the annexation area;
- c. If a single parcel, a petition must be submitted by owner(s).
- 2. The Planning Commission shall review and make a recommendation on the requested annexation to City Council.
- 3. Final Action shall be taken by Council regarding Resolution of Intention for annexation.
- 4. Following City Council approval of annexation request, including any accompanying General Plan amendment, pre-zoning ordinance, and/or environmental document, the City shall transmit the annexation request to LAFCo for its consideration and decision.

GM-3b Required materials for consideration of annexations of non-urbanized land areas.

The following shall apply to annexation requests where the land proposed to be added to the City is not developed with urban land uses prior to annexation:

- 1. The City, or experts under contract to the City, shall prepare a detailed annexation study addressing items "a" through "f" listed below.
 - a. A comprehensive and detailed analysis of the fiscal impacts of the annexation, addressing the full range of revenues and expenditures. One-time capital costs of facilities, as well as recurring operating costs and revenues, shall be evaluated;
 - b. A study and/or proposal for tax-sharing agreements with other taxing entities, such as the County;
 - c. An accompanying General Plan Amendment, if requested or appropriate;
 - d. A proposed preliminary development plan, including phasing if appropriate;
 - e. An assessment of the City's capacity to provide facilities and services, including: wastewater collection and treatment, stormwater management, water supply and distribution, streets and circulation, fire protection, police services, parks, and others as appropriate;
 - f. A rezoning ordinance. The costs of preparing the annexation study, including City administrative costs, shall be borne by the property owner(s) requesting the City to consider the annexation.
- 2. An environmental document pursuant to CEQA.
- 3. A Planned Development or Specific Plan may be required for any land area greater than five acres.

GM-3c Criteria for annexation of undeveloped land areas. All undeveloped lands proposed for annexation shall be added to the City only if the following criteria are met. The proposed annexation area shall:

- 1. Be within Urban Services Boundary and adjacent to existing urban development;
- 2. Not exceed the City's capacity to provide services and infrastructure to accommodate proposed development;
- 3. Have annexation timed so that availability of services and infrastructure is concurrent with need;

4. Have a positive or neutral fiscal impact, or other overriding public benefit;
5. Be in compliance with General Plan policies; and
6. Not include prime agriculture land (Storie Index 60 or higher) other than with designation and prezone as Agriculture Exclusive [A-E].

Table 2.1-4 below contains a list of policies from the Arcata General Plan and regulations from the Arcata Land Use Code that are applicable to the proposed project.

Table 2.1-4 Applicable General Plan Policies and Land Use Code Requirements

| Policy | Objective | Applicable Sub-Policies |
|--------------------------------------|---|--|
| ARCATA GENERAL PLAN | | |
| LU-1 Overall Land Use Pattern | Provide an overall land use arrangement that concentrates city-wide uses and functions in the central Plaza Area, linked with a series of neighborhood centers which provide a mix of commercial services, residential uses, and community facilities. | LU-1a, LU-1e, and LU-1f |
| LU-2 Residential Land Use | Allow for a mix of housing types and densities to meet the physical, social, and economic needs of residents, with new and converted housing designed to be compatible with the established neighborhood character. | LU-2a, LU-2b, and LU-2d |
| LU-4 Industrial Land Use | Provide for uses which will retain and generate jobs, including labor-intensive manufacturing, processing, assembly, warehousing, services, and complementary non-industrial uses, in appropriate locations. | LU-4b (Conversion and reuse of old industrial sites) |
| LU-5 Public Facilities | Provide appropriate locations and sites for water storage and delivery, wastewater collection and treatment, drainage, solid waste management, fire protection, parks and recreation, civic and institutional uses, and education (public and private) facilities. | LU-5a |
| LU-6 Agricultural And Resource Lands | Preserve and promote the sustained production of natural resources; preserve and promote the agricultural, forest, and aquaculture lands; and protect public natural resource/open space lands, including stream courses, wetlands, tidelands, and open space areas. Provide for complementary uses including farm housing, processing of agricultural and aquaculture products, and access for timber harvesting, in designated areas. | LU-6b |
| GM-2 Sphere Of Influence | Designate an appropriate amount of urban reserve and open space land in the Sphere of Influence to provide for the ultimate development of the City. | GM-2a and GM-2d |
| GM-3 Annexations | Provide for logical annexations of unincorporated areas, within the City's Sphere of Influence and/or Planning Area, when the existing or proposed development is consistent with community character and City services can be adequately provided. | GM-3a to GM-3d |
| ARCATA HOUSING ELEMENT (2014) | | |
| Goal A Housing | Promote the development of new housing that meets | HE-1 and HE-6 |

| Policy | Objective | Applicable Sub-Policies |
|---|---|--------------------------------|
| Quality | safety standards, offers a variety of housing types in a variety of locations, and enhances existing neighborhoods, services, and the environment. | |
| Goal B Housing Quantity | Provide housing opportunities for people of all income levels, through the development of a wide range of housing types and the preservation of existing housing. | HE-7 |
| Goal E Natural Resources, Energy Conservation, and Sustainable Living | Promote the conservation of natural resources and energy in housing design requirements and the use of green building technologies and designs. | HE-29 |

ARCATA LAND USE CODE

| | | |
|--|---|---|
| Chapter 9.24 RL (Residential Low Density) | The RL Zone is applied to areas appropriate for neighborhoods of single-family homes on individual lots, and related compatible uses. | Sections 9.24.010 through 9.24.070 |
| Chapter 9.24 RM (Residential Medium Density) | The RM Zone is applied to areas appropriate for a variety of housing types, including small-lot single-family housing, and various types of multi-family housing (for example, duplexes, townhouses, and apartments). | Sections 9.24.010 through 9.24.070 |
| Chapter 9.30 (Standards for All Development and Land Uses) | This chapter expands upon the zoning district development standards by addressing additional details of site planning, project design, and the operation of land uses. The intent of these standards is to ensure that proposed development is compatible with existing and future development on neighboring properties, and produces an environment of stable and desirable character, consistent with the General Plan and any applicable specific plan. | Sections 9.30.050, 9.30.070, and 9.30.100 |
| Chapter 9.34 (Landscaping Standards) | This chapter establishes requirements for landscaping to enhance the appearance of development projects, reduce heat and glare, control soil erosion, conserve water, screen potentially incompatible land uses, preserve the integrity of neighborhoods, improve air quality, and improve pedestrian and vehicular traffic safety. | Sections 9.34.010 through 9.34.070 |
| Chapter 9.36 (Parking and Loading) | The requirements of this chapter are intended to minimize impervious areas, to ensure that accessible, suitable, and well maintained off-street parking and loading facilities are provided for all uses and development, and that the facilities are properly designed, attractive, and located to be unobtrusive while meeting the needs of the specific use. | Section 9.36.010 through 9.36.110 |
| Chapter 9.59 (Environmentally Sensitive Habitat Areas Protection and Preservation) | Environmentally sensitive habitat areas (ESHA) within the City (Janes Creek, riparian corridors, wetlands, etc.) are important natural resources that provide ecological balance, ecosystem function, biological productivity, and values such as wildlife habitat, water quality, open space and scenic resources, flood control, and opportunities for scientific study and education. This chapter contains | Sections 9.59.010 through 9.59.100 |

| Policy | Objective | Applicable Sub-Policies |
|--|--|-------------------------|
| | requirements that are intended to protect ESHAs through measures including setback restrictions, easements, overlay zones, limitations on uses within ESHAs, and mitigation. | |
| Chapter 9.72 PD (Planned Development Permit) | Provide a method whereby land may be designed and developed as a single unit by taking advantage of modern site planning techniques thereby resulting in a more efficient use of land and a better living environment than is otherwise possible through strict application of the development standards. Ensure that approved development meets high standards of environmental quality, public health and safety, the efficient use of the City’s resources, and the purpose, intent, goals, policies, programs, and land use designations of the General Plan, the Local Coastal Program, and any applicable specific plan. | Section 9.72.070 |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if the project would result in any of the following effects:

- Physically divide an established community;
- 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; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Arcata General Plan and Land Use Code

Table 2.1-5 Project Consistency with General Plan and Land Use Code

| Policy | Consistency Analysis |
|--|--|
| ARCATA GENERAL PLAN | |
| <p>LU-1 Overall Land Use Pattern (LU-1a, LU-1e, and LU-1f)</p> | <p>LU-1a. This policy notes that General Plan Figure LU-a shows the land use designations within the City and Sphere of Influence. The proposed designation/zoning for the residential development site (APN 505-161-011) and the parcel proposed to be developed with a section of the Hammond Trail by the applicant (APN 505-161-009), are generally consistent with the planned designation in Figure LU-a. However, the proposed park site (APN 505-151-009) was planned by the City to be designated/zoned Agriculture Exclusive (AE) upon annexation. The proposed AE designation/zoning shown in Figure LU-a is therefore inconsistent with the City’s plans to develop parcel 505-151-009 as parkland (see further discussion under Finding 2.1.2).</p> <p>LU-1e. The residential development site is planned to be designated/zoned for residential uses upon annexation. The proposed project includes mitigations to significantly reduce impacts to natural resources and agricultural uses, consistent with this policy.</p> <p>LU-1f. Consistent with this policy, the proposed project includes the redevelopment of a vacant former industrial site, or brownfield, identified for residential uses in the Arcata General Plan and the General Plan EIR. In addition, the proposed project utilizes the Planned Development procedure in a manner that is consistent with this policy. Although, the proposed park site (APN 505-151-009) is located outside of the City’s Urban Service Boundary, it is located directly adjacent to a residential neighborhood and Ennes Park and has been planned for development as parkland for several decades (see further discussion under Finding 2.1.2).</p> |
| <p>LU-2 Residential Land Use (LU-2a, LU-2b, and LU-2d)</p> | <p>LU-2a. The proposed land use designation for the residential development site (APN 505-161-011) is RL and the proposed uses are generally consistent with allowable uses listed in General Plan Table LU-2.</p> <p>LU-2b. Consistent with this policy, the proposed project provides a mixture of housing types including single-family residential, senior assisted living, and senior-restricted cottage units.</p> <p>LU-2d. Consistent with this policy, the proposed project is a vacant site planned for residential development that is greater than one acre and has requested a zoning amendment to include a Planned Development Combining Zone over the residential development site.</p> |
| <p>LU-4 Industrial Land Use (LU-4b)</p> | <p>LU-4b. Consistent with this policy the proposed project involves the conversion and reuse of a former mill site. Environmental assessments and site remediation have already occurred for the residential development site and will be completed as part of this project prior to the use of the site for residential uses.</p> |
| <p>LU-5 Public Facilities (LU-5a)</p> | <p>LU-5a. Consistent with this policy, the parcels proposed for the park site (APNs 505-151-009, 505-284-009, and 505-284-010) are either currently designated/zoned Public Facility (PF) or are proposed to be designated PF upon annexation (APN 505-151-009). Recreational facilities, including parks, are an allowable use in the PF zone.</p> |

| Policy | Consistency Analysis |
|--|--|
| LU-6 Agricultural And Resource Lands (LU-6b) | <p>LU-6b. Consistent with this policy, the project is designed to reduce potential future impacts between the proposed residential uses and adjacent agricultural uses.</p> |
| GM-2 Sphere Of Influence (GM-2a and GM-2d) | <p>GM-2a. Annexation of property may not proceed unless the property is within the Sphere of Influence (SOI) boundary. Consistent with this policy, the parcels proposed for annexation (APNs 505-161-011, 505-151-009, and 505-161-009) are located within the City’s SOI.</p> <p>GM-2d. This policy notes that the planned designations in General Plan Figure LU-a have legal force and effect only upon annexation of particular land areas to the City. The proposed designation/zoning for the residential development site (APN 505-161-011) and the parcel proposed to be developed with a section of the Hammond Trail by the applicant (APN 505-161-009), are generally consistent with the planned designation in Figure LU-a. However, according to Figure LU-a, the proposed park site (APN 505-151-009) was planned by the City to be designated/zoned Agriculture Exclusive (AE) upon annexation. As discussed under Finding 2.1.2, the proposed AE designation/zoning shown in Figure LU-a is therefore inconsistent with the City’s plans for the last several decades to develop parcel 505-151-009 as parkland.</p> |
| GM-3 Annexations (GM-3a – GM-3d) | <p>GM-3a. This policy outlines the procedure for annexing lands to the City of Arcata. The annexation of parcels 505-161-011, 505-151-009, and 505-161-009 will occur consistent with the procedures required by Policy GM-3a.</p> <p>GM-3b. Consistent with this policy, the City has required the preparation of a detailed annexation study for the project, the contents of which are listed in Policy GM-3b.</p> <p>GM-3c. This policy establishes criteria that must be met prior to annexing undeveloped land areas. Consistent with this policy, the proposed park site (APN 505-151-009): 1) is adjacent to urban development; 2) would not exceed the City’s capacity to provide services and infrastructure to accommodate the proposed development; 3) will be annexed such that the availability of services and infrastructure would be concurrent with the need; and 4) would have a positive or neutral fiscal impact, or other overriding public benefits. However, parcel 505-151-009 is outside of the City’s Urban Service Boundary, is proposed by the City to be designated/zoned Public Facility (PF) upon annexation instead of Agriculture Exclusive (AE) as identified in General Plan Figure LU-a, and contains prime agricultural land. See discussion under Finding 2.1.2 concerning compliance with this General Plan Policy. It is important to note that parcel 505-151-009 was redesignated Public Facility (PF) in Fall 2017 at the City’s request as part of the Humboldt County General Plan update.</p> <p>GM-3d. This policy establishes criteria that must be met prior to annexing land with existing urban development. Consistent with this policy the residential development site (APN 505-161-011) and parcel proposed to be developed with a section of the Hammond Trail by the applicant (APN 505-161-009): 1) is located within the Urban Services Boundary; 2) all facilities would be brought up to City standards concurrent with annexation; and 3) costs would be borne by the project</p> |

| Policy | Consistency Analysis |
|---|---|
| | and not by the existing City taxpayers. |
| ARCATA HOUSING ELEMENT (2014) | |
| Goal A Housing Quality (HE-1 and HE-6) | <p>HE-1. Consistent with this policy, the proposed project will be a planned development that includes, but is not limited to, multiple housing types, open space and wetland mitigation along Janes Creek, and several trails that connect to the City’s existing trail system.</p> <p>HE-6. Consistent with this policy, the proposed project will include engineering, site design, and remediation that will minimize health and safety impacts related to natural and/or human hazards including strong seismic ground shaking, liquefaction, and hazardous materials.</p> |
| Goal B Housing Quantity (HE-7) | <p>HE-7. Consistent with this policy, this project makes available appropriately zoned land for residential development that will have public services and facilities needed to facilitate the development of a variety of housing types.</p> |
| Goal E Natural Resources, Energy Conservation, and Sustainable Living (HE-29) | <p>HE-29. Consistent with this policy, the proposed project will be constructed in compliance with California’s Energy Efficient Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the California Code of Regulation). In addition, in September 2018 the City of Arcata adopted Ordinance No. 1507 (Residential Reach Code) that requires new residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by at least 20 percent. Also, the project proposes pedestrian and bicycle trails identified in the Arcata Pedestrian & Bicycle Master Plan (2010) that will provide connections to the City’s existing trail system.</p> |
| ARCATA LAND USE CODE | |
| Chapter 9.24 RL Zone (Sections 9.24.010 through 9.24.070) | <p>RL Zone Standards. The residential development site (APN 505-161-011) is proposed to be designated and zoned Residential Low Density (RL) and developed with residential uses. The project will comply with the density requirements and development standards of the RL Zone, except as modified through the Planned Development (:PD) Combining Zone.</p> |
| Chapter 9.24 RM Zone (Sections 9.24.010 through 9.24.070) | <p>RM Zone Standards. As noted above, the residential development site is planned to be designated/zoned as Residential Medium Density (RM) by the City of Arcata upon annexation. Although the proposal by the applicant to re-designate/re-zone the site as Residential Low Density (RL) will result in lower residential densities than planned for by Humboldt County and the City of Arcata, it will ultimately result in fewer environmental impacts and greater compatibility with surrounding land uses.</p> |
| Chapter 9.30 Standards for all Development and Land Uses (Section 9.30.050, 9.30.070, and 9.30.100) | <p>Section 9.30.050 (Noise Standards). As discussed in Section 2.9 (Noise) of the EIR, the proposed residential development will not produce or be subject to noise levels in excess of the standards contained in this section.</p> <p>Section 9.30.070 (Outdoor Lighting). As discussed in Section 2.6 (Aesthetics) of the EIR, outdoor lighting proposed for the residential development will be designed to comply with the requirements of this section.</p> |

| Policy | Consistency Analysis |
|--|--|
| | <p>Section 9.30.100 (Solid Waste/Recyclable Materials Storage). As discussed in Section 2.11 (Utilities and Service Systems) of the EIR, the proposed project will be required to comply with the requirements of this section concerning the location and design of solid waste and recycling materials storage areas.</p> |
| <p>Chapter 9.34 Landscaping Standards (Sections 9.34.010 through 9.34.070)</p> | <p>Landscaping Standards. As described in Chapter 1 (Introduction) of the EIR and shown on the Site Plan, the project proposes to install landscaping in various locations throughout the residential development site that will be effective in ornamenting the site. In addition, the project proposes to maintain the majority of natural vegetation on the site as well as plant native trees and shrubs with within the environmental buffer area along Janes Creek.</p> |
| <p>Chapter 9.36 Parking and Loading (Sections 9.36.010 through 9.36.110)</p> | <p>Parking Standards. As described in Chapter 1 (Introduction) of the EIR, the proposed project has been designed to provide parking in compliance with this section which includes the minimum number of required spaces and parking space design.</p> |
| <p>9.59 Environmentally Sensitive Habitat Areas Protection and Preservation (Sections 9.59.010 through 9.59.100)</p> | <p>Environmentally Sensitive Habitat Areas (ESHA) Standards. The ESHA areas on the parcels that will contain the proposed development include the Janes Creek riparian corridor and the small isolated wetlands on the residential development site. Consistent with Sections 9.59.020 and 9.59.050, the project proposes a 100-foot Environmental Buffer Area (EBA) on the western bank of Janes Creek. Consistent with Section 9.59.060, the project proposes to develop a wetland mitigation area within the 100-foot EBA along Janes Creek to mitigate for the filling of wetlands as part of the proposed residential development. The mitigation will occur at a 1.8:1 ratio and will provide a three-parameter wetland that is of greater biological function and value than the wetlands proposed to be filled. Consistent with Section 9.59.060, the proposed development (roads and/or houses) will maintain a variable 50-foot setback from the edge of the wetland mitigation area. Consistent with Section 9.59.080, a conservation easement or similar deed restriction will be required for the EBA along Janes Creek and the wetland mitigation area.</p> |
| <p>Chapter 9.72 PD Zone (Section 9.72.070)</p> | <p>PD Combining Zone Standards. The residential development site is proposed to be designated and zoned Residential Low Density (RL) and developed with single-family residential units, a senior assisted living facility, and senior-restricted neighborhood cottage units. The PD Combining Zone will also be applied to the site as is required in Section 9.72.070 of the Arcata Land Use Code for any residential development on sites one acre and larger. As described below the applicant proposes to apply for all three (Type “A” through Type “C”) of the PD permit types to allow the proposed residential uses. The application of the PD Combining Zone will allow, where necessary and justifiable, exceptions to the development standards of the RL Zone.</p> |

Proposed Project

Finding 2.1.1: Physically Divide an Established Community.

Discussion:

The project proposes single-family residential, senior assisted living, and senior restricted neighborhood cottage residential units within a former industrial site that is within the City's Sphere of Influence and Urban Service Boundary. The proposed residential units will be adjacent to residential uses to the north, south, and east of the residential development site and will become part of these existing neighborhoods. An existing site access will be expanded and improved to provide access from Foster Avenue to the residential development site (APN 505-161-011). The project will include the development of several pedestrian and bicycle trails, including construction of a section of the Hammond Trail that will provide connectivity to adjacent neighborhoods and the nearby trail systems. The applicant will also pay park in-lieu fees to the City for development of recreational facilities on properties that have been planned by the City of Arcata for development as a neighborhood park (Ennes Park Expansion) for several decades.

The Humboldt County Framework Plan has designated the residential development site for residential uses since the adoption of the Arcata Community Plan in the 1960s. As shown on Figure LU-a of the Arcata General Plan Land Use Element, the Arcata General Plan also has planned to designate/zone the site for residential uses upon annexation. Development of this site for residential development would locate new residential uses adjacent to existing residential neighborhoods on the western side of the City of Arcata.

The majority of the proposed park site (APN 505-151-009) was designated as Public Facility (PF) in Fall 2017 as part of the Humboldt County General Plan update. Development of this property as parkland will provide the recreational facilities necessary to adequately serve the existing and proposed residential population in this area of Arcata.

Therefore, the proposed project would not physically divide an established community.

Determination:

No impact.

Mitigation:

None required.

Finding 2.1.2: 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.

Discussion:

The proposed project includes the annexation of approximately 21 acres of land that is within the City of Arcata Sphere of Influence. This includes the annexation of the 16-acre residential development site (APN 505-161-011), the 4.22-acre City owned parcel (APN 505-151-009) that is planned for the Ennes Park Expansion, 0.74 acres of parcel 506-161-009 (former railbed), and a portion of the Foster Avenue and Q Street right-of-ways that are currently in County jurisdiction.

As discussed in the Regulatory Framework discussion above, the Arcata General Plan Growth Management Element contains the City's policies that define the procedures for the extension of the urban services and expansion of the City boundaries. The proposed project will be required to comply with these policies including:

- Petitions will be signed by the property owners of the parcels proposed for annexation which include Foster Ave LLC (APN 505-161-011), the City of Arcata (APN 505-151-009), and Arcata Land Company LLC (APN 505-161-009);
- The applicant shall prepare a detailed annexation study including the following information: 1) fiscal impact study; 2) description of consistency with the Master Agreement between the City of Arcata and Humboldt County for sharing of tax revenue for areas annexed to the City; 3) General Plan Amendment request and Pre-Zoning Ordinance; 4) Planned Development Permit application; 5) Assessment of the City's ability to provide facilities and services; 6) CEQA Environmental Impact Report; and 7) Development Agreement between DANCO Communities and the City of Arcata;
- The Arcata Planning Commission shall review the annexation request and make a recommendation to the City Council based on the criteria contained in General Plan Growth Management Element Policy GM-3c (Criteria for annexation of undeveloped land areas). Final action on the annexation request shall be taken by the City Council; and
- Following City Council approval, the City shall transmit the annexation request to the Humboldt Local Agency Formation Commission (LAFCo) for its consideration and decision.

As shown on Figure LU-a of the Arcata General Plan Land Use Element, the residential development site (APN 505-161-011) has been planned by the City to be designated/zoned Residential Medium Density (RM) upon annexation. The RM land use designation and zone allows residential densities from 7.26 to 15 units per acre and the following types of residential development: single-family dwellings, accessory (2nd) dwelling units, duplexes, multi-family dwellings, planned developments, group residential, small residential care facilities, and modular housing located in mobile home parks (Arcata General Plan Table LU-2). The Arcata Land Use

Code (Glossary) defines ‘Density, Residential’ as *“The number of permanent residential dwelling units per gross acre of land.”*

The project proposes to subdivide the residential development site into three larger lots and develop the properties with single-family residential units and second units, a senior assisted living facility, and senior restricted neighborhood cottage units. The residential development site is proposed by the applicant to be designated and zoned Residential Low Density (RL) upon annexation (see Figure 2.1C [Proposed Project Rezoning]). Although, the project proposes to zone the residential development at a lower density than planned for by the City, the project would still result in the development of residential uses that would be consistent with adjacent single-family and multi-family residential uses. The Planned Development (:PD) Combining Zone will also be applied to the site as is required in Section 9.72.070 of the Arcata Land Use Code for any residential development on sites one acre and larger. The purpose of the PD Combining Zone is to allow the most efficient approach to the use of land and to provide for greater flexibility in the design of the proposed development. The application of the PD Combining Zone will allow, where necessary and justifiable, exceptions to the development standards of the RL Zone. As described below the applicant proposes to apply for all three (Type “A” through Type “C”) of the PD permit types to allow the proposed residential uses.

The northern portion of the residential development site is proposed to be subdivided into a 6.26 acre parcel and developed with 32 single-family residential units and 32 accessory dwelling units (see Figure 2.1C [Proposed Project Rezoning]). As required by the PD Combining Zone, the applicant proposes to apply for a Type “A” Planned Development Permit for the single-family residential units which are a principally permitted use in the RL zoning district. The RL zone allows residential densities from 2 to 7.25 units per acre. The proposed number of single-family residential units would result in a density of 5.11 units per gross acre. The accessory dwelling units are not counted toward the density requirement as required by State housing law. If the northern portion of the property were built out in accordance with the planned RL designation/zone, a maximum of 45 residential units could be constructed on the 6.26 acre property. Based on the average household size (2.11 persons per household) for the City of Arcata (DOF, 2017), the maximum development potential under the RL designation/zone would provide housing for 95 residents. As such the proposed density of single-family residential units is consistent with the Arcata General Plan Land Use Element and Land Use Code.

The central portion of the residential development site is proposed to be subdivided into a 5.49 acre parcel and developed with a 100 bed senior assisted living facility (see Figure 2.1C [Proposed Project Rezoning]). The RL zone allows Residential Care Facilities (7 or more clients) as a conditionally permitted use (Use Permit required) and residential densities from 2 to 7.25 units per acre. For approval of the assisted living facility, it is assumed that a Type “B” Planned Development Permit will be required in-lieu of a Conditional Use Permit. Since the proposed land use is a senior assisted living facility that provides care beds instead of residential units, the unit density requirement of the zone is not applicable. As such, the proposed assisted living facility would be generally consistent with the planned density in the Arcata General Plan Land Use Element and Land Use Code.

The southern portion of the residential development site is proposed to be subdivided into a 4.23 acre parcel and developed with 25 senior-restricted neighborhood cottage units which are

classified as multi-family residential units (see Figure 2.1C [Proposed Project Rezoning]). The applicant proposes to apply for a Type “C” Planned Development Permit for the senior restricted neighborhood cottage units which are not a principally or conditionally permitted use in the RL zoning district. The RL zone allows residential densities from 2 to 7.25 units per acre. The proposed number of senior-restricted cottage units would result in a density of 5.91 units per gross acre. If the southern portion of the property were built out in accordance with the planned RL designation/zone, a maximum of 30 residential units could be constructed on the 4.23 acre property. Based on the average household size (2.11 persons per household) for the City of Arcata (DOF, 2017), the maximum development potential under the RL designation/zone would provide housing for 63 residents. As such the proposed density of senior-restricted cottage units is consistent with the Arcata General Plan Land Use Element and Land Use Code.

As shown on Figure LU-a of the Arcata General Plan Land Use Element, one of the City-owned properties proposed to be developed as parkland (APN 505-151-009), has been planned by the City to be designated/zoned Agriculture Exclusive (AE) upon annexation. According to the Arcata Land Use Code, “*Parks and Playgrounds*” are not a permitted use in the AE zone. The proposed AE designation/zoning shown in Figure LU-a is therefore inconsistent with the City’s plans for the last several decades to develop parcel 505-151-009 as parkland. One indication of this intent by the City is that parcel 505-151-009 is currently shown on the City’s GIS system (https://gis01.cityofarcata.org/web/COA_Parcel_finder/) as parkland and is labeled as the “Ennes Park Expansion.” Another indication of this intent is the May 30, 2008 letter from the City of Arcata Community Development and Environmental Services Departments to the Humboldt County Planning Division, which includes a request from the City to rezone parcel 505-151-009 as Public Facility (PF) as part of the County General Plan Update. As stated in the letter:

“City of Arcata owns fee title to a 4-acre parcel APN 505-151-009. The City of Arcata purchased this parcel in 1991 to develop as a public park in the event of residential expansion along the western boundary of Arcata.

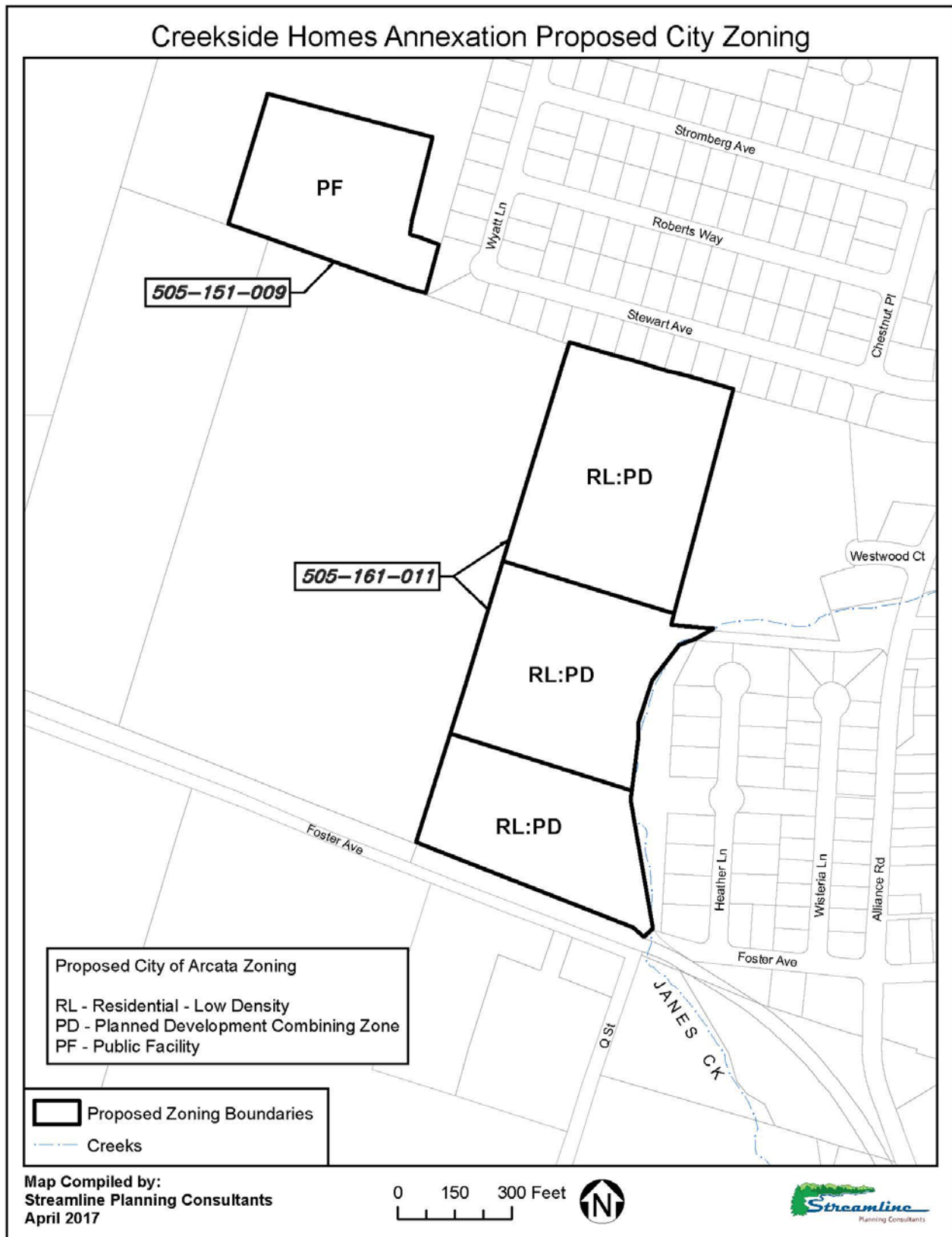
It was purchased with revenues raised through the City’s 1979 Parkland Bond Initiative and lies adjacent to two smaller parcels of parkland the City owns that front Wyatt and Stewart Lanes.

At the time of acquisition our historical maps show the property was zoned a mix of R-L and Agriculture General.

We have reviewed the proposed Land Use and Zoning Maps for the Arcata/Freshwater area labeled A-D and found that three of the proposals include conversion of this parcel to Agriculture Exclusive and one option, Alternative D lists this as Mixed Use.

The City would like to request that you consider a Public Facilities zoning designation for this parcel. It has been our intention to develop this site, when funding becomes available into a neighborhood park.”

Figure 2.1C Proposed Project Rezoning



Based on the City's request, the County changed the General Plan designation for parcel 505-151-009 to Public Facility (PF) in Fall 2017 as part of adoption of the General Plan update. In a May 3, 2018 letter to the City of Arcata Community Development Department, the County of Humboldt Planning Department indicated that parcel 505-151-009 will be zoned to Public Facility (PF) to be consistent with the General Plan designation.

The County also adopted a CEQA Environmental Impact Report for the General Plan Update, which included a Statement of Overriding Considerations for the development of properties, such as parcel 505-151-009 that would result in the permanent conversion of prime agricultural land. As described in Section 4.4 (Agriculture and Forestry Resources) of the EIR, the applicant and City of Arcata also propose to mitigate the conversion of parcel 505-151-009 to parkland through dedication of a conservation easement to the City of Arcata on parcel 505-151-001.

Therefore, despite the proposed designation/zoning for parcel 505-151-009 shown in Figure LU-a of the General Plan, the proposal to redesignate/rezone the property as Public Facility (PF) and develop it as parkland, is consistent with the County General Plan and the City's intended use for the property.

The parcel that is proposed to be annexed and developed with a portion of the Hammond Trail by the applicant (APN 505-161-009), has a County land use designation of Urban Reserve (UR) and Medium Density Residential (RM). As shown on Figure LU-a of the Arcata General Plan Land Use Element, this parcel has been planned by the City to be designated/zoned Residential Medium Density (RM) upon annexation. The Arcata Pedestrian and Bicycle Master Plan (2010) also plans for the former railbed on parcel 505-151-009 to be developed as a section of the Hammond Trail (see Figure 2.1B [Parcels Proposed for Development]). Since this parcel is proposed to be developed with a public trail, it is proposed to designate/zone it as Public Facility (PF) instead of RM, which would provide greater consistency with the intended use.

In addition, the proposed project would otherwise not conflict with any applicable goals, objectives, and policies of the Arcata General Plan and Land Use Code. As discussed throughout the EIR, in all instances where potentially significant impacts have been identified, mitigation is provided to reduce each impact to less than significant levels. This was necessary in the following sections of the EIR:

- Public Services (Section 2.3);
- Recreation (Section 2.4);
- Greenhouse Gas Emissions (Section 2.8);
- Hazards and Hazardous Materials (Section 2.10);
- Utilities and Service Systems (Section 2.11);
- Transportation-Traffic (Chapter 3);
- Geology and Soils (Section 4.1);
- Hydrology and Water Quality (Section 4.2);
- Biological Resources (Section 4.3);
- Agricultural and Forestry Resources (Section 4.4);
- Energy Conservation (Chapter 5); and
- Cumulative Impacts (Chapter 6).

The analysis contained in the EIR addressed the potential conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect including, but not limited to, Arcata General Plan and Land Use Code, Arcata Pedestrian and Bicycle Master Plan (2010), Arcata Community Greenhouse Gas Reduction Plan (2006), Arcata Stormwater Management Plan (2005), HCAOG 20-Year RTP (2014) – Variety in Rural Options of Mobility (VROOM), Humboldt County Regional Housing Needs Plan (2014-2019), NCUAQMD Particulate Matter (PM10) Attainment Plan (1995), and Site Development Contamination Contingency and Site Safety Plan (SHN, 1998).

Therefore, based on the analysis conducted in the EIR, it was determined that the project was not in conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.1.3: Conflict with any Applicable Habitat Conservation Plan or Natural Community Conservation Plan.

Discussion:

According to the U.S. Fish & Wildlife Service Environmental Conservation Online System (ECOS) (USFWS, 2016) and the West Coast Region National Marine Fisheries Service (NMFS, 2018), the project parcels are not located within the boundaries of a Habitat Conservation Plan. Habitat Conservation Plans in Humboldt County include the following:

- 1) Green Diamond Resource Company California Timberlands & Northern Spotted Owl (formerly Simpson Timber Company) Habitat Conservation Plan;
- 2) Green Diamond Resource Company (formerly Simpson Timber Company) Aquatic Habitat Conservation Plan;
- 3) Humboldt Redwood Company (formerly Pacific Lumber, Headwaters) Habitat Conservation Plan;
- 4) Humboldt Bay Municipal Water District Habitat Conservation Plan; and
- 5) Regli Estates.

These Habitat Conservation Plans primarily apply to forest lands in the County. The project parcels are approximately one mile from the nearest forest lands which occur on the eastern side of Highway 101.

According to the California Department of Fish & Wildlife website (CDFW, 2016), the project parcels are not located in the boundaries of a Natural Community Conservation Plan. The conservation plans for Humboldt County, listed on California Regional Conservation Plans Map

on the CDFW website, include the Green Diamond Company and Humboldt Redwoods Company Habitat Conservation Plans.

Therefore, the proposed project will not conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan.

Determination:

No impact.

Mitigation:

None required.

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Section 2.2

POPULATION AND HOUSING

This section evaluates the potential impacts related to population and housing with implementation of the proposed project. The Environmental Setting section describes the project site and existing setting in Humboldt County and the City of Arcata as it relates to population and housing. The Regulatory Framework section describes the applicable regulations at the federal, State, and local level. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to population and housing, and identifies the significance of impacts. Where appropriate, mitigation is presented to reduce impacts to less-than-significant levels.

ENVIRONMENTAL SETTING

Residential Development Site

The residential development site (APN 505-161-011) was used as a sawmill and whole-log chipping facility in the past, but has not been used for these purposes since the 1980's. The site contains remnants of the former saw mill structure, as well as the western bank of Janes Creek, riparian areas, fill materials and gravel, and vegetation including grasses, blackberry bushes, and other low-growing shrubs. The site is essentially flat, sloping slightly from the northeast to the southwest.

Lands adjacent to the residential development site are predominantly used for agriculture and residential activities. Land to the west of the site are used for grazing or by the Sun Valley Floral Farms agricultural industrial bulb farming and production. Land to the north along Stewart Avenue includes single-family residential uses that make up the western portion of the Westwood neighborhood. Land to the east and across Janes Creek includes single-family and multi-family residential uses on Foster Avenue and Heather Lane. Land uses to the south along Foster Avenue and Q Street includes agricultural lands, several single-family residences, and a small light industrial area.

The residential development site is currently subject to the Humboldt County General Plan and is designated Urban Reserve (UR) and Medium Density Residential (RM) and zoned Limited Industrial (ML), Residential One Family (R-1), and Apartment Professional (R4).

The City of Arcata has included the residential development site within its Sphere of Influence (SOI). A SOI is a planning boundary generally located outside of a city's corporate boundary that designates the City's probable future boundary and service area. The City of Arcata coordinates with Humboldt County in regards to land use planning within the Arcata SOI. The land use designation planned for the residential development site is found in Figure LU-a of the

Arcata General Plan Land Use Element. The site is also located within the City of Arcata Urban Services Boundary (General Plan Figure GM-a). The Urban Service Boundary is the outer limit beyond which urban services will not be extended. The Urban Services Boundary is determined by the City’s interest in extending infrastructure (water, wastewater, police, fire, etc.) to urban uses and reflects the area within which development may occur during the twenty-year timeframe of the Arcata General Plan.

As shown on Figure LU-a of the Arcata General Plan Land Use Element, the residential development site has been planned by the City to be designated/zoned Residential Medium Density (RM) upon annexation. The RM land use designation and zone allows residential densities from 7.26 to 15 units per acre and the following types of residential development: single-family dwellings, accessory (second) dwelling units, duplexes, multi-family dwellings, planned developments, group residential, and small residential care facilities and modular housing located in mobile home parks (Arcata General Plan Table LU-2).

Population

Humboldt County

Humboldt County is a rural county with a large land area and low population density. The 2010 Census reported the county’s population to be 134,623, which represents an increase of 8,105 over the population reported in the 2000 Census. The California Department of Finance (DOF) prepares estimates of statewide, county, and city populations for years between the decennial census that are used by state and local government to allocate funding and for planning purposes. The DOF estimates the 2015 population of Humboldt County to be 134,398, which is a decrease of 225 people since the 2010 Census.

The DOF also develops projections of State and county population 50 years beyond the decennial census. Between 2010 and 2020, the Humboldt County population is projected to increase by approximately 2.2%, from 136,056 to 139,033 (an increase of 2,977 people). Between 2020 and 2030, the population is projected to increase by approximately one percent, from 139,033 to 140,608 (an increase of 1,575 people) (see Table 2.2-1 below).

Table 2.2-1 Humboldt County Population Projections, 2010- 2030

| Year | Humboldt County | Percent Change |
|------|-----------------|----------------|
| 2010 | 136,056 | --- |
| 2020 | 139,033 | 2.2 |
| 2030 | 140,608 | 1.1 |

Source: Humboldt County population projections from the State Department of Finance (Table P-1).

City of Arcata

According to the U.S. Census, the City of Arcata had a population of 17,231 in the year 2010. The Department of Finance (DOF) estimates that Arcata's 2017 population is 18,374 persons. This population estimate comprises 16,091 living in households and 2,283 living in group quarters. This represents a 6.6% increase in population between 2010 and 2017.

The City of Arcata prepared a memorandum (dated June 23, 2017) which analyzed the potential water and wastewater impacts of the Sunset Area housing projects including the Creek Side Homes Project (Appendix S). The projects referred to as the Sunset Area housing projects are listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. The memorandum contains an analysis that estimates the increase in population and residential units that will occur from buildout of available land in the City in combination with upzoning and annexation proposed by the Sunset Area housing projects. The analysis estimated the buildout household population by adding the feasible housing stock potential under current market conditions to the proposed upzone and annex housing stock, and multiplying by persons per household. This estimating approach resulted in a population just over the 20,000 persons envisioned for the Arcata General Plan: 2020 planning period. More specifically, total population is estimated to reach between 20,084 and 20,267.

Housing

Household Characteristics

According to the 2010 Census, there were a total of 61,559 housing units in Humboldt County, which is an increase of 5,647 over the total housing units reported in the 2000 Census. Average household size (i.e., the average number of residents per household) declined in Humboldt County between 2000-2010 from 2.39 to 2.31.

According to the 2010 Census, there were a total of 7,722 housing units in Arcata, which is an increase of 450 over the total housing units reported in the 2000 Census. Average household size (the average number of residents per household) declined in Arcata between 2000-2010 from 2.16 to 2.10. According to the California Department of Finance (2017), the average number of residents per household in Arcata is 2.11.

There are no existing households located within the residential development site. However, the site is surrounded by various types of residential development on three sides. North of the site is a single-family residential neighborhood, to the east is multi-family and single-family residential development, and to the south is lower density rural residential development. Some of the parcels proposed for off-site improvements contain housing, but no residential units will require removal as part of the proposed project.

Projected Housing Growth and Needs

Pursuant to Government Code Section 65584, the State Department of Housing and Community Development and the Humboldt County Association of Government (HCOAG) projects housing needs for Humboldt County to guide the revision of local Housing Elements. The HCOAG Regional Housing Needs Plan projects local housing needs between the planning period of 2014-2019 and allocates those needs between all cities in Humboldt County and the unincorporated area. Based on the Regional Housing Needs Plan, a total of 2,060 housing units will be need to be developed countywide in the fifth planning cycle to keep pace with population growth, which is little more than half of the allocation that was needed in the fourth planning cycle. The City of Arcata is expected to accommodate 363 units of the total county housing need by 2019, or 17.6% of the total need.

The City of Arcata prepared a memorandum (dated June 23, 2017) which analyzed the potential water and wastewater impacts of the Sunset Area housing projects including the Creek Side Homes Project (Appendix S). The projects referred to as the Sunset Area housing projects are listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. The memorandum contains an analysis that estimates the increase in population and residential units that will occur from buildout of available land in the City in combination with upzoning and annexation proposed by the Sunset Area housing projects. The analysis estimated the residential buildout by adding the feasible residential development potential to the residential development proposed by the Sunset Area housing projects. The City is projected, with all of these projects included, to reach a population just over 20,000 by 2020. The population projected in the General Plan is 20,000.

Though the Sunset Area housing projects represent a significant short-term increase in the population relative to background growth rates, it is in part the result of the latent demand and the lack of housing production in recent years. Generally, the City has been lagging behind in the development of its share of the regional housing need for the last few Housing Element planning cycles. For the current planning cycle, the City has issued 118 construction permits towards the 363-unit planning cycle goal, leaving 245 (or 67%) remaining units that are needed to meet the Regional Housing Needs Allocation (RHNA) (CA HCD, 2018). For the fourth planning cycle, the City issued 207 construction permits towards the 811-unit planning cycle goal, leaving 604 (or 74%) remaining units that were needed to meet the RHNA.

REGULATORY FRAMEWORK

Humboldt County

Humboldt County Association of Governments (HCAOG)

The HCAOG is a joint powers authority comprised of the County of Humboldt and the seven incorporated cities, each with a seat on the Board of Directors. As directed in State Government Code Section 65584, the Department of Housing and Community Development (HCD) determines the existing and projected housing need for distinct regions in the state. In consultation with HCD, HCAOG is required to adopt a Regional Housing Needs Plan (RHNP) that allocates a share of the regional housing need to each city and county. The most recent

RHNP was adopted in March 2019 and covers the period of December 31, 2018 to August 31, 2027. HCAOG’s RHNP establishes housing development targets in each of its member jurisdiction’s state-mandated Housing Element Updates. Each of the seven incorporated cities and the County of Humboldt unincorporated area are required to update their Housing Element to accommodate adequate general plan and zoning capacity for their allocation by income. It is up to each local government to plan where and how the allocated housing units will be developed in their communities. The allocations provided in the previous (5th cycle) and current (6th cycle) RHNP are shown below in Table 2.2-2.

Table 2.2-2. HCAOG’s 2013 RHNA Allocations

| | Very Low | Low | Moderate | Above Moderate | Total Allocation | Regional Share |
|----------------------------|------------|------------|------------|----------------|------------------|----------------|
| Arcata | 85 | 56 | 62 | 160 | 363 | 17.6% |
| Blue Lake | 4 | 1 | 2 | 4 | 11 | 0.5% |
| Eureka | 145 | 96 | 104 | 264 | 609 | 29.6% |
| Ferndale | 6 | 3 | 4 | 8 | 21 | 1.0% |
| Fortuna | 39 | 24 | 27 | 71 | 161 | 7.8% |
| Rio Dell | 8 | 4 | 4 | 15 | 31 | 1.5% |
| Trinidad | 2 | 0 | 1 | 2 | 5 | 0.3% |
| Unincorporated Area | 211 | 136 | 146 | 366 | 859 | 41.7% |
| Totals | 500 | 320 | 350 | 890 | 2060 | 100% |

HCAOG’s 2019 RHNA Allocations

| | Very Low | Low | Moderate | Above Moderate | Total Allocation | Regional Share |
|----------------------------|------------|------------|------------|----------------|------------------|----------------|
| Arcata | 142 | 95 | 111 | 262 | 610 | 18.0% |
| Blue Lake | 7 | 4 | 5 | 7 | 23 | 0.7% |
| Eureka | 231 | 147 | 172 | 402 | 952 | 28.1% |
| Ferndale | 9 | 5 | 6 | 13 | 33 | 1.0% |
| Fortuna | 73 | 46 | 51 | 120 | 290 | 8.6% |
| Rio Dell | 12 | 8 | 9 | 22 | 51 | 1.5% |
| Trinidad | 4 | 4 | 3 | 7 | 18 | 0.5% |
| Unincorporated Area | 351 | 223 | 256 | 583 | 1413 | 41.7% |
| Totals | 500 | 320 | 350 | 890 | 2060 | 100% |

City of Arcata

Arcata General Plan and Land Use Code

The City of Arcata General Plan addresses residential development and population growth in the Land Use Element and Housing Element. The City’s Housing Element has specific Goals and

related Policies that address the housing needs in the City. Some of the future housing needs listed in the Housing Element include the need for additional senior housing, student housing, and an increase in owner-occupied housing units. The City’s Land Use Code establishes zones for residential development and contains development standards to ensure orderly housing development that is consistent with the character of existing residential neighborhoods. Table 2.2-3 below contains a list of policies from the Arcata General Plan and regulations from the Arcata Land Use Code that are applicable to the proposed project.

Table 2.2-3 Applicable General Plan Policies and Land Use Code Requirements

| Policy or Goal | Objective | Applicable Sub-Policies |
|---|---|------------------------------------|
| ARCATA GENERAL PLAN | | |
| LU-2 Residential Land Use | Allow for a mix of housing types and densities to meet the physical, social, and economic needs of residents, with new and converted housing designed to be compatible with the established neighborhood character. | LU-2a, LU-2b, LU-2d |
| ARCATA HOUSING ELEMENT (2014) | | |
| Goal A Housing Quality | Promote the development of new housing that meets safety standards, offers a variety of housing types in a variety of locations, and enhances existing neighborhoods, services and the environment. | HE-1, HE-6 |
| Goal B Housing Quantity | Provide housing opportunities for people of all income levels, through the development of a wide range of housing types and the preservation of existing housing. | HE-7 |
| Goal E Natural Resources, Energy Conservation, and Sustainable Living | Promote the conservation of natural resources and energy in housing design requirements and the use of green building technologies and designs. | HE-29 |
| ARCATA LAND USE CODE | | |
| Chapter 9.24 RL (Residential Low Density) | The RL Zone is applied to areas appropriate for neighborhoods of single-family homes on individual lots, and related compatible uses. | Sections 9.24.010 through 9.24.070 |

| Policy or Goal | Objective | Applicable Sub-Policies |
|--|--|------------------------------------|
| Chapter 9.24 RM (Residential Medium Density) | The RM Zone is applied to areas appropriate for a variety of housing types, including small-lot single-family housing, and various types of multi-family housing (for example, duplexes, townhouses, and apartments). | Sections 9.24.010 through 9.24.070 |
| Chapter 9.72 PD (Planned Development Permit) | Provide a method whereby land may be designed and developed as a single unit by taking advantage of modern site planning techniques thereby resulting in a more efficient use of land and a better living environment than is otherwise possible through strict application of the development standards. Ensure that approved development meets high standards of environmental quality, public health and safety, the efficient use of the City's resources, and the purpose, intent, goals, policies, programs, and land use designations of the General Plan, the Local Coastal Program, and any applicable specific plan. | Sections 9.72.070 |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if the project would result in any of the following effects:

- Induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through the extension of roads or other infrastructure);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Arcata General Plan and Land Use Code

Table 2.2-4 Project Consistency with General Plan and Land Use Code

| Policy | Consistency Analysis |
|---|---|
| ARCATA GENERAL PLAN | |
| LU-2 Residential Land Use | <p>LU-2a. The proposed land use designation for the residential development site is RL and the proposed uses are generally consistent with allowable uses listed in General Plan Table LU-2.</p> <p>LU-2b. Consistent with this policy, the proposed project provides a mixture of housing types including single-family residential, senior assisted living, and senior-restricted cottage units.</p> <p>LU-2d. Consistent with this policy, the proposed project is a former lumber mill site planned for residential development that is greater than one acre and has requested a zoning reclassification to include a Planned Development Combining Zone over the residential development site.</p> |
| ARCATA HOUSING ELEMENT (2014) | |
| Goal A Housing Quality (HE-1 and HE-6) | <p>HE-1. Consistent with this policy, the proposed project will be a planned development that includes, but is not limited to, multiple housing types, open space and wetland mitigation along Janes Creek, and several trails that connect to the City’s existing trail system.</p> <p>HE-6. Consistent with this policy, the proposed project will include engineering, site design, and remediation that will minimize health and safety impacts related to natural and/or human hazards including strong seismic ground shaking, liquefaction, and hazardous materials.</p> |
| Goal B Housing Quantity (HE-7) | <p>HE-7. Consistent with this policy, this project makes available appropriately zoned land for residential development that will have public services and facilities needed to facilitate the development of a variety of housing types.</p> |
| Goal E Natural Resources, Energy Conservation, and Sustainable Living (HE-29) | <p>HE-29. Consistent with this policy, the proposed project will be constructed in compliance with California’s Energy Efficient Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the California Code of Regulation). In addition, in September 2018 the City of Arcata adopted Ordinance No. 1507 (Residential Reach Code) that requires new residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by at least 20 percent. Also, the project proposes pedestrian and bicycle trails identified in the Arcata Pedestrian & Bicycle Master Plan (2010) that will provide connections to the City’s existing trail system.</p> |
| ARCATA LAND USE CODE | |
| Chapter 9.24 RL Zone (Sections 9.24.010 through 9.24.070) | <p>RL Zone Standards. The residential development site (APN 505-161-011) is proposed to be designated and zoned Residential Low Density (RL) and developed with residential uses. The project will comply with the density requirements and development standards of the RL Zone, except as modified through the Planned Development (:PD) Combining Zone (see Section 2.1 [Land Use and Planning] for further discussion).</p> |
| Chapter 9.24 RM Zone (Sections 9.24.010 through 9.24.070) | <p>RM Zone Standards. As noted above, the residential development site is planned to be designated/zoned as Residential Medium Density (RM) by the City of Arcata upon annexation. Although the proposal to re-designate/re-zone the site as Residential Low Density (RL) will result in lower residential densities than planned for by Humboldt County and the City of Arcata, it will ultimately result in fewer environmental impacts and greater compatibility with surrounding land uses.</p> |

| Policy | Consistency Analysis |
|---|--|
| Chapter 9.72 PD Zone (Section 9.72.070) | <p>PD Combining Zone Standards. The residential development site is proposed to be designated and zoned Residential Low Density (RL) and developed with single-family residential units, a senior assisted living facility, and senior restricted neighborhood cottage units. The PD Combining Zone will also be applied to the site as is required in Section 9.72.070 of the Arcata Land Use Code for any residential development on sites one acre and larger. As described below the applicant proposes to apply for all three (Type “A” through Type “C”) of the PD permit types to allow the proposed residential uses. The application of the PD Combining Zone will allow, where necessary and justifiable, exceptions to the development standards of the RL Zone.</p> |

Proposed Project

Finding 2.2.1: Induce Substantial Population Growth in the Area, Either Directly (for example, by Proposing New Homes and Businesses) or Indirectly (for example, through the Extension of Roads or Other Infrastructure).

Discussion:

The project proposes the development of approximately 189 residential units. The proposed development of parcel 505-161-011 will generally consist of 32 single-family residential units and 32 accessory dwelling units, an assisted living and memory care facility with 100 care beds, and 25 senior-restricted neighborhood cottage units. Table 2.2-5 shows the residential population estimate for the proposed project. In relation to the City of Arcata’s resident population of 18,374 (DOF, 2017), the increase from the proposed project (269 persons) would be approximately 1.5%.

Table 2.2-5 Resident Population Estimate for Creek Side Homes Project

| Unit Type | # of Units/Care Beds | Persons per Household | # of Residents |
|----------------------------|----------------------|-----------------------|----------------|
| Single-family Dwellings | 32 | 2.11 ¹ | 68 |
| Accessory Dwellings | 32 | 2.11 ¹ | 68 |
| Assisted Living Facility | 100 | 1 ² | 100 |
| Senior-Restricted Cottages | 25 | 1.32 ³ | 33 |
| Total | 189 | -- | 269 |

¹Persons per household from CA Department of Finance (2017)

²The Assisted Living Facility will provide 100 care beds

³Persons per household from U.S. Census American Community Survey (2012-2016)

The City of Arcata prepared a memorandum (Appendix S) that analyzed the potential water and wastewater impacts of the approved/planned Sunset Area housing projects, which contains an analysis that estimates the increase in population and residential units that will occur from buildout of available land in the City in combination with upzoning and annexation proposed by the Sunset Area housing projects. The analysis estimated the residential buildout by adding the feasible residential development potential to the residential development proposed by the Sunset Area housing projects. The City is projected, with all of these projects included, to reach a population just over 20,000 by 2020. The population projected in the General Plan is 20,000.

Though the Sunset Area projects represent a significant short-term increase in the population relative to background growth rates, it is in part the result of the latent demand and the lack of housing production in recent years. Generally, the City has been lagging behind in the development of its share of the regional housing need for the last few Housing Element planning cycles. For the current planning cycle, the City has issued 118 construction permits towards the 363-unit planning cycle goal, leaving 245 (or 67%) remaining units that are needed to meet the Regional Housing Needs Allocation (RHNA) (CA HCD, 2018). For the fourth planning cycle, the City issued 207 construction permits towards the 811-unit planning cycle goal, leaving 604 (or 74%) remaining units that were needed to meet RHNA.

As discussed in the Environmental Setting, this project will assist the City in meeting its RHNA. Section 3.3 (Summary of Future Housing Needs) of the Arcata Housing Element (2014) identifies the following housing needs:

- Senior housing is needed to accommodate that growing population;
- Need more senior housing options of all types for all income levels; and
- Need additional owner occupancy opportunities.

As described above, this project will provide two types of senior housing and single-family residential units that will assist in meeting the need for senior housing and provide additional owner occupancy opportunities in the City. In addition, the proposed project will provide infill residential development on a former mill site within the City's Sphere of Influence and Urban Services Boundary.

As discussed in Section 2.3 (Public Services) of the EIR, the ability for public service providers to provide services will not be significantly reduced by the proposed project. Although utility infrastructure will be extended to serve the residential development site, parcels to the west and south of the site are outside of the City's Urban Services Boundary and parcels to the north and east are existing developed properties within City limits. In addition, as described in Section 4.4 (Agriculture and Forestry Resources) of the EIR, the agricultural parcel (APN 505-151-001) to the west of the residential development site is proposed to be placed within a conservation easement to mitigate for the permanent conversion of prime agricultural land. As such, the extension of utility infrastructure to serve the project will not indirectly induce population growth in the project area.

Therefore, the proposed project will not induce substantial population growth in the area either directly or indirectly.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.2.2: Displace Substantial Numbers of Existing Housing, Necessitating the Construction of Replacement Housing Elsewhere.

Discussion:

The residential development site (APN 505-161-011) was used as a sawmill and whole-log chipping facility in the past, but has not been used for these purposes since the 1980's. There are currently no existing housing units and no residents within the residential development site. Some of the parcels proposed for off-site improvements (e.g. Janes Creek Townhouses on parcel 505-341-048) contain housing, but no residential units will require removal as part of the proposed project. The proposed project will result in 189 additional residential units that will provide housing for approximately 269 residents.

Therefore, the project will not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

Determination:

No impact.

Mitigation:

None required.

Finding 2.2.3: Displace Substantial Numbers of People, Necessitating the Construction of Replacement Housing Elsewhere.

Discussion:

The residential development site (APN 505-161-011) was used as a sawmill and whole-log chipping facility in the past, but has not been used for these purposes since the 1980's. There are currently no existing housing units and no residents within the residential development site. Some of the parcels proposed for off-site improvements (e.g. Janes Creek Townhouses on parcel 505-341-048) contain housing, but no residential units will require removal as part of the proposed project. The proposed project will provide 189 additional residential units that would provide housing for approximately 269 residents.

Therefore, the proposed project will not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Determination:

No impact.

Mitigation:

None required.

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Section 2.3

PUBLIC SERVICES

This section evaluates the potential impacts related to public services with construction and operation of the project. The Environmental Setting section describes the setting as it relates to public services. The Regulatory Framework section describes the applicable regulations at the State and local level. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to public services, and identifies the significance of impacts. Where appropriate, mitigation is presented to reduce impacts to less than significant levels.

ENVIRONMENTAL SETTING

Public Services

Fire & Emergency Medical Response

The project parcels and the City of Arcata are located within the Arcata Fire District (AFD). The AFD district boundaries encompass 65 square miles and extend west to the Pacific Ocean, north to the Clam Beach area, east to Essex, and south to Indianola and Manila. The AFD is an all-risk fire department responsible for protecting life, property, and the environment from the hazards of fire and hazardous materials incidents, and providing emergency medical services.

The AFD is governed by a five-member independently elected Board of Directors and has a paid staff that includes one chief, three battalion chiefs, nine captains, and twelve firefighters. In addition, the AFD relies on a volunteer fire department consisting of approximately twenty-five firefighters. All AFD firefighters receive training to the Firefighter I level. At a minimum, one battalion chief, three captains, and four paid firefighters are on duty at any given time (Arcata Fire District, 2017). In addition to providing fire protection and emergency services, the AFD works to educate the public about fire hazards and disseminate information on public safety.

The AFD responded to 2,930 calls for service in 2016 from three fire stations within its district (Arcata Fire District, 2017). Two of the stations are located in Arcata, and one is located in McKinleyville. The project parcels are in the Mad River Station's (3235 Janes Road) existing response area, and the main fire hall's (631 9th Street) back-up area. The Mad River Station is approximately 1 mile north of the residential development site and the main fire hall is approximately 1.25 miles southeast of the site. The AFD is part of the multi-agency Standardized Emergency Management System emergency response network.

The Arcata Fire District indicated that, due to the expiration of a federal grant, the District had to cut several positions in 2017. In addition, the proposed project will need to be served by the District's ladder truck, which is approaching the end of its 20-year service life, and there is

currently no funding to replace it. As such, the District has indicated that future development in the District will impact the services they provide (Arcata Fire District, 2017).

Police Protection

The City of Arcata Police Department provides public safety services within the City limits. Upon annexation, law enforcement services would be provided by the Arcata Police Department. The Arcata Police Department provides 24-hour police protection within Arcata. The Arcata Police Department is part of the multi-agency Standardized Emergency Management System emergency response network. The main station office is at City Hall, 736 F Street, which is approximately 1.25 miles from the residential development site. The department currently employs twenty-seven sworn officers (full-time), one police service officer (full-time), thirteen full-time support positions (dispatch, parking, front office, etc.), and four part-time positions (parking, front office, maintenance, etc.). The Arcata Police Department has indicated that the proposed project, as well as other future development in the City (see list of approved/planned projects in Chapter 7 [Cumulative Impact Analysis] of the EIR), will impact the services they provide and the Department will ultimately need additional personnel to handle the increase in calls for service (Arcata Police Department, 2017).

The Humboldt County Sheriff's Department is responsible for law enforcement in the unincorporated area along Foster Avenue and provides service from the Sheriff's Department Eureka Main Station located at the Humboldt County Courthouse. The main station patrol unit is currently comprised of one Captain, two Lieutenant, five Sergeants, 21 Deputy Sheriff's, and three Community Services Officers (Humboldt County Sheriff's Office, 2017). Service is available 24-hours a day, seven days a week to the unincorporated areas of Humboldt County. The County Sheriff's service area consists of two main beats: Central and South. The central beat covers the unincorporated areas of Arcata (Bayside, Fickle Hill) and Eureka (Myrtle town, Cutten, Pine Hill, Samoa, Fairhaven), along with the areas of Kneeland and Elk River. The Foster Avenue area is located within the central beat.

The California Highway Patrol (CHP) is responsible for traffic enforcement services on public streets and highways within the unincorporated area. CHP traffic enforcement service is provided from the CHP Northern Division Humboldt Area office located in Arcata on Samoa Boulevard. CHP also provides other special law enforcement services, as well as mutual aid to the City of Arcata Police Department and the Sheriff's Department, upon request.

Schools

The residential development site is located within the Arcata School District. The Arcata School District offers kindergarten through eighth grade education. Arcata School District includes Arcata Elementary School and Sunny Brae Middle School. Grades pre-school through fifth are offered at Arcata Elementary School (2400 Baldwin Street) and grades six through eight are offered at Sunnybrae Middle School (1430 Buttermilk Lane). Enrollment in the district is currently about 509 students and the estimated capacity of the district is approximately 675 students (Arcata School District, 2017).

The City of Arcata and the surrounding area are within the Northern Humboldt Union High School District. Public high school students in the area attend Arcata High School (1720 M Street). Enrollment at Arcata High at the beginning of the 2016-17 school year was approximately 850 students. The estimated capacity of the school is approximately 1,000 students (Arcata High School, 2017). Arcata High has seen a slight increase in school enrollment over the past several years, due to attracting student from outside the school's residence boundary (Arcata High School WASC Self Report 2013, Pgs. 14 and 22).

Portions of The Pacific Union Elementary School District and Jacoby Creek Elementary School District are also within the City of Arcata and feed the Northern Humboldt Union High School District.

In addition to the school districts described above, there are several public, charter, and private schools in Arcata serving pre-school through high school grade level students. These include:

- Arcata Christian School, 1700 Union Street;
- Gateway Community School, 1464 Spear Avenue;
- Coastal Grove Charter School, 2400 Baldwin Street;
- Jacoby Creek Charter School, 1617 Old Arcata Road, Bayside;
- Humboldt Bay Christian School, 70 Stephens Lane, Bayside;
- Mistwood Center for Education, 1928 Old Arcata Road, Bayside;
- St. Mary's Catholic School, 1730 Janes Road;
- Fuente Nueva Charter School, 1730 Janes Road;
- Redwood Coast Montessori School, 1611 Peninsula Drive;
- Union Street Charter School and Equinox Center for Education, 470 Union Street;
and
- Northcoast Preparatory and Performing Arts Academy, 285 Bayside Road.

The City of Arcata is also home to Humboldt State University (HSU), which is the northernmost campus in the California State University system of twenty campuses. HSU offers undergraduate and graduate degrees in more than fifty subject areas. The University also offers cultural activities, music, art, theater, and athletic events that are open to the community.

Parks

The City of Arcata maintains a network of parks distributed throughout the City. Arcata's parks have varied facilities and offer many recreational and educational opportunities.

The State of California guidelines establish a ratio of at least five acres of parkland for each 1,000 residents of the State. Arcata's existing park system, according to the 2010 Arcata Park and Recreation Master Plan, contains 3,744 acres of parkland at 41 sites. More than 97%

(3,655.29 acres) of this acreage is provided as natural areas or undeveloped park reserves. Consequently, less than 2.5% (88.74 acres) of the City's park system consists of developed parks. Based on the City's current population of 18,374 (CA DOF, 2017), there is approximately 4.83 acres of developed parks and 198.94 acres of undeveloped park reserves per 1,000 residents in the City.

The City of Arcata follows State parkland-to-population guidelines, but allows for the payment of in-lieu fees to meet this dedication threshold. The City also allows for the costs of improvements to parklands to be credited toward the payment of in-lieu fees.

The existing parks closest to the residential development site are Westwood Manor Park, Ennes Park, and Shay Park. Westwood Manor Park, located at 2175 Wisteria Way, has a play structure, picnic table, and grass play area. Ennes Park, located at 1851 Stewart Avenue (APN 505-284-010), was recently redeveloped by the City to contain a jungle gym, wiggly board, spinner pod, a see-saw type structure, and a corn hole court. The City has also purchased land to the west, for future expansion of Ennes Park (APN 505-151-009). Shay Park, located at 1385 Foster Avenue, is approximately 5 acres in size and features hiking trails and wetland/habitat restoration areas. Recently a new multiuse pathway with lighting and pavement has been developed in Shay Park making the area much more accessible and usable.

Other Public Facilities

Other public facilities in the City of Arcata include public health services and library services. The City of Arcata does not directly provide health care programs or facilities; however, these facilities are operated in the City by a variety of health care providers and professional, as well as, non-profit and other organizations (Arcata General Plan 2008, Pg. 6-17). Public health services in the City of Arcata include, but are not limited to, Mad River Community Hospital, North Country Clinic, Humboldt Open Door Clinic, and numerous other smaller facilities throughout the City. Library services in the City of Arcata include the Arcata Library at City Hall, which is a branch of the Humboldt County library, and the Humboldt State University library.

REGULATORY FRAMEWORK

State of California

California Department of Forestry and Fire Prevention (CAL FIRE)

The California Department of Forestry and Fire Prevention (CAL FIRE) has the primary fire prevention and suppression responsibility within the State. They coordinate these activities with numerous other agencies and local volunteer fire organizations to provide fire protection and emergency first responder services to citizens of California. The Humboldt-Del Norte Unit (HUU) is one of 21 CAL FIRE administrative units in the State, and has primary responsibility

for about 1.9 million acres of State Responsibility Area (SRA) in the counties of Humboldt, Del Norte, and a portion of Trinity County. The unit extends north to south approximately 180 miles, and inland approximately 50 miles.

The Humboldt-Del Norte Unit is composed of eleven fire stations, three camps, one air attack base, and one helitack base. CDF HUU maintains 14 frontline engines, with two engines in reserve, two dozers, 15 inmate crews, one helicopter, one air attack, and one air tanker for fire suppression efforts. There are approximately 100 permanent fire suppression personnel, 12 resource management personnel, and 6 clerical personnel to staff these efforts. Additionally, the Unit hires approximately 90 limited-term and seasonal personnel to supplement permanent staff during the fire season.

As part of the responsibility for lands within their area of responsibility, CAL FIRE is responsible for reviewing and ensuring that new development activities meet the requirements of the California Fire Safe Regulations, also known as the 4290 regulations (PRC 4290), for ingress and egress of roads and clearing of flammable vegetation around buildings. CAL FIRE, as the County Fire Marshall, reviews and inspects roads and clearings to ensure public safety and provides comments to land development activity proposals.

City of Arcata

Arcata General Plan

The Arcata General Plan contains guidelines for public service within the Public Facilities and Infrastructure Element and the Public Safety Element. Table 2.3-1 contains a list of policies from the Arcata General Plan that are applicable to the proposed project.

Table 2.3-1 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|-----------------------------|--|-------------------------|
| PF-4 Educational Facilities | Identify student enrollment increases, based on the projected future population of the City, and coordinate with local school (public and private) districts, Humboldt State University, and other education providers to maintain and improve educational facilities and services, while preserving established community/student ratios. | -- |
| PF-5 Public Facilities | Provide adequate facilities for services and programs administered by the City and other public service providers, including City administrative and meeting facilities (City Hall), police and fire departments, libraries, and community centers. | -- |
| PS-1 Emergency Preparedness | Ensure that the City, its residents, businesses, agencies, and organizations are prepared for emergencies or disasters and have effective response and recovery plans | PS-1e |

| Policy | Objective | Applicable Sub-Policies |
|-------------------|--|-------------------------|
| | in place. | |
| PS-5 Fire Hazards | Minimize risk of personal injury and property damage resulting from structural (urban) and wildland fires. | PS-5b and PS-5e |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if the project meets any of the following criteria.

If the project would:

- Result in substantial adverse physical impacts associated with the provision of, or 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:
 - a) Fire protection;
 - b) Police protection;
 - c) Schools;
 - d) Parks;
 - e) Other public facilities.

Arcata General Plan

Table 2.3-2 Project Consistency with General Plan

| Policy | Consistency Analysis |
|-----------------------------|---|
| PF-4 Educational Facilities | PF-4. Consistent with this policy, the local school districts and Humboldt State University have been contacted to provide comments on the proposed project concerning potential impacts to their facilities/services. No concerns were expressed about the ability of these educational institutions to serve the proposed project. |
| PF-5 Public Facilities | PF-5. Consistent with this policy, the existing public facilities for fire, polices, libraries, and community centers are adequate to serve the proposed project. |
| PS-1 Emergency Preparedness | PS-1e. Consistent with this policy, the design of the project has been required to comply with the emergency access standards of the fire and |

| Policy | Consistency Analysis |
|-------------------|--|
| | police departments. |
| PS-5 Fire Hazards | <p>PS-5b. Consistent with this policy, the proposed project has been reviewed by the Arcata Fire District (AFD) for compliance with fire code standards including adequate emergency access for fire fighting vehicles.</p> <p>PS-5e. Consistent with this policy, the proposed project is located within the AFD service/response area.</p> |

Proposed Project

Finding 2.3.1: Fire Protection.

Discussion:

The project proposes the development of 89 residential units and a 100-care bed assisted living facility that would provide housing for approximately 269 persons on a former mill site. The project parcels are within the boundaries of the Arcata Fire District (AFD). The proposed project would increase the number of households and residential population within the boundaries of the AFD. This increase in population would likely result in an increase in the number of calls for service, primarily medical aid-related calls, to which the AFD responds. The residential development site is in the Mad River Station’s (3235 Janes Road) existing response area, and the Fire District Headquarters (631 9th Street) back-up area. Currently the Mad River Station is equipped with one engine which is staffed with two (2) personnel (Arcata Fire District, 2017).

As discussed in the Environmental Setting, the Arcata Fire District indicated that, due to the expiration of a federal grant, the District had to cut several positions in 2017. In addition, the proposed project will need to be served by the District’s ladder truck which is approaching the end of its 20-year service life, and there is currently no funding to replace it. As such, the District has indicated that future development in the District will impact the services they provide (Arcata Fire District, 2017).

The Arcata General Plan PEIR (2000, Pg. 3-34) states that buildout under the General Plan will require additional personnel and equipment for the Arcata Fire District, but will not require additional facilities such as a new fire station. This is attributed to the fact that the projected growth in the General Plan is primarily infill development within the City’s Urban Services Boundary. In addition, the PEIR (2000, Pg. 3-34) states that no significant decrease in response time is expected since the distance to fire stations is not expected to increase for the majority of the projected population.

The proposed project is an example of the type of infill development anticipated in the projected General Plan buildout since it proposes to convert a former lumber mill site into a residential development. The residential development site is currently vacant but was previously served by the Fire District, when the lumber mill was in operation, from their Mad River Station and Main Fire Hall which are 1 mile north and 1.25 miles southeast of the site, respectively. Furthermore,

the proposed project would include fire protection features as required in the CA Fire Code including fire alarm systems, fire sprinkler systems, and exit illumination.

Although, the proposed project will result in additional service calls and place a greater demand on fire protection services, it will not result in the need for the construction of new fire protection facilities to maintain acceptable service ratios. The Arcata Fire District currently has sufficient facilities to adequately serve the population within its District but will need to obtain additional sources of funding (e.g. taxes, grants, etc.) to maintain its current service level in the future.

Therefore, the proposed project will not result in substantial adverse physical impacts associated with the construction of new fire protection facilities.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.3.2: Police Protection.

Discussion:

The project proposes the development of 89 residential units and a 100-care bed assisted living facility that would provide housing for approximately 269 persons on a former mill site. The project will be served by the City of Arcata Police Department, which has a police station at City Hall approximately 1 mile southeast of the residential development site (APN 505-161-011). The Arcata Police Department (APD) determines its level of service based upon calls for service, geographic location, and response times. The proposed project would increase the number of households and population within the Arcata Police Department's jurisdiction. This increase in population would likely result in an increase in the annual number of calls for service relating to traffic accidents, theft, break-ins, or other incidents, to which the Police Department must respond.

As described in the Environmental Setting, the Arcata Police Department has indicated that the proposed project, as well as other future development in the City (see list of approved/planned projects in Chapter 7 [Cumulative Impact Analysis] of the EIR), will impact the services they provide and the Department will ultimately need additional personnel to handle the increase in calls for service (Arcata Police Department, 2017).

The Arcata General Plan PEIR (2000, Pg. 3-34) states that buildout under the General Plan will require additional personnel and equipment for the Arcata Police Department, but will not require additional facilities such as a new police station. This is attributed to the fact that the projected growth in the General Plan is primarily infill development within the City's Urban Services Boundary.

Although, the proposed project will result in additional service calls and place a greater demand on police protection services, it will not result in the need for the construction of new police protection facilities to maintain acceptable service ratios. The Arcata Police Department currently has sufficient facilities to adequately serve the population within its District but will need to obtain additional sources of funding (e.g. taxes, grants, etc.) to maintain its current service level in the future.

Therefore, the proposed project will not result in substantial adverse physical impacts associated with the construction of new police service facilities.

Determination:

Less than significant impact.

Mitigation:

None required

Finding 2.3.3: Schools.

Discussion:

The project proposes the development of 89 residential units and a 100-care bed assisted living facility that would provide housing for approximately 269 persons on a former mill site. The 100-bed assisted living facility and 25 senior-restricted neighborhood cottage units would consist of senior citizens and would not contribute to local school enrollment.

The proposed project will increase the numbers of students within the local school districts. The project area is located in the Arcata School District and Northern Humboldt High School District and is served by the following schools: Arcata Elementary School, Sunny Brae Middle School, and Arcata High School. The State of California Department of General Services, Office of Public School Construction, uses the following average student yield factors to project future enrollment based on residential development (Office of Public School Construction Form SAB 50-01, 2009): 0.5 students per dwelling unit for elementary school districts and 0.2 students per dwelling unit for high school districts (or 0.7 students per dwelling unit for unified school districts). Based on these factors and the proposed 64 dwelling units (32 single-family residential units and 32 accessory dwelling units), it is estimated that approximately 32 elementary school age children and 13 high school age children would reside within the residential development site.

The Arcata School District (kindergarten through eighth grade) enrollment is currently about 509 students. Superintendent Barbara Short reports that the school district has a capacity of approximately 675 students. The proposed project would add approximately 32 elementary school age children to Arcata School District which, based on current enrollment, is within the student capacity of the district.

Enrollment at Arcata High at the beginning of the 2016-17 school year was approximately 850 students (Arcata High School, 2017). Arcata High has seen a slight increase in school

enrollment over the past several years due to attracting student from outside the school's residence boundary (Arcata High School WASC Self Report 2013, Pgs. 14 and 22). Principal Dave Navarre reports that the school has a capacity of approximately 1,000 students (Arcata High School, 2017). The proposed project would add approximately 13 high school age children to Arcata High School which, based on current enrollment, would not exceed the student capacity of the school.

The proposed project would not exceed the total enrollment capacity of the Arcata School District or the Arcata High School and would not adversely impact either primary or secondary grade school enrollment.

Therefore, the proposed project will not result in substantial adverse physical impacts associated with the construction of new school facilities.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.3.4: Parks.

Discussion:

The project proposes the development of 89 residential units and a 100-care bed assisted living facility that would provide housing for approximately 269 persons on a former mill site. Currently, there are several existing parks within a convenient walking distance (e.g., less than half-mile) of the residential development site. Of these, Westwood Manor Park, Ennes Park, and Shay Park are closest to the site and would be expected to be utilized by project residents. The new residents from the proposed project would be expected to increase the demand for local parks and recreational services. Other City park and recreational facilities such as the Plaza, Community Center, Community Forest, and playing fields would also experience increases in use from project residents.

As described in Section 2.4 (Recreation) of the EIR, the project does not include on-site park facilities. Instead, park facilities are proposed to be provided off-site on City property that is planned for the future expansion of Ennes Park (APNs 505-151-009, 505-284-009, and 505-284-010). Section 9.86.030 (Park Land Dedications and Fees) of the Arcata Land Use Code allows the payment of fees to the City for parkland development for projects that do not provide park facilities on-site. Section 9.86.030(D) contains a formula for determining the amount of parkland required which is based on the number of residential units proposed and the average number of persons per dwelling unit per the most recent Federal census. This formula was not used to determine the parkland requirement for the project because the 100 assisted living units will each have one bed which does not correlate with the average number of residents per household in the City. As such, the amount of parkland proposed by the project is based on the City's general standard of five acres of parkland per 1,000 persons. This results in a required

parkland area of 1.35 acres for the estimated 269 residents. To provide the parkland necessary to serve the proposed residential development, the applicant will pay park in-lieu fees for the development of 1.35 acres of parkland on City-owned parcels 505-151-009, 505-284-009, and 505-284-010. Although the applicant is only responsible for providing park in-lieu fees for a portion of the proposed Ennes Park Expansion (1.35 acres), the annexation of parcel 505-151-009 into the City of Arcata and the development of all 4.69 acres of the Ennes Park Expansion are analyzed in the EIR.

As described in Chapter 1 (Introduction) of the EIR, an all-weather emergency access is proposed to connect the residential development site with Stewart Avenue. This emergency access would pass behind the existing neighborhood to the north, and would head west to access Stewart Avenue through the 0.21 acre property currently containing Ennes Park (APN 505-284-010). As discussed in Chapter 1 (Introduction), although the emergency access road will access Stewart Avenue through parcel 505-284-010, it will not convert this portion of parcel 505-284-010 into an emergency access road. This portion of parcel 505-284-010 will be developed as a paved, multi-use court in the near future and will be available to be used as an emergency access connection to Stewart Avenue.

The proposed park site (Ennes Park Expansion), which total approximately 4.69 acres, is located on City owned parcels 505-151-009 505-284-009, and 505-284-010. Parcel 505-151-009 is currently located in the County and parcels 505-284-009 and 505-284-010 are located within City limits. The majority of the proposed park site is currently vacant but was used historically for agriculture and contains prime agricultural soils. The eastern edge of the park site currently contains a graveled driveway access that is used for an adjacent community supported agriculture (CSA) operation on parcel 505-151-008.

Vegetation found on the park site primarily consists of non-native species such as Sweet Vernal Grass (*Anthoxanthum odoratum*), Orchard grass (*Dactylis glomerata*), Italian Wildrye (*Festuca perennis*), Soft Chess (*Bromus hordeaceus*), and Wild Radish (*Raphanis sativum*). As indicated in the Wetland Delineations (Appendix Z and AA) and Biological Report (Appendix Y) prepared by Streamline Planning Consultants, the parcels proposed to be developed for the park do not contain any riparian corridors, wetlands, or other sensitive habitat (see Section 4.3 [Biological Resources] of the EIR for additional information).

As described in Section 4.4 (Agriculture and Forestry Resources) of the EIR, development of the proposed park site and emergency access road would ultimately convert approximately 5.03 acres of prime agricultural land to the northwest of the residential development site (APN 505-161-011) to non-agricultural uses. To mitigate for the permanent conversion of prime agricultural land from the proposed project and the City proposed Ennes Park Expansion, a conservation easement is proposed on approximately 22.65 acres of parcel 505-151-001 which would result in a 4.5:1 mitigation ratio. Although the proposed project would only result in the conversion of 1.69 acres of prime agricultural land (1.35 acres for parkland and 0.34 acres for the emergency access road), the EIR analyzes and provides mitigation for the conversion of an additional 3.34 acres from the City's proposed Ennes Park Expansion. This has been included as Mitigation Measure 4.4.1 in Section 4.4 (Agriculture and Forestry Resources) of the EIR. The additional area of conservation easement not required to mitigate the impacts of the proposed

project is an added benefit of the project, and will be included in the Development Agreement between the City of Arcata and the applicant.

With the proposed mitigation measures, physical impacts from the development of off-site park facilities for the proposed development are considered less than significant.

Determination:

Less than significant with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measure would reduce potential impacts to a less than significant level.

Same as *Mitigation Measure 4.4.1a (Conservation Easement)*.

Finding 2.3.5: Other Public Facilities.

Discussion:

The project proposes the development of 89 residential units and a 100-care bed assisted living facility that would provide housing for approximately 269 persons on a former mill site. Development of the proposed project would result in an increase in the population in the project area and would result in a small increase in the demand for other public services, including public health and library services.

This project will assist the City in meeting its Regional Housing Need Allocation by providing housing types (single-family and senior housing) that are in short supply in the City of Arcata. In relation to the City of Arcata's resident population of 18,374 (DOF, 2017), the increase from the proposed project (269 persons) would be ~1.5%. As such, the population increase generated by the proposed project would not require the construction of new or expanded public facilities.

Therefore, the proposed project will not result in substantial adverse physical impacts associated with the construction of other public facilities.

Determination:

Less than significant impact.

Mitigation:

None required.

REFERENCES

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Section 2.4

RECREATION

This section evaluates the potential impacts related to recreation with implementation of the project. The Environmental Setting section describes the existing setting as it relates to recreational resources in and adjacent to the City of Arcata. The Regulatory Framework section describes applicable regulations at the federal, State, and local level. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to recreational resources, and identifies the significance of impacts. Where appropriate, mitigation is presented to reduce impacts to less-than-significant levels.

ENVIRONMENTAL SETTING

The City of Arcata has a variety of public recreational facilities for both indoor and outdoor recreation, suitable for group and individual activity. Public indoor recreational facilities include the community center, veteran's hall, and community swimming pool. Opportunities for outdoor recreation are discussed below.

The residential development site (APN 505-161-011) is currently used for several types of informal recreation. The site is private property and none of this activity is authorized. There are several trails throughout the site that are used for walking and bicycling. There is evidence of overnight camping near Janes Creek and other locations on the site. The railroad tracks that exist along the south boundary of parcel 505-161-011, adjacent to Foster Avenue, are used as a footpath, connecting the Sunset and Westwood residential neighborhoods with the Arcata Bottom.

Existing Parks and Recreation

The City of Arcata maintains a network of parks distributed throughout the City. Arcata's parks have varied facilities and offer a variety of recreational and educational opportunities.

The State of California guidelines establish a ratio of at least five (5) acres of parkland for each 1,000 residents of the State. Arcata's existing park system, according to the 2010 Arcata Park and Recreation Master Plan, contains 3,744 acres of parkland at 41 sites. More than 97% (3,655.29 acres) of this acreage is provided as natural areas or undeveloped park reserves. Consequently, less than 2.5% (88.74 acres) of the City's park system consists of developed parks. Based on City's current population of 18,374 (DOF, 2017), there is approximately 4.83 acres of developed parks and 198.94 acres of undeveloped park reserves per 1,000 residents in the City.

The City of Arcata follows State parkland-to-population guidelines, but allows for the payment of in-lieu fees to meet this dedication threshold for subdivision projects as described in Section

9.86.030 (Park Land Dedications and Fess) of the Arcata Land Use Code. The City also allows for the costs of improvements to parklands to be credited toward the payment of in-lieu fees.

The existing parks closest to the residential development site are Westwood Manor Park, Ennes Park, and Shay Park. Westwood Manor Park, located at 2175 Wisteria Way (APN 505-341-045), has a play structure, picnic table, and grass play area. Ennes Park, located at 1851 Stewart Avenue (APN 505-284-010), was recently redeveloped by the City to contain a jungle gym, wobble board, spinner pod, a see-saw type structure, and a corn hole court. The City has also purchased land to the west, for future expansion of Ennes Park (APN 505-151-009). Shay Park, located at 1385 Foster Avenue (APNs 505-121-022, 505-131-001, -011, -015, and -017), is approximately five acres in size and features hiking trails and wetland/habitat restoration areas. Recently a new multiuse pathway with lighting and pavement has been developed in Shay Park making the area more accessible and usable.

Existing Open Space

Areas designated “*natural resource*,” such as agricultural lands, are considered to fall under the category of open space and are sometimes available for recreational use. Open space areas that are located in Arcata city limits and managed by the City Environmental Services Department are Arcata Baylands, Arcata Community Forest, Aldergrove Marsh, Arcata Marsh and Wildlife Sanctuary, Janes Creek Meadows, and Sunny Brae Tract of the Community Forest, as well as creek and wetland protection zones. The closest city-managed open space areas to the residential development site are the Arcata Community Forest, McDaniel Slough and the Arcata Marsh and Wildlife Sanctuary.

An approximately 800-foot section of Janes Creek passes through the southeastern boundary of the residential development site (APN 505-161-011). The Janes Creek corridor is designated as a resource protection open space area, and is one of the longest continuous open space corridors in the City.

REGULATORY FRAMEWORK

City of Arcata

Arcata General Plan and Land Use Code

The City of Arcata General Plan contains guidelines for recreation within the Open Space Element (2008) and the Parks and Recreation Element (1994). The City’s Land Use Code establishes zones for recreational facilities and contains requirements for parkland dedication and/or fees for new development. Tables 2.4-1 through 2.4-3 below contain a list of policies from the Arcata General Plan and regulations from the Arcata Land Use Code that are applicable to the proposed project.

Table 2.4-1 Applicable Open Space Element Policies (2008)

| Policy | Objective | Applicable Sub-Policies |
|---|---|--------------------------------|
| OS-4 Open Space for Outdoor Recreation and Coastal Access | Designate and secure public access to a sufficient supply of land and water areas with recreation resource value, including parks, forests, coastal areas, baylands, and stream corridors, to meet the outdoor recreation needs of Arcata residents and visitors. | OS-4a and OS-4c |

Table 2.4-2 Applicable Parks and Recreation Element Policies (1994)

| Policy | Objective | Applicable Sub-Policies |
|--|---|---|
| Goal II, Policy C: Acquisition of Parklands to Accommodate Population Growth | The City of Arcata shall acquire additional parklands as needed to accommodate population growth. Fees and/or parkland dedications pursuant to the Quimby Act (California Govt. Code § 66477, as amended) shall be used to provide or improve park and recreation facilities, which serve the residents of the subdivision from which such fees or land are obtained. | Implementation Measures 1(a) – through 1(d), 1(f), 1(g), 1(i), 1(j), and 3(c) |
| Goal IV, Policy A: Develop and Improve Parks as Funds Become Available | The City of Arcata shall develop and improve parks and related facilities as funds become available. | Implementation Measure 5(a) |
| Goal V: Provide Aesthetically Pleasing Parks and Recreational Facilities which are Compatible with the Environment | The City of Arcata shall support a system of recreational services and facilities which minimize adverse impacts on the environmental, fiscal, and social well-being of Arcata. | Implementation Measure 2 |

Table 2.4-3 Applicable Land Use Code Requirements (2008)

| Policy | Objective | Applicable Sub-Policies |
|--|--|------------------------------------|
| Chapter 9.26 PF (Public Facility) | The PF Zone is applied to sites that are used or intended for use as various types of public facilities, and certain uses that may be privately owned, but are institutional in character. | Sections 9.26.010 through 9.26.070 |
| Chapter 9.86 (Dedications and Exactions) | This Chapter establishes standards for subdivider dedications of land or payment of fees, in conjunction with subdivision approval. | Section 9.86.030 |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if the project would result in any of the following effects:

- 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.
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Arcata General Plan and Land Use Code

Table 2.4-4 Project Consistency with General Plan and Land Use Code

| Policy | Consistency Analysis |
|--|---|
| ARCATA GENERAL PLAN: OPEN SPACE ELEMENT (2008) | |
| OS-4 Open Space for Outdoor Recreation and Coastal Access | <p>OS-4a. The project proposes to annex City-owned parcel 505-151-009 that has been planned for park development for several decades (Ennes Park Expansion). Consistent with this policy, upon annexation the parcel is proposed to be designated and zoned Public Facility (PF). For further discussion see Section 2.1 (Land Use and Planning) of the EIR.</p> <p>OS-4c. The proposed project will pay park in-lieu fees for the development of 1.35 acres of parkland on City owned parcels 505-151-009, 505-284-009, and 505-284-010 (4.69 acres total). As described below, the payment of park in-lieu fees and ultimate development of the parkland will comply with the policies in the General Plan Parks and Recreation Element.</p> |
| ARCATA GENERAL PLAN: PARKS AND RECREATION ELEMENT (1994) | |
| Goal II, Policy C: Acquisition of Parklands to Accommodate Population Growth | <p>Implementation Measure 1(a). In compliance with this measure, all 4.69 acres of the park site are generally flat and have a slope not exceeding 5%.</p> <p>Implementation Measure 1(b). The park site is approximately 4.69 acres in size, flat, mostly rectangular in shape, and does not contain any environmental constraints. As such, the site will be usable for development as typical parkland (e.g. playground, playing fields, basketball courts, etc.).</p> <p>Implementation Measure 1(c). As discussed within Section 2.10 (Hazards and Hazardous Materials) of the EIR, the park site is not known to contain any hazardous materials contamination. The site was used for agriculture in the past and has been planned for parkland development by the City of Arcata for several decades (Ennes Park Expansion).</p> <p>Implementation Measure 1(d). The park site is a flat open field that, when developed as parkland, will require limited maintenance. The site</p> |

| Policy | Consistency Analysis |
|---|---|
| | <p>does not contain any site characteristics or environmental constraints that will require an unusual amount of maintenance.</p> <p>Implementation Measure 1(f). The park site is 4.69 acres in size and the applicant is required to provide parkland fees for the development of 1.35 acres of parkland. As such, the proposed park will exceed the minimum acceptable size of 0.5 acres.</p> <p>Implementation Measure 1(g). The park site is a flat open field that does not contain any riparian corridors, wetlands, or other sensitive wildlife habitat. The site was used for agricultural purposes in the past and has been planned for park development by the City for several decades (Ennes Park Expansion).</p> <p>Implementation Measure 1(i). The proposed park site will be located approximately 500 feet to the northwest of the residential development site (APN 505-161-011). Pedestrian and bicycle access will be provided to the park via an emergency access road that will be developed to provide access from Stewart Avenue and the residential neighborhood to the north.</p> <p>Implementation Measure 1(j). Consistent with this measure, the park site will have access to both Stewart Avenue and Wyatt Lane.</p> <p>Implementation Measure 3(c). Consistent with this policy, the applicant will pay parkland fees for the development of 1.35 acres of parkland to the north of Bottom Road (Foster Avenue near Janes Creek).</p> |
| <p>Goal IV, Policy A: Develop and Improve Parks as Funds Become Available</p> | <p>Implementation Measure 5(a). Consistent with this measure, the applicant would pay park in-lieu fees based on the ratio of five (5) acres of parkland per 1,000 persons. Since the project will provide housing for approximately 269 persons, the applicant shall pay park in-lieu fees for the development of approximately 1.35 acres of parkland.</p> |
| <p>Goal V: Provide Aesthetically Pleasing Parks and Recreational Facilities which are Compatible with the Environment</p> | <p>Implementation Measure 2. Consistent with this measure, the park site will be developed on property that does not contain any riparian corridors, wetlands, or other sensitive wildlife habitat. The site is a flat open field that was used for agricultural purposes in the past and has been planned for park development by the City for several decades (Ennes Park Expansion). As such, the proposed parkland will be developed in a manner that minimizes impacts to wildlife and wildlife habitat.</p> |
| ARCATA LAND USE CODE | |
| <p>Chapter 9.26 PF (Sections 9.26.010 through 9.26.070)</p> | <p>The PF Zone Standards. City owned parcel 505-151-009 is proposed to be designated and zoned Public Facility (PF) upon annexation in compliance with the requirements and standards of the PF Zone. For further discussion see Section 2.1 (Land Use and Planning) of the EIR.</p> |
| <p>Chapter 9.80 (Section 9.86.030)</p> | <p>Consistent with this policy, the applicant shall pay park in-lieu fees for the development of approximately 1.35 acres of parkland on City owned parcels 505-151-009, 505-284-009, and 505-284-010.</p> |

Proposed Project

Finding 2.4.1: 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.

Discussion:

The project proposes the development of 89 residential units and a 100-bed assisted living facility that would provide housing for approximately 269 persons on a former mill site (APN 505-161-011). Currently, there are several existing parks within a convenient walking distance (e.g. less than one-half mile) of the residential development (APN 505-161-011) site. Of these, Westwood Manor Park, Ennes Park, and Shay Park are closest to the site and would be expected to be utilized by project residents (see Figure 2.4A [Recreation Facilities]). The new residents from the proposed project would be expected to increase the demand for local parks and recreational services. Other City park and recreational facilities such as the Plaza, Community Center, Community Forest, and playing fields would also experience increases in use from project residents.

Arcata General Plan (1994) Parks and Recreation Element identifies the need for additional parks and recreation facilities. Goal II Policy C requires the provision of park in-lieu fees or parkland dedication as needed for new residential development. The need for additional parks is specifically identified for the area north of Foster Avenue, near Janes Creek (Goal II, Policy C, Implementation Measure 3(c)), in the vicinity of the residential development site. Section 9.86.030(D) of the Arcata Land Use Code sets forth requirements for the provision of additional parkland within the City at a rate of five acres per 1,000 people.

The project does not include on-site park facilities. Park facilities are proposed to be provided off-site on City property that is planned for the future expansion of Ennes Park (APNs 505-151-009, 505-284-009, and 505-284-010). Section 9.86.030 (Park Land Dedications and Fees) of the Arcata Land Use Code allows the payment of fees to the City for parkland development for projects that do not provide park facilities on-site. Section 9.86.030(D) contains a formula for determining the amount of parkland required which is based on the number of residential units proposed and the average number of persons per dwelling unit per the most recent Federal census. This formula was not used to determine the parkland requirement for the project because the 100 assisted living units will each have one bed which does not correlate with the average number of residents per household in the City. As such, the amount of parkland proposed by the project is based on the City's general standard of five acres of parkland per 1,000 persons. This results in a required parkland area of 1.35 acres for the estimated 269 residents. To provide the parkland necessary to serve the proposed residential development, the applicant will pay park in-lieu fees for the development of 1.35 acres of parkland on City-owned parcels 505-151-009, 505-284-009, and 505-284-010. Although the applicant is only responsible for providing park in-lieu fees for a portion of the proposed Ennes Park Expansion (1.35 acres), the annexation of parcel 505-151-009 into the City of Arcata and the development of all 4.69 acres of the Ennes Park Expansion are analyzed in the EIR.

In addition, the proposed development includes open space along Janes Creek, pedestrian and bicycle trails, common open space areas, and several common buildings, which will to some extent, additionally reduce the use of nearby recreational facilities by the future residents. As such, with the applicant's contribution to the development of offsite parkland and the proposed onsite open space and amenities, there will be adequate recreational facilities to meet the needs of the future residents, and substantial deterioration of existing parks in the project area would not occur.

As described in Chapter 1 (Introduction) of the EIR, an emergency access is proposed to connect the residential development site with Stewart Avenue. This all-weather emergency access would pass behind the existing neighborhood to the north, and would head west to access Stewart Avenue through the 0.21 acre property currently containing Ennes Park (APN 505-284-010). As noted in Chapter 1 (Introduction) of the EIR, although the emergency access road will access Stewart Avenue through parcel 505-284-010, it will not convert this portion of parcel 505-284-010 into an emergency access road. This portion of parcel 505-284-010 will be developed as a paved, multi-use court in the near future and will be available to be used as an emergency access connection to Stewart Avenue.

Therefore, the proposed project as designed and in compliance with the requirements of the Arcata Land Use Code, will 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.

Determination:

Less than significant impact.

Mitigation:

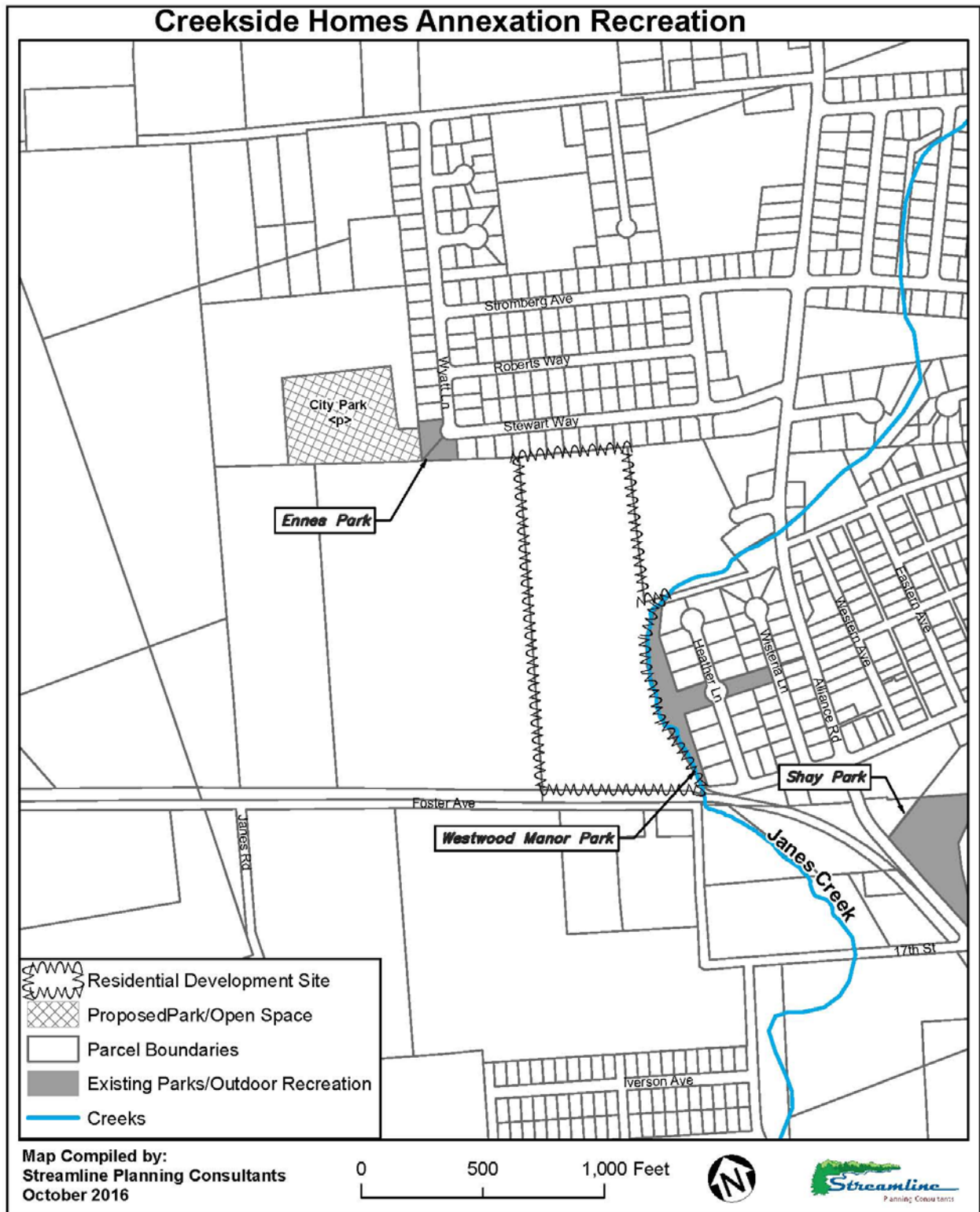
None required.

Finding 2.4.2: Include Recreational Facilities or Require the Construction or Expansion of Recreational Facilities that Might Have an Adverse Physical Effect on the Environment.

Discussion:

The project proposes the development of 89 residential units and a 100-bed assisted living facility that would provide housing for approximately 269 persons on a former mill site. Currently, there are several existing parks within a convenient walking distance (e.g., less than one-half mile) of the residential development site. Of these, Westwood Manor Park, Ennes Park, and Shay Park are closest to the site and would be expected to be utilized by project residents (see Figure 2.4A [Recreation Facilities]). The new residents from the proposed project would be expected to increase the demand for local parks and recreational services. Other City park and recreational facilities such as the Plaza, Community Center, Community Forest, and playing fields would also experience increases in use from project residents.

Figure 2.4A Recreation Facilities



The project does not include on-site park facilities. Park facilities are proposed to be provided offsite on City property that is planned for the future expansion of Ennes Park (APNs 505-151-009, 505-284-009, and 505-284-010). As discussed above under Finding 2.4.1, to provide the parkland to serve the proposed residential development (1.35 acres), the applicant will pay park in-lieu fees for the development of 1.35 acres of new parkland on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (see Figure 2.4A [Recreation Facilities]).

The proposed park site (Ennes Park Expansion), which totals approximately 4.69 acres, is relatively flat. Parcel 505-151-009 is currently located in the County and parcels 505-284-009 and 505-284-010 are located within City limits. The majority of the proposed park site is currently vacant but was used historically for agriculture and contains prime agricultural soils. The eastern edge of the park site currently contains a graveled driveway access that is used for an adjacent community supported agriculture (CSA) operation on parcel 505-151-008. As noted above, the annexation of parcel 505-151-009 into the City of Arcata and the development of all 4.69 acres of the Ennes Park Expansion are analyzed in the EIR.

Vegetation found on the park site primarily consists of non-native species such as Sweet Vernal Grass (*Anthoxanthum odoratum*), Orchard grass (*Dactylis glomerata*), Italian Wildrye (*Festuca perennis*), Soft Chess (*Bromus hordeaceus*), and Wild Radish (*Raphanis sativum*). As indicated in the Wetland Delineations (Appendix AA and BB) and Biological Report (Appendix Z) prepared by Streamline Planning Consultants, the parcels proposed to be developed for the park do not contain any riparian corridors, wetlands, or other sensitive habitat (see Section 4.3 [Biological Resources] of the EIR for additional information).

As described in Section 4.4 (Agriculture and Forestry Resources) of the EIR, development of the proposed park site and emergency access road would ultimately convert approximately 5.03 acres of prime agricultural land to the northwest of the residential development site (APN 505-161-011) to non-agricultural uses. To mitigate for the permanent conversion of prime agricultural land from the proposed project and the City proposed Ennes Park Expansion, a conservation easement is proposed on approximately 22.65 acres of parcel 505-151-001, which would result in a 4.5:1 mitigation ratio. Although the proposed project would only result in the conversion of 1.69 acres of prime agricultural land (1.35 acres for parkland and 0.34 acres for the emergency access road), the EIR analyzes and provides mitigation for the conversion of an additional 3.34 acres from the City's proposed Ennes Park Expansion. This has been included as Mitigation Measure 4.4.1 in Section 4.4 (Agriculture and Forestry Resources) of the EIR. The additional area of conservation easement not required to mitigate the impacts of the proposed project is an added benefit of the project, and will be included in the Development Agreement between the City of Arcata and the applicant.

As described in Chapter 3 (Traffic/Transportation) of the EIR, development of the proposed Ennes Park Expansion will generate additional traffic on Stewart Avenue and Wyatt Lane. Since the park will be constructed next to an existing residential neighborhood and the proposed residential development, it is anticipated that many residents will walk or bike to the park which will reduce the amount of vehicle trips generated during long-term operation of the park. Moreover, the existing City Park located in this area (Ennes Park) is relatively undersized for the number of residents that it serves. As such, the development of the proposed park will provide

the recreational facilities necessary to adequately serve the existing and proposed residential population in this area of Arcata.

With the proposed mitigation measures contained in the other sections of the EIR referenced above, the proposed project will not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Determination:

Less than significant impact with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures would reduce potential impacts to a less than significant level.

Same as *Mitigation Measure 4.4.1a (Conservation Easement)*.

REFERENCES

California Department of Finance (DOF). 2017. *E-5 Population and Housing Estimates for Cities, Counties, and the State – January 1, 2011-2017*. May.

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Streamline Planning Consultants (SPC). 2016a. *Foster Avenue Wetland Delineation*. February 24, 2016.

Streamline Planning Consultants (SPC). 2016b. *Biological Report for Foster Avenue, Arcata, CA. APN: 505-161-011, 505-151-001, and 505-151-009*. May 17, 2016.

Streamline Planning Consultants (SPC). 2017. *Wetland Assessment for Ennes Park Expansion (APN 505-151-009 and 505-284-009)*. February 27, 2017.

Section 2.5

CULTURAL RESOURCES

This section evaluates the potential impacts related to cultural resources during construction and operation of the project. To provide the basis for this evaluation, the Environmental Setting section describes the archaeological and historical setting for the project area, and the Regulatory Framework section describes the applicable federal, State, and local regulations affecting the project area. Descriptions in this section are based on reviews of published information, reports, and plans regarding cultural resources. The Impact Analysis section establishes the thresholds of significance, evaluates potential cultural resource impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less-than-significant levels.

ENVIRONMENTAL SETTING

Cultural & Archaeological Resources

Resources in the Vicinity

The first known inhabitants of the Humboldt Bay Region were Wiyot Indians, a member of the Algonquin linguistic group. The Wiyot population prior to 1850 is estimated to have been between 1,000 and 3,300 individuals (E. Taylor & J. Roscoe, October 1998). Wiyot settlements were located chiefly along the lower Mad River, around Humboldt Bay, and the lower Eel River. Village sites were located at the water's edge, ocean, bay, or creek, with trails leading to grassy openings, and from one village to another. A small part of the population lived in an area from the Mad River to the northern portion of Humboldt Bay; they lived in settlements of one to three families. Within the Arcata planning area, they lived in semi-permanent settlements and often traveled seasonally for hunting and gathering. The estimated population for the Arcata planning area, in or about the year 1848, is 600 inhabitants (City of Arcata General Plan).

After the start of the California Gold Rush, from 1850 to 1860, Wiyot territory became the center of the largest concentrations of European settlers in California, north of San Francisco. The settlers utilized Humboldt Bay as a major shipping point for supplies to the gold mines on the Trinity, Klamath, and Upper Sacramento Rivers. In addition, the establishment of the Redwood timber industry, and homesteading of the Eel River and Arcata Bottom for ranching and farming purposes, brought more people into the area. The influx of new settlers brought violence, including the Indian Island Massacre of February 26, 1860, which nearly destroyed the entire Wiyot population.

There are currently 32 recorded archaeological sites in the Arcata planning area. Most sites are situated along the margins of Humboldt Bay, along the edges of marshes and sloughs, and in the

Arcata Bottom area. Sites also tend to be located at the base of hills and on mid-slope terraces near sources of water.

Data collected by L. L. Loud (1918) identified a number of Wiyot habitation and resource procurement sites in the general vicinity of the project parcels. One site is Camp Curtis, located on LK Wood Blvd., approximately one mile east of the project area (E. Taylor & J Roscoe, 1998). Taylor & Roscoe (1998) also state that there are reported locations of several other prehistoric village sites near Camp Curtis.

According to the Arcata General Plan, the most likely location for additional (unrecorded) archaeological sites is a band approximately 1,000 meters wide along the Humboldt Bay shoreline and the Mad River. There is also the possibility of encountering archaeological resources elsewhere in the Arcata planning area.

Resources at the Residential Development Site

The Native American Heritage Commission (NAHC) performed a cultural resources record search for the project area, and made the following findings:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites (NAHC, 2016).

A complete records search for the project area was also conducted by the Northwest Information Center (NWIC, 2016). According to the records on file at the NWIC, the entire project area has been previously subject to a cursory level cultural resources survey in the mid to late 1970s during large reconnaissance efforts of the Humboldt Bay area. Within a one-half mile radius, ten previous surveys have been conducted for various road or housing construction projects. These previous nearby surveys reported negative findings for archaeological resources, however do disclose the presence of historic period mill sites and related features. No cultural resources have been previously recorded in the project area. The NWIC has no record of historic districts, historical landmarks, locally registered historic resources, nationally registered historic properties, or other archaeological or historical sites in the direct project area. Ethnographic and historic research identified three Wiyot villages in the general vicinity, but more than 500 meters distant (Appendix C; Pg. 4).

As per the Arcata General Plan, an archaeological survey by a professional archaeologist or other qualified expert is required if the project area is determined to have a high probability of archaeological resources (Policy H-7b). A Cultural Resources Investigation of the project area was conducted by William Rich and Associates (WRA) in late 2015/early 2016 (Appendix C). The investigation concluded that pre-construction archaeological testing should be conducted within the vertical limits of the proposed project due to the relatively high sensitivity for Native

American archaeological remains within the Janes Creek watercourse. WRA also recommended an inadvertent discovery protocol for the discovery of cultural resources and human remains.

In September 2016, a Geo-Archaeological Assessment was conducted by WRA (Appendix D) which involved the excavation of three test pits to assess the general near-surface stratigraphy on the residential development site (APN 505-161-011). Based on the analysis of the test pits, it was determined that the upper 30 to 60 cm of the stratigraphy is historic fill emplaced to level the site, and that there does not appear to be an intact pre-European ground surface (paleosol) beneath the fill.

As required by AB 52 and SB 18, the City of Arcata sent requests for formal consultation on 02/23/16 to the Tribal Historic Preservation Officers (THPOs) for the Blue Lake Rancheria, Wiyot Tribe, and the Bear River Band of the Rohnerville Rancheria. The City received requests for consultation from the Blue Lake Rancheria on 03/02/16, Bear River Band of Rohnerville Rancheria on 03/03/16, and Wiyot Tribe on 03/07/16. As part of the consultation under AB 52 and SB 18, the THPOs requested for a Cultural Resources Investigation and Geo-Archaeological Survey to be conducted for the project. Based on the results of the archaeological surveys conducted by William Rich and Associates (WRA), comments were received from the Tribal Historic Preservation Officers (THPOs) of the Wiyot Tribe (received 02/13/17), Blue Lake Rancheria (received 02/16/17), and Bear River Band of the Rohnerville Rancheria (received 02/17/17), stating that requiring the inadvertent discovery protocol recommended in the WRA Cultural Resources Investigation (Appendix C) for the proposed project would be sufficient.

Historical Resources

Resources in the Vicinity

Arcata represents one of the last settled areas in United States history, and has historical resources dating back to the early 1850s. There are historical structures and sites throughout the central core of Arcata, on the lower slopes of Fickle Ridge, and in the Arcata Bottom (Arcata General Plan).

In the Arcata Bottom, historical features include structures and sites associated with early farming and industrial uses, such as farm residences, barns, livestock grazing fields, and lumber mill sites. Some historic structures are still in use today, and farming still predominates in the Bottom. Around the residential development site, which is on the eastern perimeter of the Arcata Bottom, most structures are not historic. Based on aerial photo review conducted as part of the Phase I Environmental Assessment prepared by SHN (Appendix G), structures on the adjacent properties were developed as follows:

1940s - '50s: Adjacent property to the west unchanged since 1941; first residences developed to the south between 1941-1948; housing development constructed to the north between 1948-1958.

1960s - '70s: Apartments developed to the northeast between 1966-1974.

1970s - '80s: Apartments constructed to the southeast between 1974-1981.

Resources at the Residential Development Site

The following information on the historical use of the residential development site is summarized from the Phase I Environmental Site Assessment (Appendix G).

Before being developed for its historical use as a lumber mill, the site was open space and may have been used for pasture. The mill site was constructed in 1951 and processed old growth redwood. In 1968, the Simpson Timber Company purchased the mill and continued to operate it as a redwood mill. In 1970, Halverson Industries purchased the mill site and used it to process hardwoods, mostly tan oak. North Coast Exports, who acquired the mill in 1985, also operated it for hardwoods. The last company to operate the site was Specialty Mill. In 1986, the mill was dismantled and liquidated. The mill building and related structures have since been demolished and removed from the site, and the site has been vacant since that time.

SHN recorded that the following mill remnants were on site:

- Concrete foundation of the former sawmill slab;
- Foundation slab of the fuel tank area;
- A portion of foundation from the former teepee burner (used to burn wood waste up to the late 1960s or early 1970s);
- Septic system (abandoned) of unknown functional condition (the location of the former water well could not be located);
- Elevated concrete and steel foundation slab of the log debarker (the debarker slab was covered over with fill as part of soil excavation/clean-up done in the late 1990s);
- Remnant concrete and steel ramp from the vehicle maintenance area/mill infeed loading ramp;
- Fill materials (one foot to four feet) put on the property during its use as a mill site; and
- Power poles (on the south side of Foster Avenue), which would have been the mill's electric supply line source.

Additionally, SHN identified the site's former log storage (a.k.a. log deck) area, former vehicle maintenance/mill ramp area, and former fuel tank area, as well as estimation of the sites for the former green chain area and former chip bin area. SHN reported that the grounds, including soils surrounding the foundation/slab remnants, are generally covered with grass and some gravel patches.

Also remaining on site are railroad tracks that were owned by the Simpson Train Company. The tracks were for a spur line connecting the mill site to the main rail line 0.75 miles to the east. The railroad tracks have not been used since mid to late 1980s when Simpson Timber Company closed their mill operations (Appendix G).

As noted above, a Cultural Resources Investigation of the project area was conducted by William Rich and Associates (WRA) in January 2016 (Appendix C). The investigation concluded that the ruins of the former Van De Nor Mill and the Arcata spur of the Humboldt Northern Railway present in the project area are recommended as ineligible for further recognition or listing as a City of Arcata Historic Landmark, California Historical Resource, or a National Register Historic Property.

As discussed above under Cultural & Archaeological Resources, no records of previously recorded historic resources, national or state registered historic properties, or further information on unrecorded historic resources were found for the residential development site.

Paleontological Resources

Paleontology is the study of organisms that lived in prehistoric or geologic times. Paleontological resources are the fossils of plants, animals, and other organisms that existed in those times. Regionally, paleontological resources exist primarily in the form of marine organisms and shells, preserved in consolidated sedimentary sand layers, and occasionally brought to the surface as a result of geologic processes, such as regional uplifting and other seismic activity. Discovery of paleontological resources in the Arcata area has been limited (Arcata General Plan).

REGULATORY FRAMEWORK

Federal

National Register of Historic Places

The National Register of Historic Places (NRHP) is a guide used by federal, State, and local governments and private groups to identify and catalogue the Nation's cultural resources. It also provides a compendium of documentation related to the properties and processes for their protection, and from destruction and impairment. Historic "properties" are defined by the Advisory Council on Historic Preservation to include "prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior" (36 CFR 800.16(1)). For inclusion in the NRHP, the following criteria must be met:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- That are associated with events that have made a significant contribution to the broad patterns of our history; or,

- That are associated with the lives of persons significant in our past; or,
- That 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,
- That have yielded, or may be likely to yield, information important in prehistory or history.

State of California

California Register of Historical Resources

Assembly Bill 2881 (AB 2881) established the California Register of Historical Resources (CRHR). The CRHR is an authoritative guide in California used by State and local agencies, and private groups to identify the State's historical resources (similar to the NRHP for federal resources). The criteria for eligibility and listing on the CRHR are based on the requirements of the National Register. The California Office of Historic Preservation (OHP) has authority under federal and State law for historic preservation programs in the State, and the OHP can make determinations of eligibility for listing resources on both the National Register and the CRHR. Resources can be listed singly as a California Resource or on both the National and California Registers.

In California, in addition to meeting one or more of the listed criteria for inclusion on the CRHR, eligibility for the California Register requires that a resource retains sufficient integrity to convey a sense of its significance or importance. Seven elements are considered key in considering a property's integrity, which are (1) location, (2) design, (3) setting, (4) materials, (5) workmanship, (6) feeling, and (7) association. Additionally, the OHP advocates that all historical resources over 45 years old be recorded for inclusion in the OHP filing system, although the use of professional judgment is urged in determining whether a resource warrants documentation.

Public Records Act

The California Public Records Act authorizes state agencies to exclude archaeological site information from availability to the public. The rationale for this exclusion is for the protection of Native American cultural resources and their place of location. Resources protected under the Act include Native American cultural places, graves, cemeteries, features, objects, and other items. Exclusion of information dissemination to the public also includes the information provided to resource professionals from the California Historical Resources Information System, from their various repositories in the state.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) established definitions and criteria that are applicable to historic resource evaluations, with specific significance criteria and thresholds provided in Section 3.45.3 of the EIR. Broadly defined, CEQA combines the various federal and State laws and regulations to provide overall direction and criteria for the protection of cultural resources (historic, prehistoric, and paleontological).

Assembly Bill 52

Assembly Bill 52 (AB 52) establishes a consultation process with California Native American Tribes that involves Tribes in the early coordination and development of projects under the jurisdiction of State and local agencies that have discretionary approval authority for projects. AB 52 recognizes that California Native American Tribes have unique expertise regarding their tribal history, culture, and land use practices, and that this information may be useful during the environmental analysis process. The intent of AB 52 is to establish an early consultation process that hopefully will delay and avoid conflicts during the CEQA process and allow for the identification of Tribal Cultural Resources (TCR) that may exist or be affected by a project.

Senate Bill 18

Senate Bill 18 (SB 18) requires local governments to consult with California Native American Tribes, identified by the California Native American Heritage Commission (NAHC), prior to the adoption of amendment of a general plan or specific plan. The purpose of this consultation is to preserve or mitigate impacts to cultural places.

City of Arcata

Arcata General Plan

The Arcata General Plan contains guidelines for cultural resources within the Historic Preservation Element. The General Plan has developed specific Goals and related Policies that address cultural and archaeological resources within the City. Table 2.5-1 contains a list of policies from the Arcata General Plan that are applicable to the proposed project.

Table 2.5-1 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|---|---|-------------------------|
| H-7 Archaeological and Cultural Resources | Protect and preserve Native American and Euro-American archaeological sites and cultural resources within the City of Arcata. | H-7b to H-7d, and H-7f |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact to cultural resources is considered to be significant if it meets any of the following criteria.

If the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

Arcata General Plan

Table 2.5-2 Project Consistency with General Plan

| Policy | Consistency Analysis |
|---|--|
| H-7 Archeological and Cultural Resources (H-7b to H-7d, and H-7f) | <p>H-7b. Consistent with this policy, a Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D) were conducted for the project parcels by William Rich and Associates.</p> <p>H-7c. The Cultural Resources Investigation and Geo-Archaeological Assessment conducted by William Rich and Associates did not discover any cultural resources on the project parcels. Upon review of the reports, the Tribal Historic Preservation Officers for the local Wiyot Tribes determined that the implementation of inadvertent discovery protocols would adequately protect potential unknown cultural resources.</p> <p>H-7d. Upon review of the results of the Cultural Resources Investigation and Geo-Archaeological Assessment conducted by William Rich and Associates, the Tribal Historic Preservation Officers for the local Wiyot Tribes determined that the implementation of inadvertent discovery protocols would adequately protect potential unknown cultural resources during construction activities.</p> <p>H-7f. Consistent with this policy, the inadvertent discovery protocol for cultural resources and human remains recommended in the Cultural Resources Investigation will be included as conditions of approval for the proposed project.</p> |

Proposed Project

Finding 2.5.1: Cause a Substantial Adverse Change in the Significance of a Historical Resource as Defined in §15064.5.

Discussion:

The residential development site (APN 505-161-011) was historically used as a lumber mill and a section of the Humboldt Northern Railway tracks occurs along the southern boundary of the site. The only structural remnants existing on the former mill site are: foundation slabs, ramp, abandoned septic system, and power poles. The site does not contain any historical resources that are either listed or eligible for listing on a national, State, or local register of historic resources.

A Cultural Resources Investigation of the project area was conducted by William Rich and Associates (WRA) in January, 2016 (Appendix C). The investigation concluded that the ruins of the former Van De Nor Mill and the Arcata spur of the Humboldt Northern Railway present in the project area are recommended as ineligible for further recognition or listing as a City of Arcata Historic Landmark, California Historical Resource, or a National Register Historic Property. As stated on page 27 of the WRA Cultural Resources Investigation:

“Foundation ruins of the former Van De Nor Mill are present in the project area. These existing ruins are all that is left of the former mill. No longer present are the mill building, green chain, tee pee burner, lumber yards, or other structures. The site is now used by transients for camping. The site possesses significance at the local level for contributions with mid-century economic development of Arcata. However, lacking many of the requisite aspects of integrity, such as association, design, materials, feeling, setting and craftsmanship; this site is recommended ineligible for further recognition or listing as a City of Arcata Historic Landmark, California Historical Resource, or a National Register Historic Property.

The Arcata spur of Humboldt Northern Railway is also present in the project area. This rail spur is also significant at the local level for its contributions in the development of the mid-century lumber industry in Arcata and northern Humboldt County, however, the integrity of the grade is compromised, and it is also recommended ineligible for listing as a City of Arcata Historic Landmark, California Historical Resource, or a National Register Historic Property. The grade has lost its ability to convey its significance. Although in the original location, its integrity of material, craftsmanship and probably that the rails were replaced like many of the other grades through Arcata and to the south. Many of the small lumber mills associated railroad sidings are now absent, resulting in compromised spur associations. Alterations directly to the tracks include filling with gravel and paving over for roadway crossing. As such the Arcata spur of the Humboldt Northern Railway appears to offer no contributions to a larger historic property, nor does the spur meet criteria for eligibility for an individual property.”

Therefore, the proposed project will not cause a substantial adverse change in the significance of a historical resource.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.5.2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.

Discussion:

As per the Arcata General Plan, an archaeological survey by a professional archaeologist or other qualified expert is required if the project area is determined to have a high probability of archaeological resources (Policy H-7b). A Cultural Resources Investigation of the project area was conducted by William Rich and Associates (WRA) in January 2016 which included a field survey (Appendix C). The investigation concluded that pre-construction archaeological testing should be conducted within the vertical limits of the proposed project due to the relatively high sensitivity for Native American archaeological remains within the Janes Creek watercourse. WRA also recommended an inadvertent discovery protocol for the discovery of archaeological resources which states the following:

“Because of the sensitivity for archaeological remains associated with Wiyot habitation of the areas along Janes Creek, it is recommended that the following protocol be adapted into the construction scenario and contractors agreements for implementation of this project. If cultural resources, such as lithic materials or ground stone, historic debris, building foundations, or bone are discovered during ground-disturbance activities, work shall be stopped within 20 meters (66 feet) of the discovery, per the requirements of CEQA (January 1999 Revised Guidelines, Title 14 CCR 15064.5 (f)). If the proposed project receives federal funding, it may be considered a federal undertaking triggering the necessity to comply with Section 106 of the National Historic Preservation Act of 1966 as amended (NHPA). Inadvertent discoveries shall be treated as outlined in 43 CFR 10.4 and 36 CFR 800.13 (b) (2). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior’s Standards and Guidelines, has evaluated the materials and offered recommendations for further action. Prehistoric materials which could be encountered include: obsidian and chert debitage or formal tools, grinding implements, (e.g., pestles, handstones, bowl mortars, slabs), locally darkened midden, deposits of shell, faunal remains, and human burials. Historic materials which could be encountered include: ceramics/pottery, glass, metal, can and bottle dumps, cut bone, barbed wire fences, building pads, structures, trails/roads, etc.”

In September 2016, a Geo-Archaeological Assessment (Appendix D) was conducted by WRA which involved the excavation of three test pits to assess the general near-surface stratigraphy on the residential development site (APN 505-161-011). Based on the analysis of the test pits, it was determined that the upper 30 to 60 cm of the stratigraphy is historic fill emplaced to level the

site and that there does not appear to be an intact pre-European ground surface (paleosol) beneath the fill.

As required by AB 52 and SB 18, the City of Arcata sent requests for formal consultation on 02/23/16 to the Tribal Historic Preservation Officers (THPOs) for the Blue Lake Rancheria, Wiyot Tribe, and the Bear River Band of the Rohnerville Rancheria. The City received requests for consultation from the Blue Lake Rancheria on 03/02/16, Bear River Band of Rohnerville Rancheria on 03/03/16, and Wiyot Tribe on 03/07/16. As part of the consultation under AB 52 and SB 18, the THPOs requested for a Cultural Resources Investigation and Geo-Archaeological Survey to be conducted for the project. Based on the results of the archaeological surveys conducted by William Rich and Associates (WRA), comments were received from the Tribal Historic Preservation Officers (THPOs) of the Wiyot Tribe (received 02/13/17), Blue Lake Rancheria (received 02/16/17), and Bear River Band of the Rohnerville Rancheria (received 02/17/17), stating that requiring the inadvertent discovery protocol recommended in the WRA Cultural Resources Investigation (Appendix C) for the proposed project would be sufficient. The inadvertent discovery protocol recommended in the WRA investigation for the discovery of archaeological resources will be included as a condition of approval by the City of Arcata for the proposed project.

With the proposed conditions of approval, the project will not cause a substantial adverse change in the significance of an archaeological resource.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.5.3: Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature.

Discussion:

The project parcels have already been substantially disturbed by industrial, agricultural, and public facility uses in the past, and there are no known paleontological resources, or geological features on or near the site. Regional uplifting and other seismic activity in the area have limited the potential for discovery of paleontological resources. Arcata General Plan Policy H-7f (*Discovery of Archaeological Resources*) (Pg. 5-34) also addresses the inadvertent discovery of paleontological resources and will be required as a condition of approval by the City of Arcata for the proposed project.

With the proposed conditions of approval, the proposed project will not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.5.4: Disturb any Human Remains, Including Those Interred Outside of Formal Cemeteries.

Discussion:

The project parcels do not contain a cemetery and no known formal cemeteries are located within the immediate vicinity of the site. A Cultural Resources Investigation of the project area was conducted by William Rich and Associates (WRA) in January, 2016, which included a field survey (Appendix C). In September, 2016, a Geo-Archaeological Assessment was conducted by WRA which included subsurface excavations at the site (Appendix D). No human remains were observed during the surveys conducted by WRA. However, due to the potential of discovering unknown human remains during the proposed construction activities, the WRA investigation recommended an inadvertent discovery protocol which states the following:

“If human remains are discovered during project construction, work will stop at the discovery location, within 20 meters, and any nearby area reasonably suspected to overlie adjacent to human remains (Public Resources Code, Section 7050.5). The Humboldt County coroner will be contacted to determine if the cause of death must be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (Public Resources Code, Section 5097). The coroner will contact the NAHC. The descendants or most likely descendants of the deceased will be contacted, and work will not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98. Work may resume if NAHC is unable to identify a descendant or the descendant failed to make a recommendation.”

The inadvertent discovery protocol recommended in the WRA investigation for the discovery of human remains will be included as a condition of approval by the City of Arcata for the proposed project.

With the proposed conditions of approval, the project will not disturb any human remains, including those interred outside of formal cemeteries.

Determination:

Less than significant impact.

Mitigation:

None required.

REFERENCES

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Section 2.6

AESTHETICS

This section evaluates the potential impacts related to aesthetics and visual resources during construction and operation of the project. To provide the basis for this evaluation, the Environmental Setting section describes the existing scenic resources and visual character for the project area, and the Regulatory Framework section describes the regulatory background that applies to the project. The Impact Analysis section establishes the thresholds of significance, evaluates aesthetic and visual impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

ENVIRONMENTAL SETTING

Aesthetic Character of Project Vicinity

The aesthetic character of the Humboldt Bay area is largely formed by its natural features and surroundings, including forested mountains to the north, south, and east; forested coastal dunes, the Samoa Peninsula, and the Pacific Ocean coastline to the west.

Situated at the north end of Humboldt Bay, the City of Arcata sits on a coastal terrace and is bordered by the Mad River corridor to the north; Arcata Bay to the south; the Pacific Ocean to the west; and Fickle Hill Ridge to the east. Arcata's surrounding natural scenery includes coastal, riparian, mountain, forest, flat bottomland, and bay-front landscapes. These features form distinctive natural edges and vistas, and are some of the city's most important visual resources.

Within the City of Arcata, there is a combination of natural, rural, and urban aesthetic settings. Prominent natural area visual features of the Arcata Planning Area include the Arcata Bay, the Arcata Community Forest, and the Lanphere Dunes Preserve. The Arcata Bottom agricultural lands on the west side of the city offer a distinct agricultural viewshed. Arcata also has urban visual resources which include human-constructed features (e.g. architecture and street layout) and open areas. Arcata's urban visual resources are characterized both by diversity and harmony in terms of shape, size, color, and style. Arcata's distinct urban viewsheds include the central plaza commercial area, Northtown commercial area, Humboldt State University campus along the eastern hillside, and a number of city parks that provide open space. Schoolyards and playgrounds, cemeteries, residential yards, setback areas, and undeveloped lots also provide open space viewsheds within urban areas.

Arcata's viewsheds also include industrial and commercial areas, such as the businesses along Samoa Boulevard west of Highway 101, and businesses along Highways 101 and 299, Giuntoli Lane, and West End Road in the northern part of town.

Scenic Corridors

Arcata is situated at the western gateway to the Trinity Scenic Byway (on Highway 299), which is a designated National Forest Scenic Byway. It is at the southern gateway of the proposed Tri-State Scenic Byway (on Highway 101). According to the California Scenic Highway Mapping System, there are no designated state scenic highways in the project vicinity. Highways 101 and 299 are listed as “Eligible State Scenic Highways-Not Officially Designated” (Caltrans, 2016).

Two routes that are designated as coastal scenic highways in the Arcata General Plan (Policy D-3a) are within the residential development site’s viewshed. These include the following:

- Janes Road from 11th Street to Foster Avenue; and
- All public roads west of the City in the Arcata Bottom.

Aesthetic Character of Project Parcels

The proposed residential development site (APN 505-161-011) is part of a larger view characterized by rural residential and single-family residential land, agricultural fields, barns, open space, and tree lines. The site itself possesses certain open space characteristics, such as the absence of buildings, a creek, overstory vegetation along the creek, and understory vegetation throughout the site. The site has been vacant since the lumber mill closed in the 1980s, and only remnant concrete building foundations and concrete slabs from the former mill are still present. The site is low-lying with predominantly flat land; the surface is mostly compacted river run gravel that is overgrown with non-native vegetation, such as blackberries, grasses, and low shrubs. The site includes ditches along the railbed that drain to Janes Creek and isolated wetland areas. The site has urban neighborhoods to the north and east, and the Arcata Bottom to the south and west. There is a variety of land uses in the adjacent Arcata Bottom area, including agricultural fields, Sun Valley Floral Farms, community supported agricultural operations, low-density single family residences, a public school, and a church.

The parcels proposed for development with the Ennes Park Expansion (APNs 505-151-009, 505-284-009, and 505-284-010) and emergency access road (APNs 505-151-001 and 505-284-010) primarily consist of relatively flat, open fields with grasses and shrubs. These parcels contain limited improvements including fencing, gravel access roads, a constructed wetland area, and some small agricultural accessory structures.

Figure 2.6A is an overhead aerial photo showing the project parcels and Figure 2.6B is an oblique view aerial photo of the project parcels and surrounding locality (Google Earth, 2018). The perspective view looks east across the residential development site, and includes views across Arcata, to the bottom of Fickle Hill. Also, below are several photos (see Figures 2.6C – 2.6P) which show the existing conditions on the residential development site from various vantage points (SPC, 2017).

Figure 2.6A Aerial Photo of the Project Parcels



Figure 2.6B Oblique View of the Project Parcels Looking East



Figure 2.6C View of Southwest Entrance to Residential Development Site



Figure 2.6D View of Southeast Entrance to Residential Development Site



Figure 2.6E View of Foster Ave. to South of Residential Development Site



Figure 2.6F View of Railbed to South of Residential Development Site



Figure 2.6G View of Trail to Alliance Rd. East of Residential Development Site



Figure 2.6H View of Janes Creek Corridor on SE Border of Residential Development Site



Figure 2.6I View of Isolated Wetland on Central Portion of Residential Development Site



Figure 2.6J View of Concrete Slab Remains from the Former Lumber Mill



Figure 2.6K View of Concrete Ramp Remains from the Former Lumber Mill



Figure 2.6L View of Debarker Slab Remains from the Former Lumber Mill



Viewsheds

East

Views from the Residential Development Site

The viewshed to the east includes the forested ridge in the distant background. In the foreground, the view is of trees and the rear of two-story apartment buildings on Heather Lane. The tree height and relative density of the trees (as well as the orientation of the apartments) mostly obscures all but two apartment complexes on Heather Lane.

Figure 2.6M View from the Residential Development Site Looking East



Views of the Residential Development Site

From the adjacent residential area to the east, views of the residential development site are, for the most part, blocked by existing structures and vegetation. From the adjacent Westwood Court apartments, views of the site are obstructed by vegetation (mostly trees) and the orientation of the complex. This is also true of most of the apartment complexes on Heather Lane. From the second stories of the Heather Lane apartments mentioned above, however, the site is visible. Views through a line of trees to the northern portion of the site and the Arcata Bottom are also available from the second floors of an apartment complex on Westwood Court. Slightly further east, the site is visible from some houses on the west side of Western Avenue, due to their higher elevation on the hill east of Alliance. From Foster Avenue east of the site, existing structures and trees and vegetation along Janes Creek (at Foster and Heather Lane) obstruct views of the site.

North

Views from the Residential Development Site

From the site, the northern viewshed includes forested hillsides in the distant background. The residential development site's north border abuts backyards of the residences on Stewart Avenue. This foreground view is of wooden fencing, trees, and the second story of a few of the residences. The northwest boundary's foreground view is of agricultural fields (open space), a community supported agricultural (CSA) operation, and a few homes (three to seven, depending on visual obstructions) in the Arcata Bottom west of the Westwood/Vassaide residential neighborhood.

Figure 2.6N View from the Residential Development Site Looking North



Views of the Residential Development Site

From the north, views of the residential development site are from the Westwood/Vassaide residential neighborhood to the north and Arcata Bottom residences and farmland to the northwest. In the Westwood/Vassaide neighborhood, from the adjacent street, Stewart Avenue, the view is mostly blocked by existing development. The site is only visible from the backsides of residences on the south side of the street, and from Ennes Park at the corner of Stewart Avenue and Wyatt Lane. However, due to the comparable elevations and existing houses and fences, the site is only visible from vantage points at the site boundary. For instance, from the homes along Stewart Avenue, the site is only visible by peering over the existing fencing.

West

Views from the Residential Development Site

Looking west from the residential development site, the background view is of the roof and upperstory of the former Simpson Mill industrial building, with a tree canopy and the Sun Valley Floral Farms office building in front (to the east) of it. In the mid-ground view, a north-south row of trees (hedgerow) creates a partial visual buffer between the site and these background structures. The foreground view is of relatively flat, open fields. Toward the northwest, the view is of agricultural fields.

Figure 2.60 View from the Residential Development Site looking West



Views of the Residential Development Site

From the west, views of the residential development site are mostly restricted to views from second-story floors on Foster Avenue, with limited views from the road. From Foster Avenue to the west, the immediate foreground of blackberries, which are approximately five to eight feet high, mostly obstruct views of the site. The blackberries, as well as existing trees, obstruct views of the site from the ground floors of adjacent homes. There are two 2-story residences on Foster Avenue from which the site is visible. From the Sun Valley Farms building on Foster Avenue, landscaping trees, cyclone fencing, and the hedgerow block most of the views of the site.

South

Views from the Residential Development Site

The property's southern border is Foster Avenue (west of Q Street), which has the characteristics of a rural, two-lane road. Southwest is a row of mature cypress trees on Foster Avenue, ending at Janes Road. The trees partially block views of St. Mary's Church and associated buildings to the south. Across Foster Ave on the southeast border of the site is a single-family residence and open agricultural fields in the foreground, Bloomfield Elementary School in the mid-ground, and the residential rooftops of the residential Greenview Neighborhood in the background. The south forested ridge is in the distant background.

Figure 2.6P View from the Residential Development Site Looking South



Views of the Residential Development Site

From the south, the residential development site is most prominent from adjacent vantage points of Foster Avenue, single-family homes along Foster Avenue, and agricultural fields. Residences on the north side of Iverson Avenue have a view of the site across the open agricultural fields. From the Bloomfield Elementary School the site is visible from the schoolyard; views from the buildings are partially obstructed by the cypress hedgerow on Foster Avenue. From the school's soccer field (adjacent to Janes Road), St. Mary's buildings partially block views of the site.

On the approach from 17th Street and Alliance Rd (to the southeast), the project area is visible only briefly in between structures. From 17th and Q Streets, the site appears as part of the surrounding agricultural, open space viewscape to the north and west. From the same vantage

point, the site is blocked from view by existing structures of the Q Street Service Center (1800 Q Street) and the vegetation along the creek corridor.

Light and Glare

The project parcels are currently undeveloped and neither produce, nor are characterized by, light or glare. Indirect nighttime illumination of the site may be generated by adjacent residential or industrial uses (e.g. lights from residences to the north, east, or south or from Sun Valley Floral Farms); however, these potential light sources are not strong enough to illuminate the residential development site and are expected to be insubstantial. Periodic illumination occurs from head lights from vehicles traveling on Foster Avenue, Q Street, and possibly Janes Road and the private Sun Valley Floral Farms driveway off Foster Avenue. The amount of glare experienced in the surrounding vicinity is typical for a suburban setting.

REGULATORY FRAMEWORK

State of California

California Scenic Highway Program

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. No State-designated scenic highways or scenic highway view sheds are located in the project vicinity. Highways 101 and 299 are both Eligible State Scenic Highways though not officially designated (Caltrans, 2016).

City of Arcata

Arcata General Plan

The City of Arcata General Plan addresses aesthetic resources and community design in their Design Element. The General Plan design policies intend to protect and enhance the community character of Arcata by maintaining the Plaza as the focal point; requiring new building designs to harmonize with the existing surrounding character; preserving natural landscape elements; and beautifying existing structures and areas. A goal of the General Plan is to preserve Arcata's small-town, human-scale atmosphere by maintaining the small scale of buildings and diversity of uses and building types. Table 2.6-1 below contains a list of policies from the Arcata General Plan that are applicable to the proposed project.

Table 2.6-1 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|--|---|--|
| D-1 Overall Community Design Character | Maintain a community with diversity and quality in the built environment; with small-scale structures that are harmonious with their neighborhood context; and with a sharp physical and visual distinction between the urban area and the surrounding open space lands. | D-1a, D-1c, D-1d, D-1f, D-1g, and D-1i |
| D-3 Scenic Routes, Resources, and Landscape Features | Identify and protect scenic routes, resources, and landscape features. Retain natural features, coastal scenic resources, and scenic vistas as important aesthetic components of the built environment and visual and associative links to nature. Minimize impairment and obstructions of scenic views to the minimum necessary to allow reasonable development. | D-3h and D-3j |
| D-4 Subdivision Design | Achieve subdivision design which accommodates orderly growth; assures proper development of land and access to lots; promotes open space retention; insures adequate circulation, utilities, and services; preserves existing landforms; and retains significant vegetation. | D-4a, D-4b, D-4d, and D-4e |
| D-5 Residential Design | Create residential living environments which meet the needs of residents, are aesthetically pleasing, provide for personal safety and privacy, promote social interaction, maintain continuity with the community's past, and provide for leisure needs. Blend residential design objectives with neighborhood conservation area objectives expressed in the Historical Preservation Element. | D-5a and D-5b |
| D-7 Landscape Design | Promote landscape designs which are appropriate for the climate zone and the specific site conditions, integrate harmoniously with the scale and architecture of buildings on the site, improve the overall aesthetic appearance of the city and its neighborhoods, and serve to protect the general safety and welfare. | D-7a through D-7d, and D-7f |
| LU-2 Residential Land Use | Allow for a mix of housing types and densities to meet the physical, social, and economic needs of residents, with new and converted housing designed to be compatible with the established neighborhood character. | LU-2d |
| LU 2.3 Implementation Measures | This section identifies specific measures for implementing the goals and policies of the Land Use Element, the party responsible for implementation, and the time frame for implementation. | LU-2 |

Arcata Land Use Code

Design Review Procedures

The City has a discretionary Design Review process intended to consider visual impacts of proposed new and remodeled structures. Section 9.72.040 of the Land Use Code contains the requirements for Design Review which describes the purpose as the following, “*Design Review is intended to ensure that the design of proposed development and new land uses assists in maintaining and enhancing the natural beauty, historic, and rural character of the community.*” The standards for Design Review are listed in Section 9.72.040(F) of the Land Use Code which includes the following:

- Providing architectural design, building height and massing, and scale appropriate to and compatible with other structures on the site and in the immediate vicinity of the site;
- Providing attractive and desirable site layout and design, including, but not limited to, building arrangement, exterior appearance and setbacks, drainage, fences and walls, grading, landscaping, lighting, signs, etc.;
- Providing efficient and safe public access, circulation, and parking;
- Providing appropriate open space and landscaping, including the use of water efficient landscaping;
- Showing consistency with the General Plan, Local Coastal Program, and any applicable specific plan; and
- Complying with any applicable design guidelines or design review policies.

Through the Design Review process, the City has the ability to recommend revisions to the project design that will provide even greater consistency with the policies in the General Plan Design Element. The Design Review process of local jurisdictions is generally considered to resolve aesthetic concerns (See *Bowman v. City of Berkeley* (2004) 122 Cal.App.4th 572, 593).

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

Aesthetics is by nature a subjective value. Other resources can be measured or estimated through quantifiable scientific inquiry. However, this is rarely possible or even desirable for aesthetics, which is analyzed qualitatively. An impact is considered to be significant if it meets any of the following criteria.

If the project would:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Arcata General Plan

Table 2.6-2 Project Consistency with General Plan

| Policy | Consistency Analysis |
|---|--|
| <p>D-1 Overall Community Design Character (D-1a, D-1c through D-1g, and D-1i)</p> | <p>D-1a. Although specific building design approval is not part of the current action, the project proposes three different types of residential housing which will be no greater than two stories and will provide a variety of architectural styles on the site. Subsequent architectural designs shall conform to this policy.</p> <p>D-1c. Although, specific building design approval is not part of the current action, the project proposes three different types of residential housing type which will provide diversity of design and will be compatible with adjacent single-family and multi-family development. Subsequent architectural designs shall conform to this policy.</p> <p>D-1d. Consistent with this policy, the proposed project preserves and enhances the Janes Creek corridor and mitigates impacts to wetlands within the residential development site through the development of a wetland mitigation area and native plantings.</p> <p>D-1f. Consistent with this policy, the western boundary of the residential development site will be developed with the main access road and landscaping to provide a buffer between the proposed residential uses and adjacent agricultural uses.</p> <p>D-1g. Consistent with this policy, the proposed project incorporates several bicycle/pedestrian pathways to connect the residential development site to adjacent neighborhoods and the City’s trail system.</p> <p>D-1i. Consistent with this policy, the proposed project is to be implemented in an energy and resource efficient manner, in accordance with California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the California Code of Regulations. In addition, in September 2018 the City of Arcata adopted Ordinance No. 1507 (Residential Reach Code) that requires new residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by at least 20 percent. Also, the project will include native landscaping and permeable areas within the development to manage stormwater runoff.</p> |
| <p>D-3 Scenic Routes,</p> | <p>D-3h. Consistent with this policy, the proposed project is being located on</p> |

| Policy | Consistency Analysis |
|---|---|
| Resources, and Landscape Features (D-3h and D-3j) | <p>a former mill site on the west edge of the City of Arcata on a property that is adjacent to existing neighborhoods developed with single-family and multi-family residential uses. As such, the proposed project will have limited impacts on views of the Arcata Bottom area.</p> <p>D-3j. Consistent with this policy, the majority of the Janes Creek riparian corridor and drainage ditches along the railbed shall be retained and incorporated into the site design as a visual asset.</p> |
| D-4 Subdivision Design (D-4a, D-4b, D-4d, and D-4e) | <p>D-4a. Consistent with this policy, the proposed project includes (D-4a1) lots with public or alley frontages; (D-4a2) streets that conform to the City’s Transportation Plan; (D-4a 5) the use of natural drainage techniques that facilitate on-site detention; (D-4a6) the preservation of natural drainages; (D-4a8) the provision of sidewalks and bicycle/pedestrian trails; and (D-4a10) landscaping in compliance with City standards. Based on the proposed minor subdivision design, the project would conform to this policy. Subsequent subdivision designs to create single-family residential lots shall be required to conform to this policy.</p> <p>D-4b. The proposed project site plan displays lots that are regular in shape, have direct access to public streets, and have clustered open space on the majority of the development.</p> <p>D-4d. The proposed project site plan preserves and enhances the majority of the Janes Creek corridor and the ditches along the railbed. Wetlands that will be impacted by the project will be mitigated with the development of a wetland mitigation area and native plantings.</p> <p>D-4e. Consistent with this policy, it is proposed to provide open space on the residential development site along Janes Creek and pay in-lieu fees for the development of parkland on City owned parcels 505-151-009, 505-284-009, and 505-284-010 to the northwest of the site.</p> |
| D-5 Residential Design (D-5a and D-5b) | <p>D-5a. Although, specific building design approval is not part of the current action, the multi-family units proposed as part of this project (senior-restricted neighborhood cottage units) will be designed to preserve open space and be compatible with nearby single-family and multi-family residential development. Subsequent specific building designs shall conform to this policy.</p> <p>D-5b. Although specific building design approval is not part of the current action, single-family residential units proposed as part of this project will be designed to be compatible with nearby single-family residential development, minimize disturbance of natural areas on the site, and include landscaping areas to complement the streetscape. Subsequent specific subdivision improvements and building designs shall conform to this policy.</p> |
| D-7 Landscape Design (D-7a through D-7d, and D-7f) | <p>D-7a through D-7d. Specific landscape design approval is not part of the current action. Subsequent specific landscape plans shall conform to this policy and the landscaping requirements of the City’s Land Use Code.</p> <p>D-7f. Consistent with this policy, the project will be conditioned to require the maintenance of landscaping to assure the survival of plantings.</p> |
| LU-2 Residential Land Use (LU-2d) | <p>LU-2d. Consistent with this policy, the proposed project is a former mill site planned for residential development that is greater than one acre and has requested a zoning amendment to include a Planned Development Combining Zone over the residential development site.</p> |

| Policy | Consistency Analysis |
|---|--|
| LU 2.3 Implementation Measures (LU-2) | <p>LU-2. Consistent with this implementation measure, the proposed project will convert and reuse an inactive mill site for residential development. As described in Section 2.10 (Hazards and Hazardous Materials) of the EIR, the site has been investigated and remediated for hazardous materials including petroleum hydrocarbons and dioxins/furans. Remaining contamination at the site occurs in the area of the debarker slab and is proposed to be remediated during the construction phase of the proposed project. Due to the potential for the discovery of unknown contamination during development of the site, the applicant shall implement a Site Development Contamination Contingency and Site Safety Plan (Appendix O) during project construction activities. To the extent that any contaminants are determined to be present, construction will cease immediately and investigation and remediation will be required. Ultimately, the Humboldt County Department of Environmental Health (DEH) and North Coast Regional Water Quality Control Board (NCRWQCB) must sign off on site cleanup prior to the completion of construction and occupation of the site for residential uses. This project is consistent with the County of Humboldt and City of Arcata General Plans which both plan to designate/zone this former mill site for residential development.</p> |

Proposed Project

Finding 2.6.1: Have a Substantial Adverse Effect on a Scenic Vista.

Discussion:

The residential development site is located along Foster Avenue which is a two-lane rural road that provides access to the Arcata Bottom area. The proposed project would potentially affect the following views: 1) the rural agricultural views to the Arcata Bottom; 2) views of the Janes Creek riparian corridor; 3) views from adjacent public streets; and 4) distant views of the coastal dunes and horizon from nearby residential neighborhoods. Due to the surrounding topography, adjacent development, and existing vegetation, the site is not visible from most areas designated by the City or County as a scenic vista or view area such as the Fickle Hill Ridge, Arcata Bay, or the Mad River.

Two routes that are designated as coastal scenic highways in the Arcata General Plan (Policy D-3a) are within the residential development site's viewshed including: 1) Janes Road from 11th Street to Foster Avenue; and 2) all public roads west of the City in the Arcata Bottom. This project will be visible to northbound traffic on Janes Road when traveling to the north of 11th Street and to eastbound and westbound traffic on Foster Avenue when traveling to the west of Janes Creek and the east of Janes Road.

Policy D-3c of the General Plan Design Element lists the standards applicable to developments that will affect scenic highways. This project is consistent with these standards for the following reasons: 1) no billboards or other off-premises signs are proposed as part of the project; 2) existing natural vegetation (e.g., Janes Creek riparian corridor and vegetation along the railbed on parcel 505-161-009) and the landscaping proposed for the project will screen views of the site but will not interrupt scenic views to the bay or across agricultural lands; and 3) the project does not propose any development along Highway 101 or within the industrial area of South “G” Street.

Therefore, the proposed project will not have a substantial adverse effect on a scenic vista.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.6.2: Substantially Damage Scenic Resources, including, but not limited to, Trees, Rock Outcroppings, and Historic Buildings within a State Scenic Highway.

Discussion:

According to the California Scenic Highway Mapping System, there are no designated state scenic highways in the project vicinity (www.dot.ca.gov). Highways 101 and 299 are listed as “Eligible State Scenic Highways-Not Officially Designated” but the project parcels are not visible from either of these highways. The project parcels do not contain any scenic resources such as landmark trees, rock outcroppings, or historic buildings that would be impacted by the project.

Therefore, the proposed project will not substantially damage scenic resources within a state scenic highway.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.6.3: Substantially Degrade the Existing Visual Character or Quality of the Site and its Surroundings.

Discussion:

The existing visual character of the residential development site (APN 505-161-011) and its surroundings include a vacant mill site surrounded by varying types of residential development

to the north, east, and south, and agricultural lands to the west and south. As described in the Environmental Setting, the residential development site has been vacant since the lumber mill closed in the 1980s, and only remnant concrete building foundations and concrete slabs from the former mill are still present. The site is low-lying with predominantly flat land; the surface is mostly compacted river run gravel that is overgrown with non-native vegetation, such as blackberries, grasses, and low shrubs. The residential development site includes ditches along the railbed and isolated wetland areas (see Figures 2.6C - 2.6P).

The parcels proposed for development with the Ennes Park Expansion (APNs 505-151-009, 505-284-009, and 505-284-010) and emergency access road (APNs 505-151-001) primarily consist of relatively flat, open fields with grasses and shrubs. These parcels contain limited improvements including fencing, gravel access roads, a constructed wetland area, and some small agricultural accessory structures (see Figure 2.6B [Oblique View of the Project Parcels Looking East]).

Construction

During the proposed construction activities, views across the project parcels would be disrupted and construction equipment and debris, graded surfaces and stockpiles, staging areas, and truck traffic would be visible from surrounding residential and agricultural uses. The majority of vegetation along the Janes Creek riparian corridor and railbed is proposed to remain to buffer views of the residential development site from Foster Avenue and the residential properties to the east and south.

Construction activities are a common occurrence in the region and are not considered to substantially degrade the area's visual quality. Construction is anticipated to occur over a several year period and will be a short-term impact consistent with other construction activity in the City. All construction equipment would be removed from the project parcels following the completion of construction activities. Considering that the majority of construction activity on the project parcels will occur on a former mill site with limited aesthetic value, the proposed construction activity is not anticipated to cause significant aesthetic impacts over the existing baseline condition.

Operation

This project would replace existing views of the residential development site (former mill site) with views of a mixed residential development and would shift Arcata's residential edge westward. The residential development site is located along Foster Avenue which is a two-lane rural road that provides access to the Arcata Bottom area. The proposed project would potentially affect the following views: 1) the rural agricultural views to the Arcata Bottom; 2) views of the Janes Creek riparian corridor; 3) views from adjacent public streets; and 4) distant views of the coastal dunes and horizon from nearby residential neighborhoods. Although, the site is visible from roads designated by the City as coastal scenic highways (e.g., Janes Road and Foster Avenue), it is currently an underutilized former mill site that has little aesthetic value with the presence of concrete slabs, trash, and non-native plants. Because the residential development site is currently in a deteriorated condition, the proposed improvements will ultimately improve the overall appearance of the site from most vantage points.

Consistent with the policies in the Arcata General Plan Design Element, the project has been designed to provide the greatest compatibility with nearby residential development in the following ways (see Figure 2.6Q [Site Plan]).:

- 1) The northern portion of the residential development site is proposed to contain single-family residential units to provide compatibility with the single-family residential neighborhood to the north;
- 2) The central portion of the residential development site is proposed to contain the two-story senior assisted living facility to provide compatibility with the two-story multi-family residential development to the east;
- 3) The southern portion of the residential development site is proposed to contain the senior-restricted neighborhood cottage units which will contain larger open space areas and landscaping to provide compatibility with the rural residential uses to the south;
- 4) The majority of the vegetation along Janes Creek and the railbed is proposed to remain to buffer views of the residential development site from Foster Avenue and the residential areas to the east and south;
- 5) To buffer views of the residential development site from agricultural properties and roadways to the west, the western boundary of the residential development site is proposed to be landscaped with trees and shrubs;
- 6) Service and storage areas at the site are proposed to be screened with fencing and walls; and
- 7) The proposed development also includes the designation of a Wetland and Creek Protection Zone along Janes Creek that will preserve this natural landscape element on the residential development site.

As designed and in compliance with the Design Element policies of the General Plan, the proposed residential development would not substantially degrade the existing visual character or quality of the site and its surroundings.

Off-site improvements that would occur as part of the project include the following: 1) Foster Avenue Connection including sidewalks and bike lanes; 2) development of parkland on parcels 505-151-009, 505-284-009, and 505-284-010; 3) development of an emergency access road on parcel 505-151-001 to provide access from the northwest corner of the residential development site (APN 505-161-011) to Stewart Avenue; and 4) pedestrian/bicycle trails, including a section of the Hammond Trail, that would provide access to Alliance Road (see Figure 2.6R [Parcels Proposed for Development]).

The Foster Avenue Connection will open up views of the Arcata Bottom and the neighborhood to the east of the residential development site that were previously obstructed by vegetation within the Janes Creek riparian corridor. Although an approximately 50-foot wide section of riparian vegetation within Janes Creek will be removed to develop the road connection, it is not anticipated to substantially degrade the existing visual character in the project area.

Figure 2.6Q Site Plan

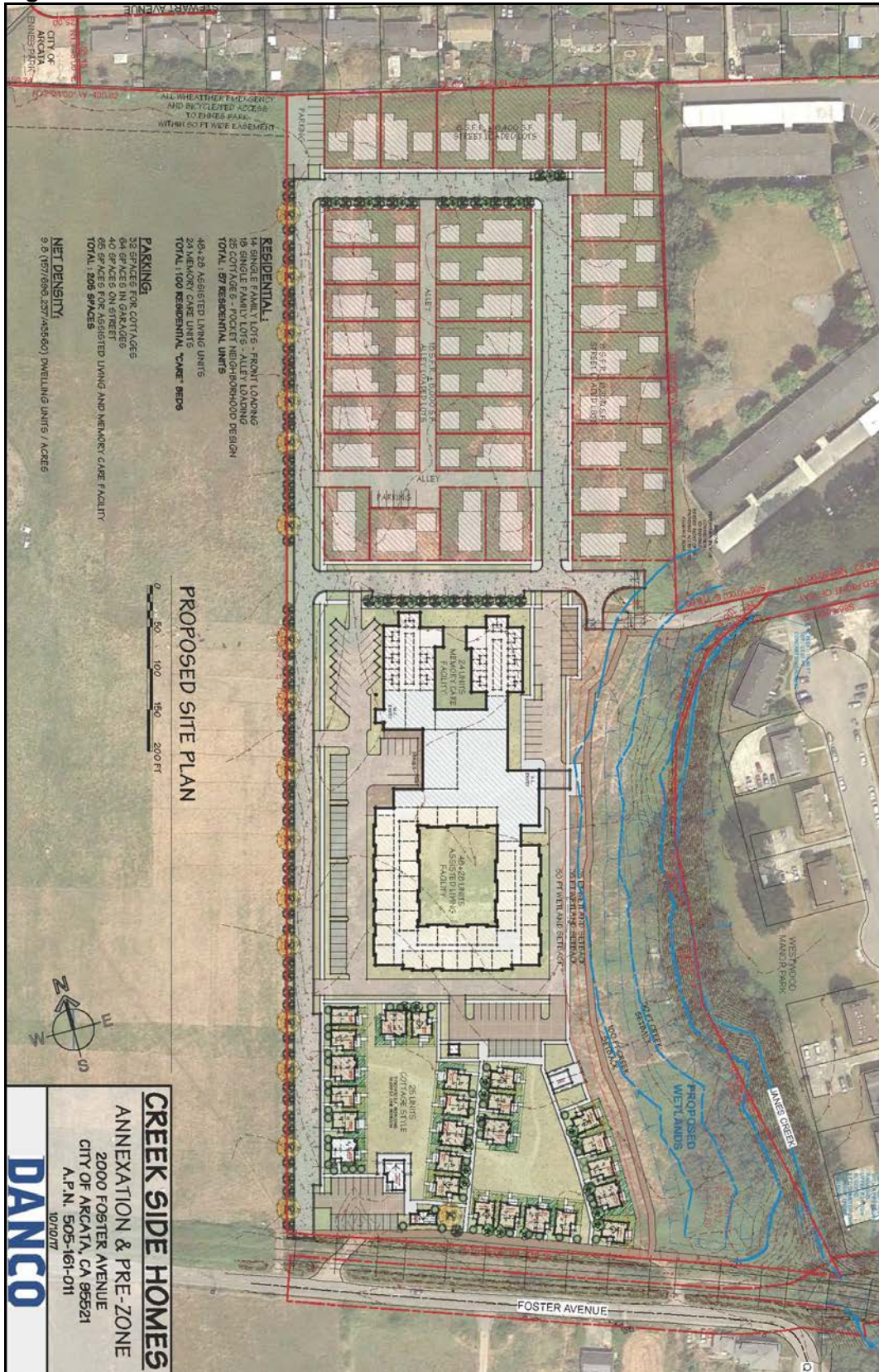
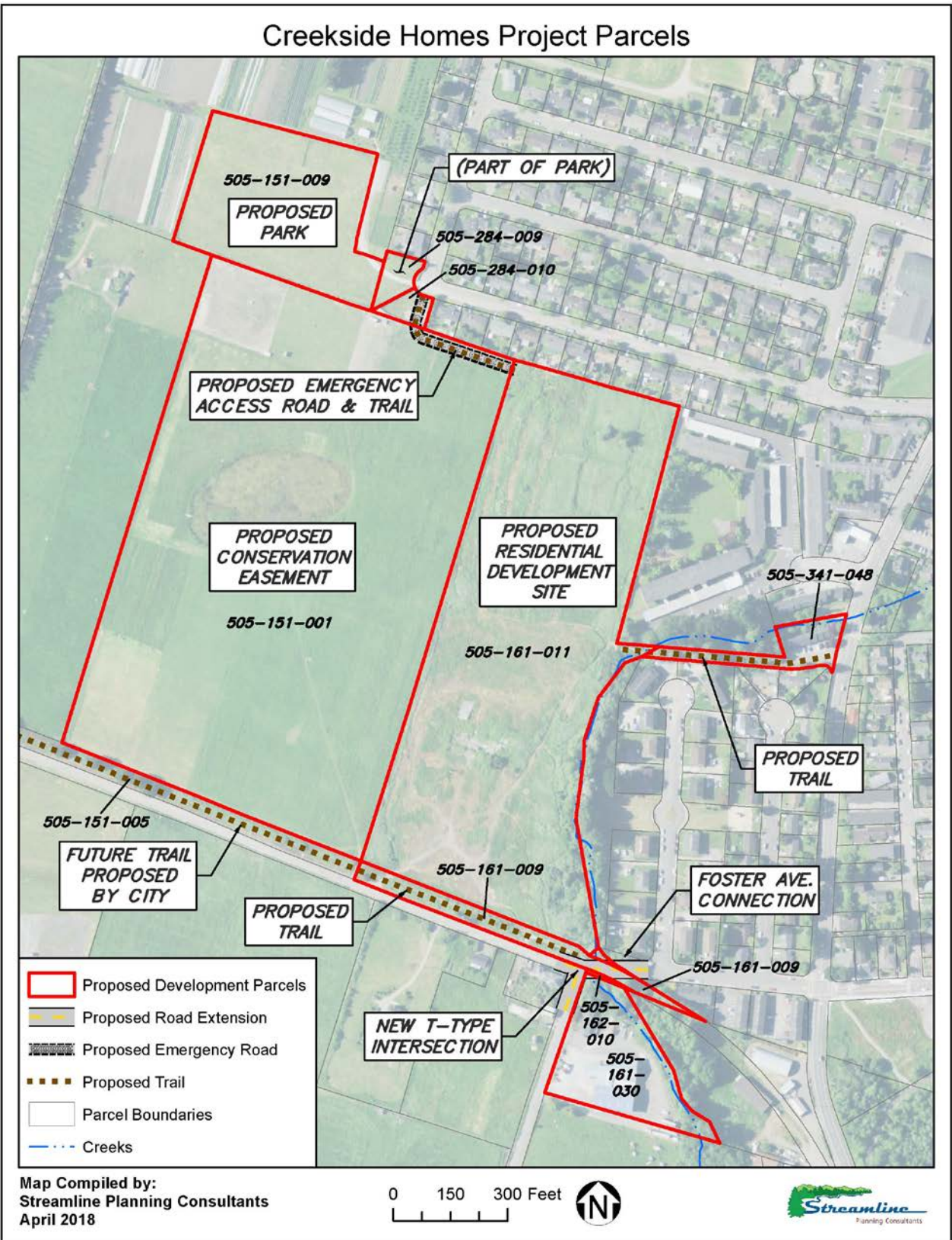


Figure 2.6R Parcels Proposed for Development



Development of the Ennes Park Expansion would permanently convert several acres of undeveloped prime agricultural land adjacent to an existing park on the edge of the Westwood neighborhood. The park site (APNs 505-151-009, 505-284-009, and 505-284-010) is owned by the City of Arcata and has been planned to be developed for parkland use for several decades (see Section 2.1 [Land Use and Planning] of the EIR for further discussion). The development of the park would replace existing views of the site (open field) with views of a community park that would include landscaping in compliance with the landscaping standards in the City of Arcata Land Use Code. It is not anticipated that development of the park site will result in significant aesthetic impacts for surrounding residential and agricultural uses.

The development of the emergency access road and pedestrian/bicycle trails will involve minor improvements that will primarily be visible in the immediate area and are not anticipated to cause significant aesthetic impacts for adjacent land uses.

Therefore, the proposed project will not substantially degrade the existing visual character or quality of the site and its surroundings.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.6.4: Create a New Source of Substantial Light or Glare that would Adversely Affect Day or Nighttime Views in the Area.

Discussion:

The residential development site (APN 505-161-011) is a former mill site with no light sources except indirect lighting emanating from adjacent residential neighborhoods. The parcels proposed for the off-site improvements are primarily open fields with no on-site light sources.

The proposed project would alter light sources on the residential development site; from a dark, undeveloped field adjacent to farmlands with some indirect light emanating from nearby residences, to an illuminated neighborhood with lighting that complies with the Arcata Land Use Code requirements. The proposed project includes various sources of new lighting (street, pedestrian-scale, security, and buildings). Once the residential development site is developed, increases in light sources and glare would potentially impact surrounding areas. These would be visual changes of the type that would be considered typical for a residential setting. Due to the proximity of residential apartments and the Janes Creek riparian corridor to the east, the single family residences to the north and south, and the agricultural lands to the west, care must be taken that lighting does not extend beyond the site.

The project proposes outdoor lighting consistent with the City's design guidelines, Section 9.30.070 (Outdoor Lighting) of the Arcata Land Use Code, and the recommendations of the International Dark-Sky Association (IDA), which includes standards for fixtures, shielding,

wattage, placement, height, and illumination levels. To comply with these requirements, lighting for the project will be the minimum lumens necessary, directed downward, shielded, and pedestrian level when feasible. This will ensure lighting is contained within the site and does not cause significant lighting and glare impacts for surrounding land uses. Project related daytime glare would be unlikely to have significant visual impacts, as design guidelines specifying non-reflective building materials would address potential glare issues.

The proposed project also includes new off-site street lighting at the new “T” intersection of Foster Avenue and Q Street that would be developed as part of the proposed project. To minimize lighting impacts, measures should be taken to minimize nighttime light and/or glare encroachment on the single-family homes south of the residential development site and residences on Heather Lane east of the proposed intersection. To limit potential impacts, compliance with the standards and policies of the City of Arcata for street lighting shall be required and all street lights shall be fully hooded and back shielded to reduce light spillage and glare, and to ensure an illumination level standard of one-foot candle is not exceeded on nearby residential properties (Arcata Land Use Code Section 9.30.070 [Outdoor Lighting]).

The proposed project could result in increased nighttime vehicle traffic and headlight glare. This would result in visual impacts, from light, within and outside the residential development site. Increased illumination from headlights would be likely to impact neighboring residential areas, and particularly, the single-family homes along Foster Avenue, south of the site. Tree planting and landscaping along interior streets and parking areas will help to lessen the full impact of headlight glare. In addition, the location of the Foster Avenue access in the southwest corner of the residential development site (APN 505-161-011) will minimize impacts to the residences to the south.

The proposed project, as designed and in compliance with the City’s design guidelines and Land Use Code standards, will not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Determination:

Less than significant impact.

Mitigation:

None required.

REFERENCES

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Section 2.7

AIR QUALITY

This section evaluates the potential impacts related to air quality during construction and operation of the project. To provide the basis for this evaluation, the Environmental Setting section describes existing air quality conditions in the project area, and the Regulatory Framework section describes the regulatory background that applies to the project. The Impact Analysis section establishes the thresholds of significance, evaluates potential air quality impacts, and identifies the significance of impacts. Where appropriate, mitigation is presented to reduce impacts to less than significant levels.

ENVIRONMENTAL SETTING

Air Basin Characteristics

The project parcels are located within the North Coast Air Basin, which is comprised of Del Norte, Humboldt, Trinity, and Mendocino counties, as well as the northern and western portion of Sonoma County. The local climates, also known as sub-climates, within the Basin are affected by elevation and proximity to the Pacific Ocean.

Humboldt County, like the North Coast Air Basin, contains sub-climates that are created by local topography and proximity to the ocean. The City of Arcata and the project parcels are located in the Humboldt Bay area. Weather in the Humboldt Bay area is subject to cold upwelling of sea water to the ocean surface off the Humboldt Coast. This cold seawater in turn cools the surface air. During the summer, the air mass above the Pacific Ocean is drawn on shore by the difference in surface temperatures, resulting in daytime northwesterly winds. In winter, this temperature differential is less, and surface winds may blow from many directions depending on storm patterns or periods of calm. These periods of calm can amount to 30 percent of the year.

Wind helps disperse air pollution; whereas calm periods can allow it to build up to unhealthy levels. Temperature inversions, which occur when a layer of warm air traps cool air near the surface creating a lid, inhibit the vertical dispersion of pollutant emissions. Inversions occur most commonly in the Arcata area during winter months and trap emissions of all types near the surface. Dispersion usually occurs when a frontal system, sometimes bringing strong winds, passes over the area disturbing the temperature inversion, which allows pollutants to disperse vertically and horizontally.

Local Air Quality Conditions

Activities that presently occur within the project area that may contribute to existing levels of local air pollution are limited to livestock grazing on adjacent agricultural lands, wood stove/fire places in surrounding residential uses, and possible windblown dust. Livestock grazing has the potential to generate dust and odors that could be considered objectionable. There is currently no activity within the residential development site that would generate air pollutants, dust, or objectionable odors.

Criteria Air Pollutants

Air pollutant levels are typically described in terms of “*concentrations*,” which refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The federal and California Clean Air Acts (CAA) have established ambient air quality standards for different pollutants. National Ambient Air Quality Standards (NAAQS) were established by the federal CAA for six criteria pollutants including carbon monoxide (CO), ozone, nitrogen dioxide (NO₂), small particulate matter (PM₁₀ and PM_{2.5}), sulfur dioxide, and lead. Pollutants regulated under the California Clean Air Act are similar to those regulated under the federal Clean Air Act. In many cases, the California Ambient Air Quality Standards (CAAQS) are more stringent than the corresponding federal standards.

Areas that do not violate ambient air quality standards are considered to be “*in attainment*” of federal and/or State standards. Areas that violate the ambient air quality standards are considered to be in “*nonattainment*.” Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant, using the most recent three years of monitoring data. Table 2.7-1 lists federal and State criteria pollutants and the status of these pollutants in the North Coast Air Basin.

Table 2.7-1 Status of Criteria Pollutants in the North Coast Air Basin

| Criteria Pollutant | North Coast Air Basin Status | |
|-------------------------------|------------------------------|-----------------|
| | Federal Standards | State Standards |
| Sulfur Dioxide | Attainment | Attainment |
| Nitrogen Dioxide | Attainment | Attainment |
| Particulate PM ₁₀ | Attainment | Nonattainment |
| Particulate PM _{2.5} | Unclassified/Attainment | Attainment |
| Carbon Monoxide | Attainment | Attainment |
| Lead | Attainment | Attainment |
| Ozone | Unclassified/Attainment | Attainment |
| Sulfates | No Standard | Attainment |
| Hydrogen Sulfide | No Standard | Attainment |

| Criteria Pollutant | North Coast Air Basin Status | |
|-------------------------------|------------------------------|-----------------|
| | Federal Standards | State Standards |
| Vinyl Chloride | No Standard | Attainment |
| Visibility Reducing Particles | No Standard | Unclassified |

Source: California Air Resources Board, Air Designations Maps/State and National, 2016.

As Table 2.7-1 indicates, the Air Basin as a whole does not meet State ambient air quality standards for PM₁₀. The Air Basin is considered in attainment or unclassified for all other criteria air pollutants. Unclassified typically means the region does not have concentrations of that pollutant that exceed ambient air quality standards.

Among the pollutants that may be generated by the proposed project, those of greatest concern are emitted by motor vehicles during construction and operation. These pollutants include small particulate matter, PM_{2.5} and PM₁₀. Other pollutants that are less problematic to the Air Basin include Carbon Monoxide (CO), and ozone precursors such as nitrogen oxides (NO_x) and reactive organic gases (ROG). Criteria air pollutants with federal and State ambient air quality standards are described below.

Particulate Matter

Particulate matter is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. Particles 10 microns or less in diameter are defined as respirable particulate matter or PM₁₀. Particles 2.5 microns or less in diameter, or PM_{2.5}, are also respirable and can contribute significantly to regional haze and reduction of visibility. Inhalable particulates come from smoke, dust, aerosols, and metallic oxides. Although particulates are found naturally in the air, most particulate matter found in the project area is emitted either directly or indirectly by motor vehicles, industry, construction, agricultural activities, and wind erosion of disturbed areas. Most PM_{2.5} is comprised of combustion products such as smoke.

Generally, adverse health effects associated with PM₁₀ may result from both short-term and long-term exposure to elevated concentrations, and may include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, alterations to the immune system, carcinogenesis, and premature death (USEPA, 2018). The adverse health effects associated with PM₁₀ depend on the specific composition of the particulate matter. For example, health effects may be associated with adsorption of metals, polycyclic aromatic hydrocarbons, and other toxic substances onto fine particulate matter (referred to as the “piggybacking effect”), or with fine dust particles of silica or asbestos. PM_{2.5} poses an increased health risk when compared to PM₁₀ because the particles can deposit deep in the lungs and are more likely to contain substances that are particularly harmful to human health.

Although PM levels are highest in winter due to meteorological conditions, PM levels are also high in summer months because auto traffic is about 20 percent higher than average, farm

activities raise dust, and little rainfall occurs to wash pollutants out of the air. In the winter, temperature inversions trap emissions very close to the ground. Emissions from agricultural burning, wood stoves and fireplaces, and motor vehicles are all important sources that contribute to high levels of winter time PM. Table 2.7-2 shows the levels of PM₁₀ concentration in the Humboldt Bay Area and the extent to which those levels meet or exceed air quality standards.

Table 2.7-2 PM₁₀ Air Quality Data Summaries 2012-2015

| Location | Year | PM ₁₀ Concentration in µg/m ³ Highest 24-Hr Average | # of Days Exceeding Standard (Estimate): | |
|------------------------------|------|--|---|---------|
| | | | State | Federal |
| Eureka-Humboldt Hill | 2012 | 28.8 | 0 | 0 |
| | 2013 | 45.8 | 0 | 0 |
| | 2014 | -- | -- | -- |
| | 2015 | -- | -- | -- |
| Eureka-Jacobs | 2012 | 46.3 | 0 | 0 |
| | 2013 | 66.7 | 11.8 | 0 |
| | 2014 | -- | -- | -- |
| | 2015 | -- | -- | -- |
| North Coast Air Basin | 2012 | 48.9 | 0 | 0 |
| | 2013 | 66.7 | 14.9 | 0 |
| | 2014 | 45.6 | 0 | 0 |
| | 2015 | 57.6 | 2.0 | 0 |

Source: California Air Resources Board, 2016

Almost all violations of the State PM₁₀ standard (50 µg/m³) occur in the six-month period from October through March (cool months). About eight percent of all days during the year exceed the standard; therefore about 16 percent (or one day in six) violates the standard during the cool months. The most significant local source of PM₁₀ emissions during the cool months is from residential wood burning for heating. These emissions occur primarily during the evening hours. Peak hourly levels may exceed the state daily standard by 400 percent (i.e. 200 µg/ m³ on a day that reaches 50 µg/m³ for 24 hours). However, with the mixing that occurs during the late evening and early part of the day, the average PM₁₀ level is reduced significantly.

In July 1997, the EPA adopted new air quality standards for particulate matter. The EPA established annual and 24-hour standards for the fine fraction of particulates which are 2.5 microns or less in size. It revised the primary (health-based) PM standards by adding a new annual PM_{2.5} standard set at 15µg/m³ and a new 24-hour PM_{2.5} standard set at 65 µg/ m³. Based on a recommendation by CARB to the EPA, the North Coast Air Basin has been designated "attainment" for the federal PM_{2.5} standard.

Ozone

Ozone (O₃) is a photochemical oxidant - a substance whose oxygen combines chemically with another substance in the presence of sunlight. In the lower atmosphere, ozone is the primary component of smog. Ozone is not emitted directly into the air but is formed through complex chemical reactions between certain emissions, known as “precursor emissions,” in the presence of sunlight. The precursor emissions for ozone are reactive organic gases (ROG) and nitrogen oxides (NO_x). ROGs are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. Common sources of ROG emissions include solvents, pesticides, the burning of fuels, and organic wastes. NO_x is a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels. Common sources of NO_x emissions include emissions from burning of fuel in cars, trucks, buses, power plants, and off-road equipment (USEPA, 2018).

Ozone located in the upper atmosphere (stratosphere) shields the earth from harmful ultraviolet radiation emitted by the sun. However, ozone located in the lower atmosphere (troposphere) is a major health and environmental concern. As described below, breathing ozone can trigger a variety of health problems, particularly for children, elderly, and people of all ages who have lung disease such as asthma. Ground level ozone can also have harmful effects on sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. Ozone can especially cause damage during the growing season (USEPA, 2018).

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as people with asthma and children, but healthy adults as well. Exposure to ambient levels of ozone ranging from 0.10 to 0.40 parts per million (ppm) for one or two hours has been found to substantially alter lung function by increasing respiratory rate and pulmonary resistance, decreasing tidal volume, and impairing respiratory mechanics. Ambient levels of ozone above 0.12 ppm are linked to symptomatic responses that include such symptoms as throat dryness, chest tightness, headache, and nausea. In addition to these adverse health effects, ozone exposure can cause an increase in the permeability of respiratory epithelia (i.e., the thin tissue forming the outer layer of the body’s respiratory system); such increased permeability leads to an increase in the respiratory system’s responsiveness to challenges and the inhibition of the immune system’s ability to defend against infection (Godish, 2004).

Meteorology and terrain play a major role in ozone formation in the troposphere (i.e., at ground level). Generally, low wind speeds or stagnant air coupled with warm temperatures and clear skies provide the optimum conditions for formation; therefore, summer generally is the peak ozone season. Peak ozone concentrations often occur far downwind from the precursor emissions due to the time it takes for reactions to complete. Therefore, ozone is a regional pollutant that often affects large areas. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry.

Ozone within the City of Arcata has not been measured by State or local agencies. However, the North Coast Unified Air Quality Management District (NCUAQMD) indicates that the local ozone air quality summary contained in Table 2.7-3 is representative of air quality along coastal

Humboldt County, including the City of Arcata. As shown in Table 2.7-3, ozone levels in the project area do not exceed State or federal ambient air quality standards.

Table 2.7-3 Ozone Air Quality Data Summaries 2012-2015

| Location | Year | Highest 1-Hr. | 8-Hr. Average | # of Days Exceeding Standard: | |
|-------------------------------|------|---------------|---------------|-------------------------------|---------------|
| | | | | State 1-Hr. | Federal 8-Hr. |
| Eureka – Humboldt Hill | 2012 | 0.053 | 0.048 | 0 | 0 |
| | 2013 | 0.055 | 0.049 | 0 | 0 |
| | 2014 | 0.049 | 0.043 | 0 | 0 |
| | 2015 | 0.060 | 0.052 | 0 | 0 |
| Eureka-Jacobs | 2012 | 0.055 | 0.048 | 0 | 0 |
| | 2013 | 0.051 | 0.049 | 0 | 0 |
| | 2014 | 0.060 | 0.050 | 0 | 0 |
| | 2015 | 0.054 | 0.045 | 0 | 0 |
| North Coast Air Basin | 2012 | 0.073 | 0.063 | 0 | 0 |
| | 2013 | 0.069 | 0.062 | 0 | 0 |
| | 2014 | 0.070 | 0.064 | 0 | 0 |
| | 2015 | 0.076 | 0.063 | 0 | 0 |

Source: California Air Resources Board, iADAM: Air Quality Data Statistics, 2016.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas, produced by incomplete burning of carbon in fuels, primarily from internal-combustion engines used for transportation. In fact, 77 percent of nationwide CO emissions are from transportation. The other 23 percent of emissions are from wood-burning stoves, incinerators, and industrial sources (USEPA, 2018). State and federal CO standards have been set for both 1-hour and 8-hour averaging times. The State 1-hour standard is 20 ppm by volume, and the federal 1-hour standard is 35 ppm. Both the State and federal standards are 9 ppm for the 8-hour averaging period.

CO enters the bloodstream through the lungs by combining with hemoglobin, a component of red blood cells, which normally carries oxygen to the red blood cells. CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include symptoms such as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (USEPA, 2018).

The highest CO concentrations generally are associated with the cold, stagnant weather conditions that occur in winter. In contrast to ozone, which tends to be a regional pollutant, CO tends to cause localized problems.

Nitrogen Dioxide

Nitrogen Dioxide (NO₂) is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO₂ are combustion devices, such as boilers, gas turbines, and reciprocating internal-combustion engines (mobile as well as stationary). Combustion devices emit primarily nitric oxide (NO), which reacts with oxygen in the atmosphere to form NO₂ (USEPA, 2018). The combined emissions of NO and NO₂ are referred to as NO_x, which is reported as equivalent NO₂. Since NO₂ is formed and depleted by reactions associated with photochemical smog (ozone), the NO₂ concentration in a particular geographical area may not be representative of the local NO_x emission sources.

Inhalation is the most common form of exposure to NO₂, with the principal site of toxicity being the lower respiratory tract. The severity of adverse health effects depends primarily on the concentration of NO₂ inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation, during or shortly after exposure. After approximately 4 to 12 hours of exposure, an individual may experience chemical pneumonitis or pulmonary edema, with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO₂ intoxication after acute exposure has been linked on occasion with prolonged respiratory impairment, including symptoms such as chronic bronchitis and decreased lung function.

Sulfur Dioxide

Sulfur dioxide is a colorless gas with a strong odor. It can damage materials through acid deposition. Sulfur dioxide (SO₂) is produced by stationary sources like coal and oil combustion, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with SO₂ exposure relate to the upper respiratory tract. SO₂ is a respiratory irritant, with constriction of the bronchioles occurring with inhalation of SO₂ at 5 ppm or more. On contact with the moist mucous membranes, SO₂ produces sulfurous acid, which is a direct irritant. Concentration rather than duration of the exposure is the most important determinant of respiratory effects. Exposure to high SO₂ concentrations may result in edema of the lungs or glottis and respiratory paralysis (USEPA, 2018).

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions historically have been mobile and industrial sources. Due to the phase-out of leaded gasoline, as discussed below, metal processing currently is the primary source of lead emissions. The highest levels of lead in the atmosphere generally are found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers.

Twenty years ago, mobile sources (e.g., motor vehicles using leaded fuel) were the main contributor to ambient lead concentrations in the air. In the early 1970s, the United States Environmental Protection Agency (USEPA) established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles

equipped with catalytic converters. USEPA banned the use of leaded gasoline in highway vehicles in December 1995 (USEPA, 2018).

Due to USEPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Transportation sources, primarily airplanes, now contribute to only 13 percent of lead emissions. A recent National Health and Nutrition Examination Survey reported a 78 percent decrease in the levels of lead in people's blood between 1976 and 1991. This dramatic decline can be attributed to the move from leaded to unleaded gasoline (USEPA, 2018).

Similarly, lead emissions and ambient lead concentrations have decreased dramatically in California over the past 25 years. The phase-out of lead in gasoline began during the 1970s, and subsequent California Air Resources Board (CARB) regulations have eliminated virtually all lead from gasoline now sold in California. All areas of the state currently are designated as attainment for state lead standard (USEPA does not designate areas for the national lead standard). Although the ambient lead standards are no longer violated, lead emissions from stationary sources still pose "hot spot" problems in some areas. Therefore, CARB has identified lead as a toxic air contaminant (TAC).

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer or serious illness) and include, but are not limited to, the criteria air pollutants listed above. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to that for criteria air pollutants that have established ambient air quality standards. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an ambient air quality standard or emission-based threshold.

Diesel exhaust is the predominant TAC in urban air with the potential to cause cancer. It is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the CARB, diesel exhaust is a complex mixture of gases, vapors, and fine particles. This makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens under the State's Proposition 65 or under the federal Hazardous Air Pollutants programs. California has adopted a comprehensive diesel risk reduction program. The CARB recently adopted new regulations requiring the retrofit and/or replacement of construction equipment, on-highway diesel trucks,

and diesel buses in order to lower PM_{2.5} emissions and reduce statewide cancer risk from diesel exhaust.

Sensitive Receptors

Sensitive receptors (e.g. children, senior citizens, and acutely or chronically ill people) are more susceptible to the effect of air pollution than the general population. Land uses that are considered sensitive receptors typically include residences, schools, parks, childcare centers, hospitals, convalescent homes, and retirement homes. Residential areas are considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Sensitive receptors near the residential development site primarily include residential uses to the north, east, and south, Bloomfield Elementary School approximately one-quarter mile to the southwest, and Westwood Manor Park directly east across Janes Creek.

Odors

Odors generally are regarded as a nuisance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., anger or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, or headache).

The ability to detect odors varies considerably among the population and the odor interpretation is subjective. Some individuals have the ability to smell small quantities of specific substances. Others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor. An odor that is offensive to one person (e.g., from a fast food restaurant) may be perfectly acceptable to another. Unfamiliar odors are detected more easily than familiar odors and are more likely to be offensive.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the intensity of the odor weakens and eventually becomes so low that detection or recognition of the odor is difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average person (Siskiyou County, 2017).

Odors currently present on a periodic basis in the project area are generated from agricultural operations (e.g., grazing and crop production) to the west and south of the residential development site.

REGULATORY FRAMEWORK

The federal Clean Air Act of 1977 (CAA) governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act. At the federal level, the U.S. Environmental Protection Agency (EPA) administers the CAA. The California Clean Air Act is administered by the California Air Resources Board (CARB) and by the Air Quality Management Districts at the regional and local levels.

Two types of standards regulate air pollution: emission standards and ambient air quality standards. Emission standards establish the levels of air pollutants that a particular source is allowed to release into the air. Ambient air quality standards establish the maximum allowable concentration of air pollutants within an area, such as a city or county. The federal government currently sets ambient air quality standards for six pollutants and CARB sets ambient air quality standards for ten pollutants. Pollutants for which there are ambient air quality standards are known as criteria pollutants.

Federal

Clean Air Act

The U.S. EPA is responsible for enforcing the federal Clean Air Act (CAA). The U.S. EPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). The NAAQS are required under the CAA and subsequent amendments. The U.S. EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The U.S. EPA has jurisdiction over emission sources outside State waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California (automobiles sold in California must meet the stricter emission standards established by the CARB).

State of California

California Clean Air Act

In California, the CARB, which is part of the California Environmental Protection Agency, is responsible for meeting the State requirements of the federal CAA, administering the California Clean Air Act, and establishing the California Ambient Air Quality Standards (CAAQS). The California Clean Air Act, as amended in 1992, requires all 35 air districts in the state to endeavor to achieve and maintain the CAAQS. The CARB regulates mobile air pollution sources, such as motor vehicles. It is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. The CARB established passenger vehicle fuel specifications, which became effective in March, 1996.

It oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

Regional

North Coast Unified Air Quality Management District

The North Coast Unified Air Quality Management District (Air District), one of 35 air districts in California, has jurisdiction over Humboldt, Del Norte, and Trinity counties. The Air District's primary responsibility is for controlling air pollution from stationary sources and is committed to achieving and maintaining healthful air quality throughout the tri-county jurisdiction. The Air District has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits, impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The Air District monitors air quality, enforces local, State and federal air quality regulations for counties within its jurisdiction, inventories and assesses the health risks of TACs, and adopts rules that limit pollution.

As noted previously, the Air District is listed as "*attainment*" or "*unclassified*" for all the federal and State ambient air quality standards except for the state 24-hour particulate (PM₁₀) standard. In 1995, the Air District provided a study to identify the contributors of PM₁₀ which is summarized in the Particulate Matter PM₁₀ Attainment Plan Draft Report (1995). This report includes a description of the planning area (North Coast Unified Air District), an emissions inventory, general attainment goals, and a listing of cost-effective control strategies. The NCUAQMD's Attainment Plan established goals to reduce PM₁₀ emissions and eliminate the number of days in which standards are exceeded. The Plan includes three areas of recommended control strategies to meet these goals: transportation, land use, and burning. Control measures for these areas are included in the Attainment Plan and have also been incorporated as policies in the Arcata General Plan.

In determining whether a project has significant impacts on the environment from criteria air pollutants, the local air district's thresholds of significance are typically applied to projects in the review process. However, the NCUAQMD has not adopted a numerical threshold for determining the significance of criteria air pollutants. Since the NCUAQMD has not adopted significance thresholds, there are no thresholds for criteria air pollutants applicable to the proposed project. However, for the purpose of assessing air quality impacts in CEQA documents, the NCUAQMD recommends the use of thresholds and guidance adopted by other air districts in the State. It is noted that Mendocino County Air Quality Management District (MCAQMD), the adjoining air district to the south of NCUAQMD, has adopted CEQA thresholds for criteria air pollutants to evaluate new development projects. As described under Finding 2.7.2 below, for the purposes of the analysis in this section, the project's estimated emissions during construction and operation are compared to the thresholds adopted by the MCAQMD.

City of Arcata

Arcata General Plan

The City of Arcata General Plan addresses air quality in its Air Quality Element. The City's Air Quality Element has specific Goals and related Policies that address reducing stationary and mobile sources of air pollutants. Table 2.7-4 contains a list of policies from the Arcata General Plan that are applicable to the proposed project.

Table 2.7-4 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|---------------------------------------|---|--------------------------------|
| AQ-1 Point and Area Sources | Improve air quality by reducing emissions from stationary point sources of air pollution (e.g., wood burning fireplaces and gas-powered lawn mowers) which cumulatively emit large quantities of emissions. | AQ-1b and AQ-1d |
| AQ-2 Mobile Sources of Air Pollutants | Improve air quality by reducing emissions from transportation sources, particularly motor vehicles, and other mobile sources. Reduce vehicle miles of travel and encourage shifts to alternative modes of travel. | AQ-2b, AQ-2c, AQ-2d, and AQ-2f |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if the project would result in any of the following effects:

- Conflict with or obstruct implementation of applicable air quality plans;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people.

Arcata General Plan

Table 2.7-5 Project Consistency with General Plan

| Policy | Consistency Analysis |
|---|--|
| <p>AQ-1 Point and Area Sources (AQ-1b and d)</p> | <p>AQ-1b. The project proposes forced-air gas or electric heating instead of fireplaces/wood stoves which will reduce stationary source emissions during operation of the project. As required by State regulations and the City of Arcata’s building code, the design and construction of the proposed residential units would be in accordance with the California’s Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of The California Code of Regulations). In addition, the proposed project would be subject to Ordinance No. 1507 (Residential Reach Code) that requires new residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by a minimum of 20 percent.</p> <p>AQ-1d. The proposed project was analyzed using the California Emissions Estimator Model (CalEEMod) (Appendix E). Since the North Coast Unified Air Quality Management District (NCUAQMD) has not adopted significance thresholds for residential projects, there are no thresholds for criteria air pollutants applicable to the proposed project. For the purposes of the analysis in this section, the significance thresholds of the Mendocino County Air Quality Management District (MCAQMD) are used. As discussed in the analysis below, the proposed project does not exceed any of the MCAQMD significance thresholds for criteria pollutants during construction or operation.</p> |
| <p>AQ-2 Mobile Sources of Air Pollutants (AQ-2b through AQ-2d, and AQ-2f)</p> | <p>AQ-2b. Consistent with this policy, the project will provide several pedestrian and bicycle improvements that will provide access to the adjacent trails systems in the City and transit facilities on Alliance Road. These measures will encourage alternative modes of transportation and assist in the reduction of vehicle miles traveled and associated air pollutants.</p> <p>AQ-2c. Consistent with this policy, the proposed project will pay a fair-share contribution for the transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1) which will minimize delay and congestion at nearby intersections and roadway segments.</p> <p>AQ-2d. Consistent with this policy, the proposed project will pay a fair-share contribution for the transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1) which will minimize bottlenecks and traffic flow impairments on the highest traveled roadways in the City.</p> <p>AQ-2f. The City of Arcata will require the control measures contained in this policy as a condition of approval to reduce impacts to sensitive receptors from emissions during construction of the project.</p> |

Proposed Project

Finding 2.7.1: Conflict with or Obstruct Implementation of Applicable Air Quality Plans.

Discussion:

The project parcels are located within the North Coast Air Basin which encompasses approximately 7,767 square miles. Air quality in Del Norte, Humboldt, and Trinity counties is regulated by the North Coast Unified Air Quality Management District (NCUAQMD). The Air District's primary responsibility is to achieve and maintain federal and State air quality standards, subject to the powers and duties of the California Air Resources Board (CARB).

The Air District is currently listed as being in “*attainment*” or is “*unclassified*” for all Federal health protective standards for air pollution (ambient air quality standards). However, under State ambient air quality standards, the Air District has been designated “*nonattainment*” for particulate matter less than ten microns in size (PM₁₀) (NCUAQMD Website, 2016). PM₁₀ air emissions include chemical emissions and other inhalable particulate matter with an aerodynamic diameter of less than 10 microns. PM₁₀ emissions include, but are not limited to, smoke from wood stoves, dust from traffic on unpaved roads, vehicular exhaust emissions, and airborne salts and other particulate matter naturally generated by ocean surf.

A potentially significant impact to air quality would occur if the project would conflict with or obstruct the implementation of the applicable air management or attainment quality plan. Although the proposed project would represent an incremental increase in air emissions in the Air District, of primary concern is that project-related impacts have been properly anticipated in the regional air quality planning process and reduced whenever feasible. Therefore, it is necessary to assess the project's consistency with the applicable district air quality management or attainment plan(s).

The California Clean Air Act (CCAA) requires the Air District to achieve and maintain state ambient air quality standards for PM₁₀ by the earliest practicable date. The Air District prepared a Particulate Matter Attainment Plan, Draft Report, in May 1995. This report includes a description of the planning area (North Coast Unified Air District), an emissions inventory, general attainment goals, and a listing of cost-effective control strategies. The Air District's Attainment Plan established goals to reduce PM₁₀ emissions and eliminate the number of days in which standards are exceeded. The plan includes three areas of recommended control strategies to meet these goals: transportation, land use, and burning. Control measures for these areas are included in the Attainment Plan and have also been incorporated as policies in the Arcata General Plan. The project design incorporates control measures identified in the PM₁₀ Attainment Plan appropriate to this type of project, such as:

Transportation. The project proposes to contribute a fair-share contribution towards the applicable traffic flow improvements recommended in the W-Trans Traffic Study (Appendix T.1), or as recommended by the City of Arcata, which will improve traffic flow conditions and

minimize the amount of vehicular related exhaust emissions, including the emissions of particulate matter.

Land Use. The residential development site is located on the western boundary of the City of Arcata adjacent to existing residential neighborhoods and within walking and biking distance of Humboldt State University (~1 mile) and the City of Arcata Plaza and Downtown area (~1 mile). The project is also within walking and biking distance from the Westwood neighborhood commercial center (~1/3 mile) to the north. The close proximity of the site to existing educational, commercial, and employment centers will encourage the use of alternative modes of transportation by future residents which will reduce vehicle miles traveled and the emissions of particulate matter.

Burning. The proposed residential units and assisted living facility will use forced-air gas or electric heating instead of woodstoves or fireplaces, which will significantly reduce PM₁₀ emissions generated from heating during the long-term operation of the project.

The Air District's Regulation 1 prohibits nuisance dust generation, such as that generated by construction activity. The City's standard condition for controlling dust emissions during construction (General Plan Policy AQ-2f [Control Measures 1-10], Pgs. 4-47 and 4-48) will be included as a condition of approval by the City of Arcata for the proposed project. Compliance with the requirements in General Plan Policy AQ-2f will minimize dust generation during construction activity and provide greater consistency with the Attainment Plan.

Therefore, the proposed project as designed would not conflict with or obstruct implementation of applicable air quality plans.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.7.2: Violate any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation.

Discussion:

The proposed development of parcel 505-161-011 will generally consist of 32 single-family residential units and 32 accessory dwelling units, an assisted living and memory care facility with 100 units, and 25 senior-restricted neighborhood cottage units.

The project is located in North Coast Air Basin and is subject to the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD). In determining whether a project has significant air quality impacts on the environment, planners typically apply their local air district's thresholds of significance to projects in the environmental review process. However, the NCUAQMD District has not formally adopted significance thresholds. Since the

NCUAQMD has not adopted significance thresholds, there are no thresholds for criteria air pollutants applicable to the proposed project. However, for the purpose of assessing air quality impacts in CEQA documents, the NCUAQMD recommends the use of thresholds adopted by other air districts in the State.

In the North Coast Air Basin, the closest air district to the proposed project that has adopted significance thresholds is the Mendocino Air Quality Management District (MCAQMD). The MCAQMD borders Humboldt County to the south and has similar air quality characteristics. For example, similar to Humboldt County, the MCAQMD is in attainment for all federal and State air quality standards with the exception of the State standard for particulate matter less than 10 microns in size (PM₁₀) (MCAQMD, 2005). The MCAQMD significance thresholds for criteria pollutants are shown below in Table 2.7-6. For the purposes of the analysis in this section, the project’s estimated emissions during construction and operation are compared to the thresholds adopted by the MCAQMD. As such, if the emissions from the project exceed any of the indicated significance thresholds, then the project would be considered to violate an air quality standard or contribute to an existing or projected air quality violation.

Table 2.7-6 MCAQMD Air Quality Significance Thresholds

| Pollutant | Construction Related | Operational Related | |
|--|---|--|--|
| | | Indirect Average Daily Emissions (lb/day) | Stationary Maximum Annual Emissions (tpy) |
| Criteria Pollutants and Precursors (Regional) | Average Daily Emissions (lb/day) | Indirect Average Daily Emissions (lb/day) | Stationary Maximum Annual Emissions (tpy) |
| ROG | 54 | 180 | 40 |
| NO _x | 54 | 42 | 40 |
| PM ₁₀ | 82 | 82 | 15 |
| PM _{2.5} | 54 | 54 | 10 |
| Fugitive Dust – PM ₁₀ /PM _{2.5} | Best Management Practices | Same as Above | |
| CO | None | 125 tpy | |

Source: MCAQMD CEQA Air Quality Significance Thresholds (MCAQMD, 2010 and 2013)

As with any new development project, the proposed project has the potential to generate pollutant concentrations during both construction activities and long-term operation. Both construction and operational emissions for the proposed project were estimated using the California Emissions Estimator Model (CalEEMod) (Appendix E) which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model can be used for a variety of situations where an air quality analysis is necessary or desirable, such as California Environmental Quality Act (CEQA) documents, and is recommended for use by the NCUAQMD on their website under the section entitled “*Air Quality Planning & CEQA*” (www.ncuaqmd.org). The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers (ITE) Manual, vehicle mix, trip length, average speed, etc. However, where project-specific data is available, such data should be input into the model.

The results of the proposed project’s emissions estimations were compared to the thresholds of significance established by the MCAQMD in order to determine the associated level of impact. All CalEEMod modeling results are included as Appendix E of the EIR.

Construction

Construction activities associated with the proposed project will result in emissions of ROG, NOx, CO, SOx, PM10, and PM2.5. The applicant generally estimates that the project will occur in several phases over approximately 6 years and would be fully operational in approximately 2025. However, the amount of time it will take for construction of the entire development will be dependent on market conditions, and it is not actually known how long construction activities will occur. For the purposes of calculating construction emissions, it is conservatively assumed that all phases of the development would be constructed over a 26-month period from May 2019 to July 2021. This assumption provides a worst-case scenario for annual construction emissions. Construction-related emissions are expected from the following construction activities:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Trenching
- Paving
- Architectural Coatings (Painting)

The assumptions for equipment use and duration used to estimate air quality emissions are shown in Table 2.7-7.

Table 2.7-7 Construction Equipment by Phase

| Phase | Days | Equipment |
|-----------------------|-------------|--|
| Demolition | 20 days | 1 concrete/industrial saw (8 hrs/day) 3 excavators (8 hrs/day) 2 rubber tired dozers (8 hrs/day) |
| Site Preparation | 20 days | 4 tractor/loader/backhoes (8 hrs/day) 3 rubber tire dozers (8 hrs/day) |
| Grading | 70 days | 2 excavators (8 hrs/day) 1 grader (8 hrs/day) 1 rubber tire dozer (8 hrs/day) 2 scrapers (8 hrs/day) 2 tractor/loader/backhoes (8 hrs/day) |
| Building Construction | 370 days | 1 crane (7 hrs/day) 3 forklifts (8 hrs/day) 1 generator set (8 hrs/day) 3 tractor/loader/backhoes (7 hrs/day) 1 welder (8 hrs/day) |

| Phase | Days | Equipment |
|------------------------|---------|---|
| Trenching | 20 days | 1 tractor/loader/backhoes (8 hrs/day) 1 excavator (8 hrs/day) |
| Paving | 40 days | 2 pavers (8 hrs/day) 2 rollers (8 hrs/day) 2 paving equipment (8 hrs/day) |
| Architectural Coatings | 30 days | 1 air compressor (6 hrs/day) |

Source: California Emissions Estimator Model (Appendix E) and project plans

Table 2.7-8 shows the MCAQMD significance thresholds for construction emissions compared to the proposed project’s unmitigated average daily emissions.

Table 2.7-8 Unmitigated Average Daily Construction Emissions

| Construction Year | Unmitigated Average Daily Emissions (lb/day) ² | | | | | |
|---|---|-----------------|------|-----------------|------------------|-------------------|
| | ROG | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| 2019 | 4.31 | 44.5 | 29.3 | 0.06 | 7.84 | 4.51 |
| 2020 | 3.16 | 22.7 | 24.4 | 0.04 | 2.15 | 1.34 |
| 2021 | 36.8 | 11.3 | 13.4 | 0.02 | 0.96 | 0.63 |
| Highest Emissions in Any Year | 36.8 | 44.5 | 29.3 | 0.06 | 7.84 | 4.51 |
| Significance Threshold¹ | 54 | 54 | NA | NA | 82 | 54 |
| Exceeds Significance Threshold? | No | No | NA | NA | No | No |

Source: MCAQMD (2010), California Emissions Estimator Model (Appendix E), and Project Plans

Notes:

1. The MCAQMD recommends that for construction projects that are less than one year duration, Lead Agencies should annualize impacts over the scope of actual days that peak impacts are to occur, rather than the full year (MCAQMD, 2010).
2. Average Daily Emissions calculated using the following equation: *Average Daily Emissions = Total Annual Emissions from CalEEMod modeling results in tons per year (tpy) x 2,000 lbs/ton / Estimated Number of Work Days Per Year from Construction Schedule*. It is estimated that each year will have the following number of work days: 2019 = 176 work days, 2020 = 264 work days, and 2021 = 137 work days. This is based on an assumed 22 work days per month.

As shown in Table 2.7-8, construction related emissions would not exceed any of the MCAQMD construction significance thresholds. As such, the proposed project would not emit substantial concentrations of these pollutants during construction activities and would not contribute to an existing or projected air quality violation, on a direct or cumulative basis.

During the proposed construction activity, there is the potential for dust to be generated that could impact nearby sensitive receptors (e.g., residential uses). The NCUAQMD’s Regulation 1 prohibits nuisance dust generation, such as that generated by construction activity. The City’s standard condition for controlling dust emissions during construction (General Plan Policy AQ-2f [Control Measures 1-10], Pgs. 4-47 and 4-48) will be included by the City of Arcata as a condition of approval for the proposed project. The construction contractor shall be required to adhere to the following control measures from General Plan Policy AQ-2f to reduce dust emissions:

- 1) Water all active construction areas twice per day and use erosion control measures to prevent water runoff containing silt and debris from entering the storm drain system.
- 2) Cover trucks hauling soil, sand, and other loose material.
- 3) Pave, water, or apply non-toxic soil stabilizers on unpaved access roads and parking areas.
- 4) Sweep paved access roads and parking areas daily.
- 5) Sweep streets daily if visible material is carried onto adjacent public streets.
- 6) Hydroseed or apply non-toxic soil stabilizers to inactive construction areas.
- 7) Enclose, cover, water, or apply non-toxic soil binders to open materials stockpiles.
- 8) Limit traffic speeds to 15 mph on unpaved access roads.
- 9) Install erosion control measures to prevent silt runoff onto public roadways.
- 10) Replant vegetation in disturbed areas within 30 days after project completion.

Compliance with the requirements in General Plan Policy AQ-2f will minimize dust generation during construction activity and ensure that the project does not violate the NCUAQMD's and City's regulations concerning nuisance dust generation.

Operation

The proposed project would be operated as a residential community with single-family residential units, an assisted living facility, and senior-restricted neighborhood cottage units. Typical operation of a residential community with an assisted living facility would include residents, employees, and visitors traveling to and from the proposed residences and assisted living facility, and general maintenance activities. Tables 2.7-9 and 2.7-10 show the MCAQMD significance thresholds for operational emissions compared to the proposed project's unmitigated maximum annual emissions for stationary sources and unmitigated average daily emissions for indirect sources.

Table 2.7-9 Unmitigated Stationary Operational Emissions

| Stationary Emissions Source | Unmitigated Maximum Annual Emissions (tpy) ¹ | | | | | |
|--|---|-----------------|------|-----------------|------------------|-------------------|
| | ROG | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Area Source | 12.8 | 0.25 | 16.0 | 0.03 | 2.06 | 2.06 |
| Significance Threshold | 40 | 40 | 125 | NA | 15 | 10 |
| Exceeds Significance Threshold? | No | No | No | NA | No | No |

Source: MCAQMD (2010 and 2013), California Emissions Estimator Model (Appendix E), and Project Plans

Notes:

1. Maximum Annual Emissions in tons per year (tpy) from CalEEMod modeling results.

Table 2.7-10 Unmitigated Indirect Operational Emissions

| Indirect Emissions Source | Unmitigated Average Daily Emissions (lb/day) ^{1,2} | | | | | |
|--|---|-----------------|-------------------|-----------------|------------------|-------------------|
| | ROG | NO _x | CO | SO _x | PM ₁₀ | PM _{2.5} |
| Energy Use | 0.05 | 0.40 | 0.03 ³ | 2.58e3 | 0.03 | 0.03 |
| Mobile Source | 2.98 | 16.8 | 6.41 ³ | 0.08 | 5.61 | 1.59 |
| Total | 3.03 | 17.2 | 6.44 ³ | 0.08 | 5.64 | 1.62 |
| Significance Threshold | 180 | 42 | 125 ³ | NA | 82 | 54 |
| Exceeds Significance Threshold? | No | No | No | NA | No | No |

Source: MCAQMD (2010 and 2013), California Emissions Estimator Model (Appendix E), and Project Plans
Notes:

1. Average Daily Emissions calculated using the following equation: *Average Daily Emissions = Total Annual Emissions from CalEEMod modeling results in tons per year x 2,000 lbs/ton / 365 days per year.*
2. Table results include scientific notation. E is used to represent times ten raised to the power of (which would be written as x10b11) and is followed by the value of the exponent.
3. The threshold of significance for CO is 125 tons per year (tpy) for both indirect and stationary emissions sources. As such, the emissions results for CO are shown above in tpy and compared to the 125 tpy threshold.

As shown in Tables 2.7-9 and 2.7-10, operational-related emissions would not exceed MCAQMD operational significance thresholds. As such, the proposed project would not emit substantial concentrations of these pollutants during long-term operation and would not contribute to an existing or projected air quality violation, on a direct or cumulative basis.

Carbon monoxide (CO) hot spots are typically associated with idling vehicles at extremely busy intersections (i.e. intersection with an excess of 100,000 vehicle trips per day). There are no intersections in the City of Arcata or general project area which exceed the 100,000 vehicle per day threshold typically associated with CO hot spots. In addition, the NCUAQMD is currently in attainment for carbon monoxide (CO). As such, project related vehicular emissions would not create a hot spot and would not substantially contribute to an existing or projected CO hot spot.

With the proposed conditions of approval, the project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.7.3: Result in a Cumulatively Considerable Net Increase of any Criteria Pollutant for which the Project Region is Non-Attainment under an Applicable Federal or State Ambient Air Quality Standard (Including Releasing Emissions Which Exceed Quantitative Thresholds for Ozone Precursors).

Discussion:

The North Coast Unified Air Quality Management District (NCUAQMD) is currently listed as being in “attainment” or is “unclassified” for all federal health protective standards for air pollution (ambient air quality standards). However, under State ambient air quality standards, the Air District has been designated “nonattainment” for particulate matter less than ten microns in size (PM₁₀) (NCUAQMD Website, 2018).

Any project with daily emissions that exceeds the threshold of significance for PM₁₀ should be considered as having an individually and cumulatively significant air quality impact. Conversely, projects that are below the threshold of significance for PM₁₀ would have a less than significant impact on both a direct and cumulative basis. As indicated by the air quality impact analysis in this section under Finding 2.7.2, short-term construction activities and long-term operation of the proposed project would not exceed the threshold of significance for PM₁₀.

In addition, the City’s standard condition for controlling dust emissions during construction (General Plan Policy AQ-2f [Control Measures 1-10], Pgs. 4-47 and 4-48) will be included as a condition of approval by the City of Arcata for the proposed project. Compliance with the requirements in General Plan Policy AQ-2f will minimize nuisance dust generation during construction activity and provide greater consistency with the NCUAQMD’s Particulate Matter Attainment Plan (Draft Report, May 1995).

Therefore, the proposed project will not result in a cumulatively considerable net increase of any criteria pollutant for which the NCUAQMD is non-attainment under an applicable federal or State ambient air quality standard.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.7.4: Expose Sensitive Receptors to Substantial Pollutant Concentrations.

Discussion:

This discussion addresses whether the proposed project would expose sensitive receptors to asbestos, fugitive dust (PM₁₀ and PM_{2.5}) from construction activity, diesel particulate matter (DPM) from construction equipment, operational-related toxic air contaminants (TACs), or operational CO hotspots.

As noted in the Environmental Setting, high concentrations of criteria air pollutants and toxic air contaminants can result in adverse health effects to humans. Some population groups are considered more sensitive to air pollution than others; in particular, children, elderly, and acutely or chronically ill persons, especially those with cardio-respiratory diseases such as asthma and bronchitis. Land uses that generally house more sensitive people include residences, schools, parks, childcare centers, hospitals, convalescent homes, and retirement homes. As a residential development, the project itself is a sensitive receptor. Additional sensitive receptors near the residential development site primarily include residential uses to the north (single-family units), east (single- and multi-family units), and south (single-family units), Bloomfield Elementary School approximately one-quarter mile to the southwest, and Westwood Manor Park on the east side of Janes Creek.

The NCUAQMD has not adopted guidance for health risk assessments or health risk significance thresholds. Since the NCUAQMD has not adopted health risk guidance or thresholds, there are none applicable to the proposed project. On the NCUAQMD's website (www.ncuaqmd.org), the District recommends the use of the California Air Pollution Control Officers Association (CAPCOA) guidance document entitled "Health Risk Assessment for Proposed Land Use Projects" to assist lead agencies with the requirements of CEQA when projects may involve exposure to toxic air contaminants. The document primarily focuses on addressing long-term public health risk impacts from and to proposed land use projects. The document does not provide guidance on how risk assessments for construction projects should be addressed in CEQA (CAPCO, 2009).

Air quality issues occur when sources of air pollutants and sensitive receptors are located near one another. As discussed in the CAPCOA guidance document (2009, Pg. 4), there are basically two types of land use projects that have the potential to cause long-term public health risk impacts:

- Land use projects with toxic emissions that impact receptors. Examples of these types of projects include combustion related power plants, gasoline dispensing facilities, asphalt batch plants, warehouse distribution centers, and quarry operations.
- Land use projects that will place receptors in the vicinity of existing toxic sources. This would occur when residential, commercial, or institutional developments are proposed to be located in the vicinity of existing toxic emission sources such as stationary sources, high traffic roads, freeways, rail yards, and ports.

The following analysis evaluates whether the project would result in construction or operational-related impacts to sensitive receptors.

Construction

Asbestos. The U.S. Geological Survey (USGS, 2011) has published mapping identifying areas that are known to contain naturally occurring asbestos (NOA). The mapping indicates that there are several locations within Humboldt County that are known to contain NOA. The project site is located on a coastal alluvial plain in the Arcata Bottom area and is not identified as being in close proximity to areas that contain NOA. The closest areas containing NOA are located in

inland areas of the County over 10 miles to the east of the project site (USGS, 2011). As such, the residential development site does not contain NOA that could be released during construction activities such as site preparation, grading, and trenching.

As discussed in Section 2.10 (Hazards and Hazardous Materials) of the EIR, the project proposes the demolition of remnant structures on the residential development site from the former lumber mill. This includes concrete and steel foundations and slabs, a concrete and steel ramp, utility infrastructure, fill materials, and a septic system. There are no remaining structures at the site that potentially contain asbestos materials that could be released during demolition activities.

Fugitive Dust. Fugitive dust has the potential to be generated during construction from activities including demolition, site preparation, grading, and trenching. Fugitive dust generated from construction activity can result in nuisances and localized health impacts. As indicated by the air quality impact analysis in this section under Finding 2.7.2, the proposed project would not exceed any of the thresholds of significance for PM₁₀ and PM_{2.5} due to the implementation of dust control measures (see Appendix E). As discussed above, the City's standard condition for controlling dust emissions during construction (General Plan Policy AQ-2f [Control Measures 1-10], Pgs. 4-47 and 4-48) will be included as a condition of approval by the City of Arcata for the proposed project. In addition to Control Measures 1-10, General Plan Policy AQ-2f also contains additional control measures for minimizing impacts to sensitive receptors from construction emissions. These measures include the following:

- 11) Install wheel washers for exiting trucks, or wash all equipment leaving site.
- 12) Install wind breaks, or plant trees/vegetation at windward sides of construction area, or avoid removing existing vegetation which acts as a wind break.
- 13) Suspend excavation and grading activity when winds exceed 25 mph.
- 14) Limit areas subject to excavation, grading, and other construction activities at any one time.

The City's standard condition for minimizing impacts to sensitive receptors from construction emissions (General Plan Policy AQ-2f [Control Measures 11-14], Pg. 4-48) will be included by the City of Arcata as a condition of approval for the proposed project. The Arcata General Plan PEIR (Pg. 5-32) concludes that Control Measures 11-14 in Air Quality Element Policy AQ-2f are similar to the most stringent adopted by other agencies in the State, and when implemented, would provide adequate protection to sensitive receptors.

DPM and PM_{2.5}. The use of diesel-powered equipment during construction activity would generate diesel particulate matter (DPM), which is a known carcinogen. The majority of heavy diesel equipment use during construction activity would occur during grading of the residential development site. As noted above, the applicant generally estimates that the project will occur in several phases over approximately 6 years and would be fully operational in approximately 2025. The anticipated phasing of the proposed project is shown in Table 2.7-11 (Anticipated Project Phasing).

Table 2.7-11 Anticipated Project Phasing

| Unit Type | Year 1 (2019) | Year 2 (2020) | Year 3 (2021) | Year 4 (2022) | Year 5 (2023) | Year 6 (2024) |
|---------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Single-Family Units | 0 | 11 | 11 | 10 | 0 | 0 |
| Accessory Dwelling Units | 0 | 0 | 11 | 11 | 10 | 0 |
| Senior-Restricted Cottage Units | 0 | 0 | 0 | 0 | 25 | 0 |
| Assisting Living Units | 0 | 0 | 0 | 0 | 75 | 25 |
| TOTAL UNITS | 0 | 11 | 22 | 21 | 110 | 25 |
| TOTAL CUMULATIVE UNITS | 0 | 11 | 33 | 54 | 164 | 189 |

As indicated by the air quality impact analysis in this section under Finding 2.7.2, the proposed project would not exceed any of the thresholds of significance for criteria pollutants during short-term construction activities. It should be noted that for the purposes of calculating construction emissions, it was conservatively assumed that all phases of the development would be constructed over a 26-month period from May 2019 to July 2021. This assumption provides a worst-case scenario for annual construction emissions. As such, the annual emissions of criteria air pollutants that would occur from construction of the project would be less than indicated in the CalEEMod modeling results since they would be spread out over a longer period of time.

Grading activities would occur for brief periods of time for each phase of the project. Residents and other sensitive receptors located within the vicinity of the project site would be exposed to construction contaminants only for the duration of construction for each phase of the project. These brief exposure periods would substantially limit exposure to hazardous emissions.

As discussed above, the City's standard conditions for dust control and minimizing impacts to sensitive receptors from construction emissions (General Plan Policy AQ-2f [Control Measures 1-14], Pgs. 4-47 and 4-48), will be included as a condition of approval by the City of Arcata for the proposed project. As noted above, the Arcata General Plan PEIR (Pg. 5-32) determined that these measures should adequately protect sensitive receptors.

Operation

The project consists of a residential development that would provide housing for 269 residents, which is considered a sensitive receptor. When siting a new receptor, the existing or future proposed sources of TACs and PM_{2.5} emissions that would adversely affect individuals within the project site should be examined, which includes:

- The extent to which existing sources would increase risk levels, hazard index, and/or PM_{2.5} concentrations near the planned receptor.
- Whether the existing sources are permitted or non-permitted by the NCUAQMD.
- Whether there are freeways or major roadways near the planned receptor.

It is typically recommended that lead agencies identify all TAC and PM_{2.5} sources located within a 1,000-foot radius of a project. The CAPCOA guidance document (2009, Pg. 9, Table 2) provides recommended buffer distances for various types of sources. For most sources it is recommended to avoid siting new sensitive land uses within 1,000 feet. For freeways and high

traffic roads, it is recommended to avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.

Below is a summary of the sources of TAC and PM_{2.5} near the project site:

- There are no stationary sources within the recommended 1,000-foot buffer for the project site.
- The project site is located over 3,000 feet from Highway 101, which is outside the recommended 500-foot buffer for the project site.
- The project site is located over 4,500 feet from Highway 255, which is outside the recommended 500-foot buffer for the project site.
- The project site is located over 5,500 feet from Highway 299, which is outside the recommended 500-foot buffer for the project site.
- The project site is not located within 500 feet of an urban road with 100,000 vehicles/day or a rural road with 50,000 vehicles/day. In the Arcata General Plan Transportation Element, there is a projection of traffic volumes from the planned buildout (Pg. 2-46, Figure T-c). Alliance Road, which is approximately 500 feet east of the project site, is projected to have the highest traffic volume of any roadway within 1,000 feet of the project site. The projection estimates a traffic volume of 13,400 vehicles/day for Alliance Road, which is well below the recommended thresholds.

Residents within the proposed development would also have the potential to be affected by activities at the adjacent agricultural operations. The nearby grazing operations have the potential to emit fugitive dust and the Sun Valley Floral Farms operation has the potential to emit pesticide VOC emissions. These emissions have the potential to be blown by wind into the project site, affecting the health of the residents. As shown on Figure 1G (Site Plan), perimeter landscaping (trees and shrubs) is proposed on the western boundary of the site. The proposed landscaping will serve as a windbreak, which would minimize the potential transport of fugitive dust towards the residential development site from adjacent grazing operations. The Sun Valley Floral Farms operation is located over 1,000 feet to the west of the project site and is separated by existing trees and other vegetation. Approximately 1,200 feet to the west of the project site, there is a large row of trees along the eastern boundary of the Sun Valley Floral Farms site. This existing vegetation would serve as a windbreak, which would minimize the potential for pesticide drift towards the residential development site. In addition, pesticide use by this operation is heavily regulated by both State and federal agencies. The operation would be subject to agency rules and is required to use pesticides authorized by the California Department of Pesticide Regulation (DPR). The pesticides must also be registered by both the USEPA and the State before use. Because pesticides can drift, applicators are legally required by DPR to implement all possible measures to ensure that any offsite movement does not reach a level that could harm people or the environment. Therefore, application of the pesticides would be in conformance with State regulations that serve to protect human health.

General Plan Policy LU-6b (*Compatibility between agricultural and adjacent non-agricultural uses*) requires that potential impacts of agricultural practices be disclosed to future residents of

adjacent non-agricultural land and for buffers to be established between the new non-agricultural uses and the existing agricultural uses. The disclosure requirement of Policy LU-6b will be required by the City of Arcata as a condition of approval for the proposed project. The main access road on the residential development site and landscaping (trees and shrubs) will be located on the western boundary of the site and will serve as a buffer and windbreak between the proposed residential uses and the adjacent agricultural operations. This setback is similar to the existing setbacks for residential uses on Stewart Avenue and Wyatt Lane, and other parts of the City located on the edge of the Arcata Bottom area.

The residential development site is located on a former lumber mill site that has undergone extensive hazardous materials investigation and remediation. As described in Section 2.10 (Hazards and Hazardous Materials) of the EIR, due to remaining hydrocarbon contamination on the residential development site (APN 505-161-011), additional site investigation and soils remediation will need to occur as part of the construction phase for the proposed project. Prior to the development of parcel 505-161-011 for residential uses, the site will be required to be cleaned up to the satisfaction of regulatory agencies, which will ensure that future residents are not significantly impacted by residual hazardous materials contamination.

Based on the above discussion and the proposed conditions of approval, the proposed project will not expose sensitive receptors to substantial pollutant concentrations.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.7.5: Create Objectionable Odors Affecting a Substantial Number of People.

Discussion:

The proposed project is a residential development that includes single-family housing, an assisted living facility, and senior-restricted neighborhood cottage units.

Construction

During construction, there is the potential for the generation of objectionable odors in the form of diesel exhaust and volatile organic compounds (from architectural coatings and paint) in the immediate vicinity of the project parcels. However, these emissions will disperse rapidly from the project site and, thus, should not reach an objectionable level at the nearest sensitive receptors.

Operation

Residential development is not a type of land use that would generate objectionable odors during long-term operation. In addition, the residential development site is not located within close

proximity (< 0.5 miles) to any land uses generating significant odors such as a wastewater treatment plant, landfill, feedlot, asphalt batch plant, fish processing plant, or rendering plant.

However, the adjacent agricultural operations have the potential to generate odors that could be objectionable to future residents. Arcata General Plan Policy LU-6b (*Compatibility between agricultural and adjacent non-agricultural uses*) requires that potential impacts of agricultural practices be disclosed to future residents of adjacent non-agricultural land and for buffers to be established between the new non-agricultural uses and the existing agricultural uses. The disclosure requirement of Policy LU-6b will be required by the City of Arcata as a condition of approval for the proposed project. The main access road on the residential development site and landscaping (trees and shrubs) will be located on the western boundary of the site and will serve as a buffer and windbreak between the proposed residential uses and the adjacent agricultural operations. This setback is similar to the existing setbacks for residential uses on Stewart Avenue and Wyatt Lane, and other parts of the City located on the edge of the Arcata Bottom area.

Therefore, the proposed project will not create objectionable odors affecting a substantial number of people.

Determination:

Less than significant impact.

Mitigation:

None required.

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Section 2.8

GREENHOUSE GAS EMISSIONS

This section evaluates the potential impacts related to greenhouse gas (GHG) emissions during construction and operation of the project. To provide the basis for this evaluation, the Environmental Setting section describes the existing setting with regard to GHG emissions for the project area and the Regulatory Framework section describes the regulatory background that applies to the project. The Impact Analysis section establishes the thresholds of significance, evaluates GHG impacts, and identifies the significance of impacts. Where appropriate, mitigations are presented to reduce impacts to less than significant.

ENVIRONMENTAL SETTING

Climate and Meteorology

The proposed project is located in the western portion of Humboldt County, California, which is in the jurisdiction of the North Coast Air Basin. The coastal zone of Humboldt County experiences wet, cool winters, and dry, mild foggy summers. Coastal summer highs range from the mid-60s to 70s, with lows from the upper 40s to mid-50s. In the winter, highs range from the low 40s to high 50s, with lows in the 30s and 40s. The coastal zone experiences a number of frosty nights in winter and early spring, though snowfall and hard freezes are rare.

Global Climate Change – Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as greenhouse gases because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse. The accumulation of GHGs has been implicated as the driving force for global climate change. The primary GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), and water vapor (H₂O).

While GHGs in the atmosphere are naturally occurring, the emission rate of CO₂, CH₄ and N₂O has been accelerated by human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with such activities as agricultural practices and landfills. Other GHGs include hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride, which are generated during certain industrial processes. GHGs are typically reported in “carbon-dioxide-equivalent” measures (CO₂e).

There is international scientific consensus that human-caused increases in GHGs have contributed, and will continue to contribute, to climate change. Potential climate change impacts

in California may include, but are not limited to, a decrease in snowpack, sea level rise, and a greater number of extreme heat days per year, high ozone days, large forest fires, and drought years. Secondary effects are likely to include impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity.

The EPA reports U.S. GHG emissions for 2011 as 6,702 million metric tons (MMT) of CO₂e. Electricity production accounts for 33 percent, followed by the transportation sector at 28 percent and the industrial sector at 20 percent. Commercial and residential fuel use and the agricultural sector accounted for the remaining 19 percent (U.S. EPA, 2017).

The California Air Resources Board (CARB) estimated that in 2011 California produced about 448 MMT CO₂e. The transportation sector was the highest source at 38 percent of the State's total GHGs, followed by the industrial sector at 22 percent, and electricity generation (both in-state and out-of-state) at 19 percent. Commercial and residential fuel use, recycling and waste, high global warming potential, and agricultural sectors accounted for the remaining 21 percent of the State's total GHGs (CARB, 2013).

GHGs normally associated with the proposed project include the following (All Global Warming Potentials are given as 100-year GWP. Unless otherwise noted, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change [IPCC, 2007]):

- *Water Vapor (H₂O)*. Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively. The primary human-related source of water vapor comes from fuel combustion in motor vehicles; however, it does not contribute a significant amount (less than one percent) to atmospheric concentrations of water vapor. The Intergovernmental Panel on Climate Change (IPCC) has not determined a Global Warming Potential for water vapor.
- *Carbon Dioxide (CO₂)*. Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, CO₂ emissions from fossil fuel combustion increased by a total of 5.6 percent between 1990 and 2015 (US EPA, 2017). Carbon dioxide is the most widely emitted GHG and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other GHGs (IPCC, 2007).
- *Methane (CH₄)*. Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. The United States' top three methane sources are landfills, natural gas systems, and enteric fermentation. Methane is the primary component of natural gas, used for space and water heating, steam production, and power generation. The Global Warming Potential of methane is 25 (IPCC, 2007).
- *Nitrous Oxide (N₂O)*. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources include agricultural soil management, animal

manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. The Global Warming Potential of nitrous oxide is 298 (IPCC, 2007).

- Hydrofluorocarbons (HFCs). HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase-out of Chlorofluorocarbons (CFCs) and HFCs gains momentum. The 100-year Global Warming Potential of HFCs range from 124 for HFC-152 to 14,800 for HFC-23 (US EPA, 2017).
- Perfluorocarbons (PFCs). PFCs are compounds consisting of carbon and fluorine, and are primarily created as a byproduct of aluminum production and semiconductor manufacturing. Perfluorocarbons are potent GHGs with a Global Warming Potential several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years) (US EPA, 2018). The Global Warming Potential of PFCs range from 7,390 to 12,200 (US EPA, 2018).
- Sulfur hexafluoride (SF₆). SF₆ is a colorless, odorless, nontoxic, nonflammable gas. Sulfur hexafluoride is the most potent GHG that has been evaluated by the IPCC with a Global Warming Potential of 22,800 (US EPA, 2018). However, its global warming contribution is not as high as the Global Warming Potential would indicate due to its low mixing ratio compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm], respectively) (US EPA, 2018).

In addition to the six major GHGs discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric ozone (O₃) depletors; therefore, their gradual phase-out is currently in effect. The following is a listing of these compounds:

- Hydrochlorofluorocarbons (HCFCs). HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100-percent reduction to the cap by 2030. The 100-year Global Warming Potentials of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b (IPCC, 2007).
- 1,1,1 trichloroethane. 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The Global Warming Potential of methyl chloroform is 146 times that of carbon dioxide (IPCC, 2007).
- Chlorofluorocarbons (CFCs). CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the EPA's Final Rule (57 Federal Register [FR] 3374) for the phase-out of O₃ depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning

solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent GHGs with 100-year Global Warming Potentials ranging from 3,800 for CFC 11 to 14,400 for CFC 13 (IPCC, 2007).

REGULATORY FRAMEWORK

State of California

Assembly Bill 1493

Assembly Bill (AB) 1493, approved in 2002, 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 the CARB to be vehicles whose primary use is noncommercial personal transportation in the state.”

Assembly Bill 2188

AB 2188 (Expedited Solar Permitting Act), approved in 2014, modifies the existing Solar Rights Act and requires each city or county to adopt an ordinance that creates an expedited solar permitting ordinance by September 30, 2015.

Assembly Bill 3018

Assembly Bill 3018 (AB 3018) established the Green Collar Jobs Council under the California Workforce Investment Board. The Green Collar Jobs Council will develop a comprehensive approach to address California’s emerging workforce needs associated with the emerging green economy.

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. This order sets forth target dates by which statewide GHG emissions would be reduced. These include: 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.

Senate Bill 97

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is a prominent environmental issue requiring analysis under CEQA. This bill directed the Governor’s Office of

Planning and Research (OPR) to prepare, develop, and transmit to the California Natural Resources Agency, guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by 2009, and directed the Natural Resources Agency to certify or adopt those guidelines by January 2010. On December 30, 2009, the Natural Resources Agency adopted amendments to the State CEQA Guidelines, as required by SB 97. These State CEQA Guideline 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.

California Environmental Quality Act

As a result of revisions to the CEQA Guidelines that became effective in March 2010, lead agencies are obligated to determine whether a project's GHG emissions significantly affect the environment and to impose feasible mitigation to eliminate or substantially lessen any such significant effect (NCUAQMD, 2017).

Assembly Bill 32 and the California Climate Change Scoping Plan

Assembly Bill 32 Requirements

The primary legislation that has driven GHG regulation and analysis in California is the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599), which instructs CARB to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The act directed CARB to set a greenhouse gas emissions limit based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. The heart of the bill is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020.

Scoping Plan Provisions

Pursuant to AB 32, the CARB adopted a Climate Change Scoping Plan in December 2008 outlining measures to meet the 2020 GHG reduction goals. CARB's Scoping Plan contains the main strategies California will implement to reduce CO₂e emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MTCO₂e under a business as usual (BAU)¹ scenario. This is a reduction of 42 million MTCO₂eq, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020. On a per-capita basis, that means reducing annual emissions of 14 tons of carbon dioxide for every man, woman, and child in California down to about 10 tons per person by 2020.

CARB's Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was

¹ "Business as Usual" refers to emissions that would be expected to occur in the absence of GHG reductions. See <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. At the time CARB's Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The first update to the Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32.

The most recent update to the Climate Change Scoping Plan (November 2017) (2017 Scoping Plan) provides an update on the State's progress toward the 2020 GHG reduction target, and launches a path toward achieving California's 2030 GHG reduction target (i.e., 40 percent emissions reductions below 1990 level established by Senate Bill 32). The 2017 Scoping Plan also identifies how the State can reach the 2050 goal to reduce GHG emissions by 80 percent below 1990 levels (goal established by Executive Order S-3-05).

Cap-and-Trade Program

The Scoping Plan identifies cap-and-trade as a key strategy for helping California reduce its GHG emissions (CARB, 2008). A cap-and-trade program sets the total amount of GHG emissions allowable for facilities under the cap and allows covered sources, including producers and consumers of energy, to determine the least expensive strategies to comply. AB 32 required CARB to adopt the cap-and-trade regulation by January 1, 2011, and the program began in November 2012.

Carbon offset credits are created through the development of projects, such as renewable energy generation or carbon sequestration projects, that achieve the reduction of emissions from activities not otherwise regulated, covered under an emissions cap, or resulting from government incentives. Offsets are verified reductions of emissions whose ownership can be transferred to others. As required by AB 32, any reduction of GHG emissions used for compliance purposes must be real, permanent, quantifiable, verifiable, enforceable, and additional. Offsets used to meet regulatory requirements must be quantified according to the CARB-adopted methodologies, and CARB must adopt a regulation to verify and enforce the reductions. The criteria developed will ensure that the reductions are quantified accurately and are not double-counted within the system (CARB, 2008).

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 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 expands 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 the 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 Senate Bill X1-2, which was signed by Governor Edmund G. Brown, Jr. This new Renewable Portfolio Standard (RPS) preempts the 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. 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.

Senate Bill 1368

SB 1368, a companion bill to AB 32, was approved in 2006. It 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

SB 375, approved in 2008, encourages housing and transportation planning on a regional scale, in a manner designed to reduce vehicle use and associated GHG emissions. As required under

this law, CARB has assigned regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. The targets apply to the regions in the State covered by the 18 Metropolitan Planning Organizations (MPOs). If MPOs do not meet GHG reduction targets, transportation projects will not be eligible for funding programmed after 2012. CARB adopted regional reduction targets in 2010.

SB 375 also requires each MPO to include a Sustainable Communities Strategy (SCS) in their Regional Transportation Plan. The SCS must set forth a vision for growth for the region while taking into account transportation, housing, environmental, and economic needs. The SCS will be the blueprint by which the region will meet its GHG emissions reduction target if there is a feasible way to do so.

In Humboldt County, the Humboldt County Association of Governments (HCAOG) is the Regional Transportation Planning Agency (RTPA). Under its authority as the RTPA, HCAOG is required to adopt a Regional Transportation Plan (RTP) every five years. The most recent updates of the HCAOG RTP were completed in 2014 and 2017. The HCAOG RTP promotes integrating transportation and land use to reduce CO2 emissions from the regional transportation system. As required, the RTP's goals and objectives complement the goals of AB 32 and SB 375.

Senate Bill X1-2

In April 2011, Senate Bill X1-2 (SBX1-2) was signed by Governor Brown requiring that 33 percent of the state's energy come from renewable sources by 2020. SBX1-2 requires California's electric utilities to reach the 33 percent goal in three compliance periods. By December 31, 2013, the utilities must procure renewable energy products equal to 20% of retail sales. By December 31, 2016, utilities must procure renewable energy products equal to 25% of retail sales, and by December 31, 2020, utilities must procure renewable energy products equal to 33% of retail sales and maintain that percentage in following years.

Executive Order B-30-15

In April, 2015, Governor Edmund G. Brown, Jr. signed Executive Order B-30-15 in order to establish an interim GHG reduction goal for California of 40 percent below 1990 levels by 2030. This target GHG reduction by 2030 would make it possible for California to reach the ultimate goal of reducing GHG emissions by 80 percent under 1990 levels by the year 2050.

Senate Bill 350

In October, 2015, Governor Brown signed SB 350, which requires that that 50 percent of the annual electricity generated and sold to California retail customers be from eligible renewable energy resources by December 31, 2030. Under the legislation, the State Energy Resources Conservation and Development Commission will establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030. The bill also requires the California Public Utilities Commission to establish

efficiency targets for electrical and gas corporations and requires local publicly owned electric utilities to establish annual targets for energy efficiency savings and demand reduction.

Senate Bill 32

On September 8, 2016, Governor Jerry Brown signed Senate Bill 32 (Pavley - Chapter 249, Stats. of 2016), requiring California to reduce GHG emissions to 40 percent below 1990 levels by 2030. SB 32 states that: “In adopting rules and regulations to achieve the maximum technologically feasible and cost effective greenhouse gas emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030.” SB 32 codifies the interim target created by EO B-30-15 for 2030.

California Building Standards

Green Building Standards Code

On January 12, 2010, the California Building Standards Commission adopted the 2010 California Green Building Standards Code, otherwise known as CALGreen. (CALGreen took effect in January, 2014.) CALGreen is contained within Part 11 of the California Building Standards Code, otherwise known as the State Building Code, Title 24 of the California Code of Regulations. The list below identifies the most substantive CALGreen requirements. In addition, CALGreen encourages local governments to adopt voluntary provisions, known as Tier 1 and Tier 2 provisions, to reduce air pollutant emissions, improve energy efficiency, and conserve natural resources. If a local government adopts one of the tiers, the provisions become mandates for all new construction within that jurisdiction. CALGreen includes the following provisions:

- A 20 percent mandatory reduction in indoor water use, along with fixture-specific restrictions on water flow
- Separate indoor and outdoor water meters to measure nonresidential buildings’ indoor and outdoor water use, with a requirement for moisture-sensing irrigation systems for larger landscape projects
- Diversion of 50 percent of construction waste from landfills
- Mandatory periodic inspections of energy systems (i.e., heat furnace, air conditioner and mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies
- Mandatory use of low-pollutant-emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard.

Building Energy Efficiency Standards

The State of California also regulates building energy consumption under the State Building Code. The Building Energy Efficiency Standards, contained within Part 1 (Administrative Code) and Part 6 (Energy Code) of the Building Code, 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, with the most recent update in 2013.

Regional

North Coast Unified Air Quality Management District (NCUAQMD)

The NCUAQMD is a regional environmental regulatory agency with jurisdiction over the North Coast Unified Air District, including Humboldt County. The NCUAQMD enforces local, State and federal air quality regulations and air quality permits. In determining whether a project has significant impacts on the environment from greenhouse gas (GHG) emissions, the local air district's thresholds of significance are typically applied to projects in the review process. However, the NCUAQMD has not adopted a numerical threshold for determining the significance of GHG emissions. Since the City of Arcata and NCUAQMD have not adopted significance thresholds, there are no thresholds for greenhouse gas emissions applicable to the proposed project. However, for the purpose of assessing greenhouse gas emissions impacts in CEQA documents, the NCUAQMD recommends the use of thresholds adopted by other air districts in the State. It is noted that Mendocino County Air Quality Management District (MCAQMD), the adjoining air district to the south of NCUAQMD, has adopted the BAAQMD CEQA thresholds for greenhouse gas emissions to evaluate new development projects. As described under Finding 2.8.1 below, for the purposes of the analysis in this section, the project's estimated GHG emissions are compared to the thresholds adopted by the MCAQMD.

For primarily industrial projects, NCUAQMD Rule 111 (Federal Permitting Requirements for Sources of Greenhouse Gases) was adopted in 2011 to regulate GHG emissions from stationary sources. A new stationary source subject to this rule must be permitted and must implement Best Available Control Technology for greenhouse gas emissions (NCUAQMD, 2017).

The North Coast Air District is listed as "*attainment*" or "*unclassified*" for all the federal and State ambient air quality standards except for the state 24-hour particulate (PM₁₀) standard. The NCUAQMD prepared a Particulate Matter Attainment Plan, Draft Report, in May 1995. This report includes a description of the planning area (North Coast Unified Air District), an emissions inventory, general attainment goals, and a listing of cost-effective control strategies. The NCUAQMD's Attainment Plan established goals to reduce PM₁₀ emissions and eliminate the number of days in which standards are exceeded. The Plan includes three areas of recommended control strategies to meet these goals: transportation, land use, and burning. Control measures for these areas are included in the Attainment Plan and have also been incorporated as policies in the Arcata General Plan. Compliance with the control measures in the Particulate Matter Attainment Plan would not only result in a reduction in PM₁₀ emissions, but would also result in a reduction of GHG emissions. Control strategies focused on reducing transportation emissions, more efficient land-use patterns, and reducing emissions from burning activities would also reduce the amount of GHG emissions generated by land use development projects.

County of Humboldt

Draft Climate Action Plan

Humboldt County prepared a Draft Climate Action Plan in 2012 as part of the General Plan Update, which includes a comparison of greenhouse gas emissions from 2006 and 1990. The emissions of carbon dioxide equivalents in unincorporated Humboldt County in 2006 were shown to have declined by approximately a half million metric tons when compared to 1990 levels. Such decreases may be attributed to a decline in industrial emissions in Humboldt County since 1990 related to a decline in the lumber industry and closure of several major industrial facilities related to timber processing (Humboldt County, 2012).

General Plan Update

Humboldt County adopted the General Plan update in Fall 2017, which includes an Air Quality Element that contains policies to reduce greenhouse gas emissions and mitigate climate change. The updated General Plan includes a range of mitigations for reducing GHG emissions and mitigations to achieve increased carbon storage within the County. Increasing carbon storage on timber and agricultural lands may be the County's most effective means to combat global warming.

The General Plan includes policies and implementation measures that require the development and implementation of a Climate Action Plan to achieve reductions consistent with AB 32 and SB 32. To comply with AB 32 and SB 32, the County will adopt county-wide GHG emissions targets for the years 2020 and 2030 (and possibly also 2040) that will incorporate an updated 1990 GHG Inventory. The preparation of a revised GHG inventory for 1990, using the currently accepted methodology, is essential so that appropriate targets can be established for the preparation of a Climate Action Plan that complies with the statutory requirements.

City of Arcata

Community Greenhouse Gas Reduction Plan

The City of Arcata developed a Community Greenhouse Gas Reduction Plan in 2006 which set a greenhouse gas (GHG) emissions target of 20% below 2000 GHG levels by 2010. The Plan was developed in part by analyzing an inventory of community-wide greenhouse gas emissions that was conducted in 2000. The plan focuses on six action areas:

- 1) Energy efficiency
- 2) Renewable energy
- 3) Sustainable transportation
- 4) Waste and consumption reduction
- 5) Sequestration and other methods

6) Cross-cutting approaches

In addition to reducing greenhouse gas emissions it is expected that the implementation of this Plan will offer many other community benefits. These include: energy cost savings with subsequent benefits to the local economy, cleaner air, less reliance on fossil fuels and imported energy sources, and a move toward a more sustainable energy economy.

Based on an updated community-wide GHG emissions inventory conducted in 2007, City of Arcata staff estimates that the City's GHG reduction target has not been achieved within the residential, commercial, and industrial sectors. Since the Arcata Community Greenhouse Gas Reduction Plan was adopted in 2006 and is based on GHG inventories using outdated methodologies, it does not contain reduction goals that are consistent with the goals set forth in AB 32 and SB 32. As such, the Plan does not provide CEQA review streamlining benefits for development projects within the City. However, it is the only local GHG reduction plan relevant to projects in the City of Arcata, and it is appropriate for all projects in the City subject to CEQA to include an analysis of consistency with the City's adopted plan.

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if the project would result in any of the following effects:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment;
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Proposed Project

Finding 2.8.1: Generate Greenhouse Gas Emissions, Either Directly or Indirectly, that May Have a Significant Impact on the Environment.

Discussion:

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough greenhouse gas emissions on its own to influence global

climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact. Therefore, this GHG analysis measures a project's contribution to the cumulative environmental impact. Future potential development under the proposed project would contribute to global climate change through direct and indirect emissions of GHG from transportation sources, energy (natural gas and purchased energy), water use and wastewater generation, waste generation, and other, off-road equipment (e.g., construction activities).

The proposed project would result in direct and indirect emissions of CO₂, CH₄, and N₂O, and would not result in other GHGs that would facilitate a meaningful analysis. Therefore, this analysis focuses on these three forms of GHG emissions. Direct project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from electricity consumption, water demand, and solid waste generation. Operational GHG estimations are based on energy emissions from natural gas usage and automobile emissions.

Based on the size of the proposed project (189 residential units and several offsite improvements including parkland, road improvements, and trails), both construction and operational GHG emissions for the proposed project were estimated using the California Emissions Estimator Model (CalEEMod) (Appendix E), which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model can be used for a variety of situations where a GHG analysis is necessary or desirable, such as California Environmental Quality Act (CEQA) documents, and is recommended for use by the NCUAQMD on their website under the section entitled "*Air Quality Planning & CEQA*" (www.ncuaqmd.org). The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers (ITE) Manual, vehicle mix, trip length, average speed, etc. However, where project-specific data is available, such data should be input into the model.

The City of Arcata and the NCUAQMD have not adopted numerical thresholds for determining the significance of greenhouse gas emissions. Since the City of Arcata and NCUAQMD have not adopted significance thresholds, there are no thresholds for greenhouse gas emissions applicable to the proposed project. However, for the purpose of assessing greenhouse gas emissions impacts in CEQA documents, the NCUAQMD recommends the use of thresholds and guidance provided by other air districts in the State.

In the North Coast Air Basin, the closest air district to the proposed project that has adopted GHG significance thresholds is the Mendocino Air Quality Management District (MCAQMD). The thresholds adopted by MCAQMD to evaluate emissions from new land use development projects are the same as the thresholds used by the Bay Area Air Quality Management District (BAAQMD). These thresholds of significance include the following: 1) annual emissions less than 1,100 metric tons per year (MT/yr) of CO₂e; or 2) 4.6 MT CO₂e per service population (residents + employees) per year (CO₂e/SP/yr) (MCAQMD, 2010). Land use development projects include residential, commercial, industrial, and public land uses and facilities. Since the

proposed project includes a combination of residents and employees, the project-level efficiency threshold (4.6 MT CO₂e/SP/yr) is used to evaluate the project’s GHG emissions.

“Service population” is a term used to express the total population plus employment of proposed projects. Projects that accommodate only employment and no residences would estimate the level of employment accommodated at buildout and use this figure to represent the service population. Projects that would accommodate only residences would estimate the population accommodated by the project when fully operated. The project proposes a residential development with two types of senior housing and single-family residential uses. As discussed in Section 2.2 (Population and Housing) of the Draft EIR, the estimated number of residents will be 269. The project also proposes an assisted living facility which is estimated to have 50 employees. As such, the service population is estimated to be 319 persons for the proposed project.

According to the California Department of Finance (DOF, 2017), the City of Ukiah (MCAQMD) and City of Arcata (NCUAQMD) are similar in population size (16,314 and 18,374, respectively). The City of Ukiah has approved several CEQA documents that utilize the MCAQMD GHG significance thresholds, including the *Ukiah Valley Medical Center Emergency Department and Intensive Care Unit Expansion Project Initial Environmental Study* (adopted February 25, 2015). Other cities such as Fort Bragg (MCAQMD) have also adopted CEQA documents using the MCAQMD GHG significance thresholds (e.g., *Mendocino Solid Waste Management Authority Central Coast Transfer Station Final Environmental Impact Report*, July 21, 2015).

CEQA Guidelines Section 15064.4 indicates that a lead agency “shall have the discretion to determine, in the context of a particular project, whether to: 1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use...provided it supports its decision with substantial evidence.” Given that the MCAQMD CEQA thresholds are used by an adjoining air district in the North Coast Air Basin, with similar populations, and the lead agency is entitled to select an appropriately supported threshold under CEQA, the MCAQMD thresholds are considered acceptable for the proposed project and are adequately supported.

The proposed development of parcel 505-161-011 will generally consist of 32 single-family residential units and 32 second units, an assisted living and memory care facility with 100 units, and 25 senior-restricted neighborhood cottage units. Table 2-8-1 (Unmitigated GHG Emissions [Annual Metric Tons Per Year]), presents the estimated CO₂, N₂O, and CH₄ emissions of the proposed project.

Table 2.8-1 Unmitigated GHG Emissions (Annual Metric Tons Per Year)

| Emissions Source | Unmitigated GHG Emissions (MT/year) | | | |
|--|-------------------------------------|-----------------|-------------------------------|--------------------------------------|
| | CO ₂ | CH ₄ | N ₂ O ² | Total CO ₂ e ¹ |
| Direct Emissions | | | | |
| Construction Unmitigated (amortized over 30 years) | 36.4 | 0.007 | -- | 36.6 |
| Area Source | 279.4 | 0.182 | 0.015 | 288.5 |
| Mobile Source | 1,286.7 | 0.074 | -- | 1,288.6 |

| | | | | |
|--|------------|-------|--------|---------|
| Total Direct Emissions¹ | 1,602.5 | 0.263 | 0.015 | 1,613.7 |
| Indirect Emissions | | | | |
| Energy Consumption | 449.6 | 0.018 | 4.97e3 | 451.6 |
| Solid Waste | 33.0 | 1.95 | -- | 81.8 |
| Water Demand | 33.1 | 0.40 | 9.75e3 | 46.1 |
| Total Indirect Emissions¹ | 515.7 | 2.37 | 0.015 | 579.5 |
| Total Project-Related Emissions¹ | 2,118.2 | 2.63 | 0.03 | 2,193.2 |
| Service Population | 319 | | | |
| MTCO₂e/SP/Yr³ | 6.9 | | | |
| Threshold MTCO₂e/SP/Yr | 4.6 | | | |
| Significant? | Yes | | | |

Source: MCAQMD (2010 and 2013), California Emission Estimator Model (Appendix E), and Project Plans
Notes:

1. Totals obtained from CalEEMod modeling results and may not total 100% due to rounding.
2. Table results include scientific notation. E is used to represent times ten raised to the power of (which would be written as x10b11) and is followed by the value of the exponent.
3. MTCO₂e/SP/Yr calculated using the following equation: $MTCO_2e/SP/Yr = Total\ Project-Related\ Emissions / Service\ Population$.

Direct Proposed Project-Related Sources of Greenhouse Gases

Construction Emissions. Project construction activities would result in a temporary increase in GHG emissions during each phase of the project, including exhaust emissions from on-road haul trucks, worker commute vehicles, and off-road heavy-duty equipment. The applicant generally estimates that construction of the project will occur in several phases over approximately 6 years and would be fully operational in approximately 2025. However, the amount of time it will take for construction of the entire development will be dependent on market conditions, and it is not actually known how long construction activities will occur. For the purposes of calculating construction GHG emissions, it is conservatively assumed that all phases of the development would be constructed over a 26-month period from May 2019 to July 2021. This assumption provides a worst-case scenario for annual construction emissions.

Construction GHG emissions are typically summed and amortized over the lifetime of the project (assumed to be 30 years), then added to the operational emissions.² For buildings in general, it is reasonable to look at a 30-year time frame, since this is the typical interval before a new building requires the first major renovation. As depicted in Table 2.8-1, the proposed project would result in 36.6 MTCO₂eq/yr (amortized over 30 years which is the expected lifetime of the project), which represents a total of approximately 1,097 MTCO₂eq from construction activities.

² The project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District (South Coast Air Quality Management District, *Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #13*, August 26, 2009). The Mendocino County Air Quality Management District does not provide specific guidance regarding construction emissions. Therefore, the South Coast Air Quality Management District approach was conservatively used.

Area Source. Area source emissions were calculated using CalEEMod and project-specific land use data. As noted in Table 2.8-1, the proposed project would result in 288.5 MTCO₂eq/yr of area source GHG emissions.

Mobile Source. CalEEMod relies upon trip data from the Institute of Transportation Engineers (ITE) and project specific land use data to calculate mobile source emissions. The proposed project would directly result in approximately 1,288.6 MTCO₂eq/yr of mobile source-generated GHG emissions; refer to Table 2.8-1.

Indirect Proposed Project-Related Sources of Greenhouse Gases

Energy Consumption. Energy consumption emissions were calculated using CalEEMod and project-specific land use data. Due to the limitations of the CalEEMod model, electricity was assumed to be provided to the project parcels via Pacific Gas & Electric Company. However, the project will be automatically enrolled in the Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) program which procures approximately 44% of its power from renewable and carbon-free sources. This is approximately 9% more renewable energy than the power sources previously provided by PG&E (RCEA, 2019). Based on the assumptions input into the CalEEMod model (i.e. PG&E generated electricity provided to the project), the proposed project would indirectly result in approximately 451.6 MTCO₂eq/yr due to energy consumption; refer to Table 2.8-1.

Solid Waste. Solid waste associated with operations of the proposed project would result in an approximately 81.8 MTCO₂eq/yr; refer to Table 2.8-1.

Water Demand. The proposed project's operations would result in a demand of approximately 67.3 acre-feet per year (AFY). Emissions from indirect energy impacts due to water supply would result in approximately 46.1 MTCO₂eq/yr; refer to Table 2.8-1.

As indicated in Table 2.8-1, the total amount of unmitigated project-related GHG emissions from direct and indirect sources combined would total 2,193.2 MTCO₂eq/yr, without the implementation of reductions from project design features and/or mitigation measures. Below is a list of the project design features and/or mitigation measures that are incorporated into the proposed project. Table 2.8-2 (Mitigated GHG Emissions [Annual Metric Tons Per Year]) shows the reductions in GHG emissions that would result from these reduction measures.

- The proposed project's inherent site and design features, including improvement of destination accessibility and improvement of the pedestrian/bicycle network within the residential development site and connecting off-site (see Mitigation Measure 3.1b);
- The project would not include any hearths, woodstoves, or fireplaces. The proposed residential units and assisted living facility will use forced-air gas or electric heating (see Mitigation Measure 2.8.1a);
- Low VOC paints would be used for the project that have a maximum VOC standard of 50 g/L (see Mitigation Measure 2.8.1a);

- The proposed residential buildings will be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by at least 20 percent (see City of Arcata Ordinance No. 1507 [Residential Reach Code]);
- To reduce indoor water use it is proposed to install low flow plumbing fixtures in the proposed residential units and assisted living facility (see Mitigation Measure 2.8.1a);
- To reduce outdoor water use for landscaping, it is proposed to install native and drought tolerant plant species that do not require irrigation at the assisted living facility and senior-restricted cottage units (see Mitigation Measure 2.8.1a);
- The development would include recycling services which is estimated to reduce solid waste generation by a minimum of 35% (see Mitigation Measure 2.8.1a); and
- A minimum of 300 trees of various species would be planted throughout the residential development site (see Mitigation Measure 2.8.1a).

Table 2.8-2 Mitigated GHG Emissions (Annual Metric Tons Per Year)

| Emissions Source | Unmitigated GHG Emissions (MT/year) | | | |
|--|-------------------------------------|-----------------|-------------------------------|--------------------------------------|
| | CO ₂ | CH ₄ | N ₂ O ² | Total CO ₂ e ¹ |
| Direct Emissions | | | | |
| Construction Unmitigated (amortized over 30 years) | 36.4 | 0.007 | -- | 36.6 |
| Area Source | 2.29 | 0.002 | -- | 2.35 |
| Mobile Source | 1,147.5 | 0.070 | -- | 1,149.2 |
| Total Direct Emissions¹ | 1,186.2 | 0.079 | 0.00 | 1,188.2 |
| Indirect Emissions | | | | |
| Energy Consumption | 424.6 | 0.017 | 4.62e3 | 426.4 |
| Solid Waste | 21.5 | 1.27 | -- | 53.2 |
| Water Demand | 27.8 | 0.32 | 7.81e3 | 38.2 |
| Total Indirect Emissions¹ | 473.9 | 1.61 | 0.012 | 517.8 |
| Total Project-Related Emissions¹ | 1,660.1 | 1.69 | 0.012 | 1,706.0 |
| Service Population | 319 | | | |
| MTCO₂e/SP/Yr³ | 5.3 | | | |
| Threshold MTCO₂e/SP/Yr | 4.6 | | | |
| Significant? | Yes | | | |

Source: MCAQMD (2010 and 2013), California Emission Estimator Model (Appendix E), and Project Plans
Notes:

1. Totals obtained from CalEEMod modeling results and may not total 100% due to rounding.
2. Table results include scientific notation. E is used to represent times ten raised to the power of (which would be written as x10b11) and is followed by the value of the exponent.
3. MTCO₂e/SP/Yr calculated using the following equation: $MTCO_2e/SP/Yr = Total\ Project-Related\ Emissions / Service\ Population.$

As indicated in Table 2.8-1 (Unmitigated GHG Emissions [Annual Metric Tons Per Year]), the project's GHG emissions would be 2,193.2 MTCO₂eq/yr without implementation of any reduction measures. Implementation of the proposed pedestrian/bicycle improvements, area source reductions, energy efficiency measures, water conservation measures, solid waste reductions, and landscaping would reduce project GHG emissions to 1,706.0 MTCO₂eq/yr, resulting in a 22 percent reduction. As indicated in Table 2.8-2 (Mitigated GHG Emissions [Annual Metric Tons Per Year]), with the proposed project design features and/or mitigation measures (see Mitigation Measures 3.1b and 2.8.1a), the proposed project is estimated to emit approximately 5.3 MT CO₂e/SP/yr which is above the MCAQMD project-level efficiency threshold (4.6 MT CO₂e/SP/yr).

To further mitigate the GHG emissions that would be generated by the proposed project, the applicant will purchase carbon offsets to reduce the projects GHG emissions below the MCAQMD project-level efficiency threshold of 4.6 MT CO₂e/SP/yr. It is estimated that once the entire project is constructed, the applicant would need to offset approximately 270 metric tons of GHG emissions annually to reduce the emissions below the MCAQMD project-level efficiency threshold. With the offset of 270 metric tons of GHG emissions annually through the purchase of carbon offsets, the metric tons of GHG emissions that would be generated by the proposed project annually would be reduced from 1,706.0 to 1,436.0. This would result in the project emitting approximately 4.5 MT CO₂e/SP/yr, which is below the MCAQMD threshold (4.6 MT CO₂e/SP/yr). For the purpose of purchasing carbon offsets, the "project life" time frame is assumed to be 30 years. This methodology is consistent with the 30-year "project life" time frame used by the South Coast Air Quality Management District's GHG guidance (SCAQMD, 2008).

Prior to the City's issuance of the certificate of occupancy for each phase of the project, the project applicant shall provide evidence to the satisfaction of the Director of Environmental Services that it has purchased and retired carbon offsets for the incremental portion of the project in a quantity sufficient to offset, for a 30-year period, the GHG emissions from that incremental amount of development. For each phase of the project, the incremental portion of carbon offsets required will be calculated on a per unit basis. Based on the proposed number of units (189 residential units) and the carbon offsets required to reduce the project's GHG emissions below the MCAQMD threshold over a 30-year period (8,100 metric tons), the applicant will be required to purchase approximately 43 metric tons of carbon offsets per unit (8,100 metric tons / 189 units = 43 metric tons per unit). This has been included as Mitigation Measure 2.8.1b for the proposed project.

As indicated in Table 2.8-1 (Unmitigated GHG Emissions [Annual Metric Tons Per Year]), the project's GHG emissions would be 2,193.2 MTCO₂eq/yr without implementation of any reduction measures. As noted above, implementation of Mitigation Measures 2.8.1a, 2.8.1b, and 3.1b would reduce project GHG emissions to 1,436.0 MTCO₂eq/yr, resulting in a 34.5 percent reduction.

As described under Finding 2.8.2, the project is subject to numerous local, regional, and state regulations that would reduce GHG emissions. Due to the limitations of the California Emissions Estimator Model (CalEEMod), and the information available at the time that the GHG

emissions estimates were calculated, compliance with many of these existing regulatory requirements were not factored into the emissions estimates. The discussion under Finding 2.8.2 provides details on the laws and regulations currently in effect that will further reduce project-related GHG emissions (see Table 2.8-3 [GHG Laws and Regulations Applicable to the Proposed Project]).

Therefore, with the proposed mitigation measures, project features, and compliance with regulatory requirements, the proposed project will not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment.

Determination:

Less than significant impact with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures would reduce the potential impacts to a less than significant level.

Mitigation Measure 2.8.1a. The project shall include, but not be limited to, the following minimization measures, which shall be incorporated into the project site plans and construction plans to ensure consistency with adopted statewide plans and programs. The project applicant shall demonstrate compliance with these measures prior to either the issuance of the building permit or the certificate of occupancy for each phase of the proposed project:

Transportation

- Same as ***Mitigation Measure 3.1b (Pedestrian/Bicycle Improvements)***. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.

Area Sources

- The project would not include any hearths, woodstoves, or fireplaces. The proposed residential units and assisted living facility will use forced-air gas or electric heating. Compliance with this measure shall be verified prior to issuance of building permits for each phase of the project.
- Low VOC paints would be used for the project that have a maximum VOC standard of 50 g/L. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.

Energy Efficiency

- The proposed residential structures will be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by at least 20 percent. Compliance with this measure shall be verified prior to issuance of building permits for each phase of the project.

Water Conservation and Efficiency

- To reduce indoor water use it is proposed to install low flow plumbing fixtures (e.g., low-flow faucets, toilets, showers, etc.) in the proposed residential units and assisted living facility. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.
- To reduce outdoor water use for landscaping, it is proposed to install native and drought tolerant plant species that do not require irrigation at the assisted living facility and senior-restricted cottage units. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.

Solid Waste

- Divert at least 35 percent of solid waste to be recycled. Per the City of Arcata Municipal Code (Section 5425), the single-family residences and accessory dwelling units would be required to participate in the City's curbside recycling program. Per State law (SB 1018), the assisted living facility and senior-restricted cottage units would be required to provide adequate areas for collecting and loading recyclable materials where solid waste is collected. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.

Landscaping

- A minimum of 300 trees of various species would be planted throughout the residential development site. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.

Mitigation Measure 2.8.1b. Prior to the City's issuance of the certificate of occupancy for each phase of the project, the project applicant shall provide evidence to the satisfaction of the Director of Environmental Services that it has purchased and retired carbon offsets for the incremental portion of the project in a quantity sufficient to offset, for a 30-year period, the GHG emissions from that incremental amount of development. This will ensure that at full build-out the proposed project will generate GHG emissions that are below the Mendocino County Air Quality Management District (MCAQMD) project-level efficiency threshold of 4.6 MT CO₂e/SP/yr. The purchase of carbon offsets for the proposed project shall occur according to the following criteria:

- "Carbon Offset" shall mean an instrument issued by any of the following: 1) the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; 2) any registry approved by CARB to act as a registry under the State's cap-and-trade program; or 3) if no registry is in existence as identified in options 1) and 2), above, then any other reputable registry or entity that issues carbon offsets.
- Any carbon offset that is used to reduce the project's GHG emissions shall be a carbon offset that represents the past reduction of sequestration of one metric ton of carbon

dioxide equivalent that is “not otherwise required” (CEQA Guidelines section 15126.4(c)(3)).

- For the purpose of purchasing carbon offsets, the “project life” time frame is assumed to be 30 years. This methodology is consistent with the 30-year “project life” time frame used by the South Coast Air Quality Management District’s GHG guidance (SCAQMD, 2008).
- For each phase of the project, the incremental portion of carbon offsets required will be calculated on a per unit basis. Based on the proposed number of units (189 residential units) and the carbon offsets required to reduce the project’s GHG emissions below the MCAQMD threshold over a 30-year period (8,100 metric tons), the applicant will be required to purchase approximately 43 metric tons of carbon offsets per unit.

Finding 2.8.2: Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases.

Discussion:

The proposed development of parcel 505-161-011 will generally consist of 32 single-family residential units and 32 second units, an assisted living and memory care facility with 100 units, and 25 senior-restricted neighborhood cottage units.

The project is subject to a myriad of local, regional, and state regulations applicable to project design, construction, and operation that would reduce GHG emissions, increase energy efficiency, and provide compliance with the CARB Climate Change Scoping Plan (CARB, 2017). The State of California has the most comprehensive GHG regulatory requirements in the United States, with laws and regulations requiring reductions that affect project emissions. Legal mandates to reduce GHG emissions from vehicles, for example, reduce project-related vehicular emissions. Legal mandates to reduce GHG emissions from the energy production sector that will serve the proposed project would also reduce project-related GHG emissions from electricity consumption. Legal mandates to reduce per capita and per household water consumption, improve household and appliance energy efficiency, and impose waste management standards to reduce methane and other GHGs from solid wastes, are all examples of mandates that reduce GHGs. Table 2.8-3 (GHG Laws and Regulations Applicable to the Proposed Project) provides details on the laws and regulations currently in effect that will reduce project-related GHG emissions and provide compliance with plans, policies, and regulations adopted for the purpose of reducing emissions of greenhouse gases.

Table 2.8-3 GHG Laws and Regulations Applicable to the Proposed Project

| Project Component | Applicable Laws/Regulations | Applicable GHG Reduction Measures |
|--|-----------------------------|-----------------------------------|
| Building Components/Facility Operations | | |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
|---------------------------------|--|---|
| Roofs/Ceilings/Insulation | 2016 California Green Building Standards Code (Title 24, Part 11) (“CalGreen Code”) Building Energy Efficiency Standards (“Title 24, Part 6”) | <p>The project must comply with efficiency standards regarding roofing, ceilings, and insulation. For example:</p> <p><u>Roofs/Ceilings:</u> New construction must reduce roof heat island effects per CalGreen Building Code, which requires use of roofing materials having a minimum aged solar reflectance, thermal emittance complying with specifications, or a minimum aged Solar Reflectance Index (SRI) as specified. Roofing materials must also meet solar reflectance and thermal emittance standards contained in Title 20 Standards.</p> <p><u>Roof/Ceiling Insulation:</u> There are also requirements for the installation of roofing and ceiling insulation (See Title 24, Part 6 Compliance Manual at Section 3.2.2).</p> |
| Flooring | CalGreen Code | <p>The project must comply with efficiency standards regarding flooring materials. For example, for 80 percent of floor area receiving “resilient flooring,” the flooring must meet applicable installation and material requirements contained in CalGreen Code.</p> |
| Window and Doors (Fenestration) | Title 24, Part 6 | <p>The project must comply with fenestration efficiency requirements. For example, the choice of windows, glazed doors, and any skylights for the project must conform to energy consumption requirements affecting size, orientation, and types of fenestration products used (See Title 24, Part 6 Compliance Manual, Section 3.3).</p> |
| Building Walls/Insulation | CalGreen Code; Title 24, Part 6 | <p>The project must comply with efficiency requirements for building walls and insulation.</p> <p><u>Exterior Walls:</u> Must meet requirements in current edition of California Energy Code, and comply with applicable CalGreen Code requirements for wall surfaces, and requirement for weather-resistant exterior wall and foundation envelope as required by California Building Code section 1403.2. Construction must also meet requirements contained in Title 24, Part 6, which vary by material of the exterior walls (See Title 24, Part 6 Compliance Manual, Part 3.2.3).</p> |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
|---|---|--|
| | | <p><u>Demising (Interior) Walls</u>: Mandatory insulation requirements for demising walls (which separate conditioned from non-conditioned space) differ by the type of wall material used (Id. at 3.2.4).</p> <p><u>Door Insulation</u>: There are mandatory requirements for air infiltration rates to improve insulation efficiency; they differ according to the type of door (Id. at 3.2.5).</p> <p><u>Flooring Insulation</u>: There are mandatory requirements for insulation that depend on the material and location of the flooring (Id. at 3.2.6).</p> |
| Finish Materials | CalGreen Code | The project must comply with pollutant control requirements for finish materials. For example, materials including adhesives, sealants, caulks, paints and coatings, carpet systems, and composite wood products must meet requirements to ensure pollutant control. |
| Wet Appliances (Toilet/Faucet/Urinal, Dishwasher/Clothes Washer, Spa and Pool/Water Heater) | CalGreen Code; Title 24, Part 6 Appliance Efficiency Regulations (“Title 20 Standards”) | <p>Wet appliances associated with the project must meet various efficiency requirements. For example:</p> <p><u>Spa and Pool</u>: Use associated with the project is subject to appliance efficiency requirements for service water heating systems and equipment, spa and pool heating systems and equipment (Title 24, Part 6, Sections 110.3, 110.4, 110.5; Title 20 Standards, Sections 1605.1(g), 1605.3(g); see also California Energy Code).</p> <p><u>Toilets/Faucets/Urinals</u>: Use associated with the project is subject to new maximum rates for toilets, urinals, and faucets effective January 1, 2016:</p> <ul style="list-style-type: none"> • Showerheads maximum flow rate 2.5 gpm at 80 psi • Wash fountains 2.2 (rim space in inches/20) gpm at 60 psi • Metering faucets 0.25 gallons/cycle • Lavatory faucets and aerators 1.2 gpm at 60 psi • Kitchen faucets and aerators 1.8 gpm with optional temporary flow of 2.2 gpm at 60 psi |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
|--|--|--|
| | | <ul style="list-style-type: none"> • Public lavatory faucets 0.5 gpm at 60 psi • Trough-type urinals 16 inches length • Wall mounted urinals 0.125 gallons per flush • Other urinals 0.5 gallons per flush <p>(Title 20 Standards, Sections 1605.1(h),(i) 1065.3(h),(i)).</p> <p><u>Water Heaters</u>: Use associated with the project is subject to appliance efficiency requirements for water heaters (Title 20 Standards, Sections 1605.1(f), 1605.3(f)).</p> <p><u>Dishwasher/Clothes Washer</u>: Use associated with the project is subject to appliance efficiency requirements for dishwashers and clothes washers (Title 20 Standards, Sections 1605.1(o), (p), (q), 1605.3(o), (p), (q)).</p> |
| Dry Appliances (Refrigerator/Freezer, Heater/Air Conditioner, Clothes Dryer) | <p>Title 20 Standards</p> <hr/> <p>CalGreen Code</p> | <p>Dry appliances associated with the project must meet various efficiency requirements. For example:</p> <p><u>Refrigerator/Freezer</u>: Use associated with the project is subject to appliance efficiency requirements for refrigerators and freezers (Title 20 Standards, Sections 1605.1(a), 1605.3(a)).</p> <p><u>Heater/Air Conditioner</u>: Use associated with the project is subject to appliance efficiency requirements for heaters and air conditioners (Title 20 Standards, Sections 1605.1(b),(c),(d),(e), 1605.3(b),(c),(d),(e) as applicable).</p> <p><u>Clothes Dryer</u>: Use associated with the project is subject to appliance efficiency requirements for clothes dryers (Title 20 Standards, Section 1605.1(q)).</p> <p>Installations of HVAC, refrigeration and fire suppression equipment must comply with CalGreen Code, which prohibits CFCs, halons, and certain hydrochlorofluorocarbons and hydrofluorocarbons.</p> |
| Lighting | Title 20 Standards | Lighting associated with the project will be subject to energy efficiency requirements contained in |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
|-----------------------------|------------------------------|---|
| | | <p>Title 20 Standards.</p> <p><u>General Lighting</u>: Indoor and outdoor lighting associated with the project must comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(j),(k),(n), 1605.3(j),(k),(n)).</p> <p><u>Emergency lighting and self-contained lighting</u> associated with the project must also comply with applicable appliance efficiency regulations (Title 20 Standards, Sections 1605.1(l), 1605.3(l)).</p> |
| | Title 24, Part 6 | <p>Lighting associated with the project will also be subject to energy efficiency requirements contained in Title 24, Part 6, which contains energy standards for nonresidential indoor lighting and outdoor lighting (See Title 24 Part 6 Compliance Manual, at Sections 5, 6).</p> <p>Mandatory lighting controls for indoor lighting include, for example, regulations for automatic shut-off, automatic daytime controls, demand responsive controls, and certificates of installation (Id. at Section 5). Regulations for outdoor lighting include, for example, creation of lighting zones, lighting power requirements, a hardscape lighting power allowance, requirements for outdoor incandescent and luminaire lighting, and lighting control functionality (Id. At Section 6).</p> |
| | Assembly Bill 1109 | Lighting associated with the project will be subject to energy efficiency requirements adopted pursuant to AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum efficiency standards for general purpose lighting, to reduce electricity consumption 50 % for indoor residential lighting and 25 % for indoor commercial lighting. |
| Bicycle and Vehicle Parking | CalGreen Code | The project will be required to provide compliant bicycle parking, fuel- efficient vehicle parking, and electric vehicle charging spaces. |
| | Title 24, Part 6 | The project is also subject to parking requirements contained in Title 24, Part 6. For example, parking capacity is to meet but not exceed minimum local zoning requirements, and the project should employ approved strategies to reduce parking |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
|--------------------------|--|---|
| | | capacity. |
| Landscaping | CalGreen Code | <p>The CalGreen Code requires and has further voluntary provisions for:</p> <ul style="list-style-type: none"> - A water budget for landscape irrigation use; - For new water service, separate meters or submeters must be installed for indoor and outdoor potable water use for landscaped areas of 1,000-5,000 square feet; and - Provide water-efficient landscape design that reduces use of potable water beyond initial requirements for plant installation and establishment. |
| | Model Water Efficient Landscaping Ordinance | The model ordinance promotes efficient landscaping in new developments and establishes an outdoor water budget for new and renovated landscaped areas that are 500 square feet or larger (California Code of Regulations, Title 23, Division 2, Chapter 2.7). |
| | Cap-and-Trade Program | Fuels used in landscape maintenance equipment (e.g., gasoline) would be subject to the Cap-and-Trade program (See also “Energy Use,” below). |
| Refrigerants | CARB Management of High Global Warming Potential Refrigerants for Stationary Sources | <p>Any refrigerants associated with the project will be subject to CARB standards. The regulation:</p> <ol style="list-style-type: none"> 1) reduces emissions of high-Global Warming Potential refrigerants from leaky stationary, non-residential refrigeration equipment; 2) reduces emissions resulting from the installation and servicing of stationary refrigeration and air conditioning (R/AC) appliances using high-GWP refrigerants; and 3) requires verification of greenhouse gas (GHG) emission reductions (California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 10, Article 4, Subarticle 5.1, Section 95380 et seq.). |
| Consumer Products | CARB High-Global Warming Potential Greenhouse Gases in Consumer Products | All consumer products associated with the project will be subject to CARB standards. CARB’s consumer products regulations set volatile organic compound (VOC) limits for numerous categories of consumer products, and limits the reactivity of the ingredients used in numerous categories of |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
|---|--|---|
| | | aerosol coating products (California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 8.5). |
| Construction | | |
| Use of Off-Road Diesel Engines, Vehicles, and Equipment | CARB In-Use Off-Road Diesel Vehicle Regulation | Any relevant vehicle or machine use associated with the project will be subject to CARB standards. The CARB In-Use-Off-Road Diesel Vehicle Regulation applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulations: 1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; 2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System, DOORS) and labeled; 3) restricts the adding of older vehicles into fleets starting on January 1, 2014; and 4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies, VDECS (i.e., exhaust retrofits). The requirements and compliance dates of the Off-Road regulation vary by fleet size, as defined by the regulation. |
| | Cap-and-Trade Program | Transportation fuels (e.g., gasoline) used in equipment operation would be subject to the Cap-and-Trade Program (See “Energy Use,” below). |
| Pollutant Control | CalGreen Code | If an HVAC system is used during construction, the project must use return air filters with a MERV of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 5.2.1-1992. All filters must be replaced immediately prior to occupancy. |
| Greening New Construction | CalGreen Code | All new construction, including the project, must comply with the CalGreen Code, as discussed in more detail throughout this table. Adoption of mandatory CalGreen standards for construction has been essential for improving the overall environmental performance of new buildings; it also sets voluntary targets for builders to exceed the mandatory requirements. |
| Construction Waste | CalGreen Code | The project will be subject to CalGreen requirements for construction waste reduction, disposal, and recycling, such as a requirement to |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
|---|------------------------------|--|
| | | recycle and/or salvage for reuse a minimum of 50% of the nonhazardous construction waste; or meet a local construction and demolition waste management ordinance, whichever is more stringent. |
| Worker, vendor and truck vehicle trips (on-road vehicles) | Cap-and-Trade Program | Transportation fuels (e.g., gasoline) used in worker, vendor and truck vehicle trips would be subject to the Cap-and-Trade Program (See “Energy Use,” below). |

Solid Waste

| | | |
|------------------------|----------------------------------|---|
| Solid Waste Management | Landfill Methane Control Measure | Waste associated with the project will be disposed per state requirements for landfills, material recovery facilities, and transfer stations. Per the statewide GHG emissions inventory, the largest emissions from waste management sectors come from landfills, and are in the form of methane. In 2010, CARB adopted a regulation that reduces emissions from methane in landfills, primarily by requiring owners and operators of certain uncontrolled municipal solid waste landfills to install gas collection and control systems, and requires existing and newly installed gas and control systems to operate in an optimal manner. The regulation allows local air districts to voluntarily enter into a memorandum of understanding with CARB to implement and enforce the regulation and to assess fees to cover costs of implementation. |
| | CalGreen Code | The project is subject to CalGreen Code requirements to recycle and/or salvage for nonhazardous construction and demolition waste, or meet a more stringent local ordinance requirement (see above for further details). The project will also be subject to CalGreen Code requirement to provide areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling, including at a minimum paper, corrugated cardboard, glass, plastics, organic waste, and metals, or meet a lawfully enacted local ordinance if more restrictive (CalGreen Code Section 4.410.2). |

Energy Use and Efficiency

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
|------------------------------------|---|---|
| Electric Vehicles | CalGreen Code | The project is required to comply with CalGreen Code Section 4.106.4.2, which specifies that where 17 or more multifamily dwelling units are constructed on a building site, 3 percent of the total number of parking spaces provided for all types of parking facilities, but in no case less than one, shall be electric vehicle charging spaces (EV spaces) capable of supporting future electric vehicle supply equipment (EVSE). |
| Electricity/Natural Gas Generation | Cap-and-Trade Program | Electricity and natural gas usage associated with the project will be subject to the Cap-and-Trade Program. The rules came into effect on January 1, 2013, applying to large electric power plants and large industrial plants. In 2015, importers and distributors of fossil fuels were added to the Cap-and-Trade program in the second phase. Specifically, on January 1, 2015, cap-and-trade compliance obligations were phased in for suppliers of natural gas, reformulated gasoline blendstock for oxygenate blending (RBOB), distillate fuel oils, and liquefied petroleum gas that meet or exceed specified emissions thresholds. The threshold that triggers a cap-and-trade compliance obligation for a fuel supplier is 25,000 metric tons or more of CO ₂ e annually from the GHG emissions that would result from full combustion or oxidation of quantities of fuels (including natural gas, RBOB, distillate fuel oil, liquefied petroleum gas, and blended fuels that contain these fuels) imported and/or delivered to California. |
| Energy Efficiency | Zero Net Energy Buildings (Title 24, Part 6) | The project will be subject to net energy construction requirements contained in Title 24, Part 6. California revised building energy efficiency requirements contained in Title 24 in 2014 to require that all residential buildings be Zero Net Energy by 2020. |
| Renewable Energy | California Renewable Portfolio Standards (RPS) (Senate Bill X1-2 and 350) | Energy providers associated with the project will be required to comply with Renewable Portfolio Standards set by SB X1-2 and 350. SB X1-2 requires IOUs, POUs, and ESPs to increase purchases of renewable energy such that at least 33% of retail sales are procured from renewable energy resources by December 31, |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
|--------------------------|--|--|
| | | <p>2020. In the interim each entity was required to procure an average of 20% of renewable energy for the period of January 1, 2011 through December 31, 2013; and will be required to procure an average of 25% by December 31, 2016, and 33% by 2020. Senate Bill 350 requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030.</p> <p>Electricity service for unincorporated Humboldt County was transitioned to the Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) program in May 2017. The CCE program allows city and county governments to pool (or aggregate) the electricity demands of their communities in order to increase local control over electric rates, purchase power with higher renewable content, reduce greenhouse gas emissions, and reinvest in local energy infrastructure. The electricity continues to be distributed and delivered over the existing power lines by the incumbent utility, which is Pacific Gas & Electric (PG&E) in Humboldt County. The CCE program procures approximately 44% of its power from renewable and carbon-free sources, which is approximately 9% more renewable energy than the power sources previously provided by PG&E (RCEA, 2019). In addition, customers can choose to opt up to a premium service called Repower+, which is 100% renewable energy at only \$0.01 more per kilowatt hour (kWh). The proposed project will be automatically enrolled in the RCEA CCE program and will contribute towards increasing the amount of renewable power placed on California's grid, which has the effect of reducing greenhouse gas emissions and stimulating new renewable development in our region and State.</p> |
| | <p>Million Solar Roofs Program (Senate Bill 1)</p> | <p>The project will participate in California's energy market, which is affected by implementation of the Million Solar Roofs Program. The Million Solar Roofs Program is a ratepayer-financed incentive program aimed at transforming the market for</p> |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
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| | | rooftop solar systems by driving down costs over time. |
| | California Solar Initiative- Thermal Program | The project will participate in California’s energy market, which is affected by implementation of the California Solar Initiative -Thermal Program. The program offers cash rebates of up to \$4,366 on solar water heating systems for single-family residential customers. Multifamily and Commercial properties qualify for rebates of up to \$800,000 on solar water heating systems and eligible solar pool heating systems qualify for rebates of up to \$500,000. Funding for the CSI- Thermal program comes from ratepayers of PG&E, SCE, SoCalGas, and SDG&E. The rebate program is overseen by the California Public Utilities Commission as part of the California Solar Initiative. |
| | Waste Heat and Carbon Emissions Reduction Act (AB 1613, AB 2791) | <p>The project will participate in California’s energy market, which is affected by implementation of the Waste Heat and Carbon Emissions Reduction Act. Originally enacted in 2007 and amended in 2008, this act directed the CEC, PUC, and CARB to implement a program that would encourage the development of new combined heat and power systems in California with a generating capacity of not more than 20 megawatts, to increase combined heat and power use by 30,000 GWh. The CPUC publicly owned electric utilities, and CEC duly established policies and procedures for the purchase of electricity from eligible combined heat and power systems.</p> <p>CEC guidelines require combined heat and power systems to be designed to reduce waste energy; have a minimum efficiency of 60 percent; have NOx emissions of no more than 0.07 pounds per megawatt-hour; be sized to meet eligible customer generation thermal load; operate continuously in a manner that meets expected thermal load and optimizes efficient use of waste heat; and be cost effective, technologically and feasible, environmentally beneficial.</p> |
| Vehicular/Mobile Sources | | |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
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| Fuel | <p>Low Carbon Fuel Standard (LCFS)/ Executive Order S-01-07</p> <p>Cap-and-Trade Program</p> | <p>Auto trips associated with the project will be subject to LCFS (Executive Order S-01-07), which requires a 10 percent or greater reduction in the average fuel carbon intensity by 2020 with a 2010 baseline for transportation fuels in California regulated by CARB. The program establishes a strong framework to promote the low carbon fuel adoption necessary to achieve the Governor’s 2030 and 2050 greenhouse gas goals.</p> <p>Use of gasoline associated with the project will be subject to the Cap-and- Trade Program. The rules came into effect on January 1, 2013, applying to large electric power plants and large industrial plants. In 2015, importers and distributors of fossil fuels were added to the Cap-and-Trade program in the second phase.</p> <p>Specifically, on January 1, 2015, cap-and-trade compliance obligations were phased in for suppliers of natural gas, reformulated gasoline blendstock for oxygenate blending (RBOB), distillate fuel oils, and liquefied petroleum gas that meet or exceed specified emissions thresholds. The threshold that triggers a cap-and-trade compliance obligation for a fuel supplier is 25,000 metric tons or more of CO₂e annually from the GHG emissions that would result from full combustion or oxidation of quantities of fuels (including natural gas, RBOB, distillate fuel oil, liquefied petroleum gas, and blended fuels that contain these fuels) imported and/or delivered to California.</p> |
| Automotive Refrigerants | <p>CARB Regulation for Small Containers of Automotive Refrigerant</p> | <p>Vehicles associated with the project will be subject to CARB’s Regulation for Small Containers of Automotive Refrigerant (California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 10, Article 4, Subarticle 5, Section 95360 et seq.). The regulation applies to the sale, use, and disposal of small containers of automotive refrigerant with a GWP greater than 150. The regulation achieves emission reductions through implementation of four requirements: 1) use of a self-sealing valve on the container, 2) improved labeling instructions, 3) a deposit and recycling program for small containers, and 4) an education</p> |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
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| | | <p>program that emphasizes best practices for vehicle recharging. This regulation went into effect on January 1, 2010 with a one-year sell-through period for containers manufactured before January 1, 2010. The target recycle rate is initially set at 90%, and rises to 95% beginning January 1, 2012.</p> |
| Light-Duty Vehicles | Assembly Bill 1493 (or the Pavley Standard) | <p>Cars that drive to and from the project will be subject to AB 1493, which directed the Air Resources Board (CARB) to adopt a regulation requiring the maximum feasible and cost effective reduction of greenhouse gas (GHG) emissions from new passenger vehicles.</p> <p>Pursuant to AB 1493, CARB adopted regulations that establish a declining fleet average standard for carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and hydrofluorocarbons (air conditioner refrigerants) in new passenger vehicles and light-duty trucks beginning with the 2009 model year and phased-in through the 2016 model year. These standards are divided into those applicable to lighter and those applicable to heavier portions of the passenger vehicle fleet. The regulations will reduce “upstream” smog-forming emissions from refining, marketing, and distribution of fuel.</p> |
| | Advanced Clean Car and Zero Emissions Vehicle (ZEV) Programs | <p>Cars that drive to and from the project will be subject to the Advanced Clean Car and Zero Emissions Vehicle Programs. In January 2012, the Air Resources Board approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards called Advanced Clean Cars. By 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.</p> <p>The ZEV program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018-2025 model years.</p> |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
|---------------------------------|---|---|
| | Tire Inflation Regulation | Cars that drive to and from the project will be subject to the CARB Tire Inflation Regulation, which took effect on September 1, 2010, and applies to vehicles with a gross vehicle weight rating (GVWR) of 10,000 pounds or less. Under this regulation, automotive service providers must, inter alia, check and inflate each vehicle's tires to the recommended tire pressure rating, with air or nitrogen, as appropriate, at the time of performing any automotive maintenance or repair service, and to keep a copy of the service invoice for a minimum of three years, and make the vehicle service invoice available to the CARB, or its authorized representative upon request. |
| | EPA and NHTSA GHG and CAFE standards. | Mobile sources that travel to and from the project would be subject to EPA and NHTSA GHG and CAFÉ standards for passenger cars, light-duty trucks, and medium-duty passenger vehicles (75 FR 25324–25728 and 77 FR 62624–63200). |
| Medium- and Heavy-Duty Vehicles | CARB In-Use On-Road Heavy-Duty Diesel Vehicles Regulation (Truck and Bus Regulation) | Any heavy-duty trucks associated with the project will be subject to CARB standards. The regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. The regulation applies to nearly all privately and federally owned diesel fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. |
| | CARB In-Use Off-Road Diesel Vehicle Regulation | Any relevant vehicle or machine use associated with the project will be subject to CARB standards. The CARB In-Use-Off-Road Diesel Vehicle Regulation applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulations: 1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; 2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System, DOORS) and labeled; 3) restricts the adding of |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
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| | | older vehicles into fleets starting on January 1, 2014; and 4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies, VDECS (i.e., exhaust retrofits). The requirements and compliance dates of the Off-Road regulation vary by fleet size, as defined by the regulation. |
| | Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Regulation | Any relevant vehicle or machine use associated with the project will be subject to CARB standards. The CARB Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Regulation applies to heavy-duty tractors that pull 53-foot or longer box- type trailers (California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 10, Article 4, Subarticle 1, Section 95300 et seq.). Fuel efficiency is improved through improvements in tractor and trailer aerodynamics and the use of low rolling resistance tires. |
| | EPA and NHTSA GHG and CAFE standards. | Mobile sources that travel to and from the project would be subject to EPA and NHTSA GHG and CAFÉ standards for medium- and heavy-duty vehicles (76 FR 57106–57513). |
| Water Use | | |
| Water Use Efficiency | Executive Order B-37- 16 | Water use associated with the project are subject to Emergency Executive Order B-37-16, issued May 9, 2016, which directs the State Water Resources Control Board to adjust emergency water conservation regulations through the end of January, 2017 to reflect differing water supply conditions across the state. The Water Board must also develop a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25% reduction called for in Executive Order B-29-15. The Water Board and Department of Water Resources will develop new, permanent water use targets to which the project will be subject. The Water Board will permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non- recirculated water in a fountain or other decorative water feature; |

| Project Component | Applicable Laws/ Regulations | Applicable GHG Reduction Measures |
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| | | watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians. |
| | Executive Order B-40-17 | Executive Order B-40-17 lifted the drought emergency in all California counties except Fresno, Kings, Tulare, and Tuolumne. It also rescinds Executive Order B-29-15, but expressly states that Executive Order B-37-16 remains in effect and directs that State Water Resources Control Board to continue development of permanent prohibitions on wasteful water use to which the project will be subject. |
| | Senate Bill X7-7 | <p>Water provided to the project will be affected by Senate Bill X7-7's requirements for water suppliers.</p> <p>Senate Bill X7-7, or the Water Conservation Act of 2009, requires all water suppliers to increase water use efficiency. It also requires, among other things, that the Department of Water Resources, in consultation with other state agencies, develop a single standardized water use reporting form, which would be used by both urban and agricultural water agencies.</p> |
| | CalGreen Code | The project is subject to CalGreen's water efficiency and conservation standards (CalGreen Code, Division 4.3). See discussion above under Building Components/Facility Operations. |
| | California Water Code, Division 6, Part 2.10, Sections 10910–10915. | Development and approval of the project requires the development of a project-specific water supply assessment. This assessment has been prepared and the City has indicated that it can serve the project with water. |
| | Cap-and-Trade Program | Electricity usage associated with water and wastewater supply, treatment and distribution would be subject to the cap-and-trade program. |
| | California Renewable Portfolio Standards (RPS) (Senate Bill X1-2 and 350) | Electricity usage associated with water and wastewater supply, treatment and distribution associated with the project will be required to comply with Renewable Portfolio Standards set by SB X1-2 and 350. |

In addition to the regulations listed above in Table 2.8-3 (GHG Laws and Regulations Applicable to the Proposed Project), the project is also evaluated against the following applicable plans, policies, and regulations:

- 1) Assembly Bill 32 (AB 32) and Senate Bill 32 (SB 32)
- 2) City of Arcata Community Greenhouse Gas Reduction Plan
- 3) Humboldt County Association of Governments (HCAOG) 20-Year Regional Transportation Plan (RTP)
- 4) NCUAQMD Particulate Matter Attainment Plan

Assembly Bill 32 (AB 32) and Senate Bill 32 (SB 32)

As described above in the Regulatory Framework section, AB 32 established the goal for the reduction of California's GHG emissions to 1990 levels by 2020. Prior to that, Executive Order S-3-05 established the goal of reducing California's emissions 80 percent under 1990 levels by 2050. In 2016, SB 32 was signed into law, establishing the state's mid-term target for 2030 emissions to be 40 percent below the 1990 emissions.

Following the passage of AB 32, some of the regional air districts in the state, such as the Bay Area Air Quality Management District (BAAQMD), based their planning and regulations on the requirements of AB 32, which included a reduction of GHG emissions to 1990 levels by 2020. The BAAQMD set forth the GHG significance thresholds specifically to meet AB 32 requirements, and so plans and projects that meet those thresholds can be assumed to meet the requirements of AB 32. These thresholds were derived by the BAAQMD from evaluating land use sectors, population and employment statistics for 2020 statewide. The threshold was determined by dividing the GHG emissions inventory goal (allowable emissions), by the estimated 2020 statewide population and employment (BAAQMD, 2017). The land use sector GHG emissions for 1990 were estimated by BAAQMD, as identified in Appendix D of the BAAQMD CEQA Guidelines, to be 295.53 MMTCO₂e and the 2020 California service population (SP) to be 64.3 million. Therefore, the significance threshold that would ensure consistency with the GHG reduction goals of AB 32 is estimated at 4.6 MT CO₂e/SP for year 2020.

As noted earlier in this section, the North Coast Unified Air Quality Management District (NCUAQMD) has not put forth planning guidance for lead agencies within the District to use to evaluate a project's GHG impact based on consistency with AB 32. However, the NCUAQMD has recommended the use of thresholds and guidance provided by other Air Districts in the State. In the North Coast Air Basin, the closest air district to the proposed project that has adopted GHG significance thresholds is the Mendocino Air Quality Management District (MCAQMD). The thresholds adopted by MCAQMD to evaluate emissions from new land use development projects are the same as the thresholds used by the Bay Area Air Quality Management District (BAAQMD). Given that the MCAQMD CEQA thresholds are used by an adjoining air district in the North Coast Air Basin, with similar populations, and the lead agency is entitled to select

an appropriately supported threshold under CEQA, the MCAQMD thresholds are considered acceptable for the proposed project and are adequately supported.

As indicated in Table 2.8-1 (Unmitigated GHG Emissions [Annual Metric Tons Per Year]), the project's per capita GHG emissions would be 6.9 MTCO₂eq/yr without implementation of any reduction measures. As noted above, implementation of Mitigation Measures 2.8.1a, 2.8.1b, and 3.1b would result in the project emitting approximately 4.5 MT CO₂e/SP/yr, which is below the MCAQMD project-level efficiency threshold (4.6 MT CO₂e/SP/yr). Since the project's GHG emissions will be below a GHG threshold developed to provide consistency with AB 32, the proposed project would not conflict with AB 32.

In addition, it is noted that the California Air Resources Board (CARB) announced in July 2018, that the State has already met the AB 32 goal of reducing emissions to 1990 levels by 2020 approximately four years early. As stated in the Executive Summary of the 2018 Edition of the California Greenhouse Gas Emissions Inventory: 2000-2016:

“The inventory for 2016 shows that California's GHG emissions continue to decrease, a trend observed since 2007. In 2016, emissions from routine GHG emitting activities statewide were 429 million metric tons of CO₂ equivalent (MMTCO₂e), 12 MMTCO₂e lower than 2015 levels. This puts total emissions just below the 2020 target of 431 million metric tons. Emissions vary from year-to-year depending on the weather and other factors, but California will continue to implement its greenhouse gas reductions program to ensure the state remains on track to meet its climate targets in 2020 and beyond.”

In November 2017, the CARB developed the *2017 Climate Change Scoping Plan* (2017 Scoping Plan), which provides an update on the State's progress toward the 2020 GHG reduction target (i.e., Assembly Bill [AB] 32 called on the State to reduce GHG emissions to 1990 levels by 2020), and launches a path toward achieving California's 2030 GHG reduction target (i.e., 40 percent emissions reductions below 1990 level). The 2017 Scoping Plan also identifies how the State can reach the 2050 goal to reduce GHG emissions by 80 percent below 1990 levels. The 2017 Scoping Plan provides numerous ways to achieve the State's long-term 2030 and 2050 GHG reduction goals, including energy efficiency measures for existing and new development.

The 2017 Scoping Plan states, “Energy efficiency is another key component to reducing energy sector GHG emissions. Heating fuels used for activities such as space and water heating in the residential, commercial, and industrial sectors represent a significant source of GHG emissions. Transitioning to cleaner heating fuels is part of the solution of achieving greater efficiency savings in existing buildings and has significant GHG emissions reductions potential. Examples of this transition can include use of renewable gas and solar thermal, as well as electrification of end uses in residential, commercial, and industrial sectors.” The 2017 Scoping Plan continues, “Collectively, renewable energy and energy efficiency measures can result in significant public health and climate benefits by displacing air pollution and GHG emissions from fossil-fuel based energy sources....”

In the 2017 Scoping Plan, CARB provides recommendations for relying on GHG reduction measures to reduce project-level impacts. First, CARB recommends that when relying on GHG

mitigation measures, lead agencies should prioritize onsite design features that reduce emissions. As described above under Finding 2.8-1, mitigation has been included for the project requiring several onsite design features that include pedestrian/bicycle improvements, area source reductions, energy efficiency measures, water conservation measures, solid waste reductions, and landscaping (see Mitigation Measures 2.8.1a and 3.1b). The pedestrian and bicycle improvements are especially important since they will provide access to nearby trail systems and transit facilities, which will encourage alternative modes of transportation and reduce vehicle miles traveled.

Second, CARB recommends that it may be appropriate and feasible to mitigate project emissions through purchasing and retiring carbon credits. As described above under Finding 2.8-1, mitigation has been included for the project requiring the purchase of carbon offsets to offset 8,100 metric tons of GHG emissions (see Mitigation Measure 2.8-2). This will ensure that at full build-out the proposed project will generate GHG emissions that are below the project-level efficiency threshold of 4.6 metric tons of CO₂e per service population per year (MT CO₂e/SP/yr).

As indicated in Table 2.8-1 (Unmitigated GHG Emissions [Annual Metric Tons Per Year]), the project's GHG emissions would be 2,193.2 MTCO₂eq/yr without implementation of any reduction measures. As noted above under Finding 2.8-1, implementation of Mitigation Measures 2.8.1a, 2.8.1b, and 3.1b would reduce project GHG emissions to 1,436.0 MTCO₂eq/yr, resulting in a 34.5 percent reduction. As such, the proposed project would incorporate several design features that would reduce long-term operational GHG emissions in compliance with the guidance of the 2017 Scoping Plan, which outlines the pathway to meeting the State's 2030 and 2050 GHG reduction goals.

As described in the 2017 Climate Change Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO₂e per capita by 2030. The applicant anticipates the proposed project being fully operational by 2025, and as mitigated will result in the emissions of approximately 4.5 MT CO₂e/SP/yr. The per capita emissions that would result from the proposed project would be well below the target recommended for 2030 in the Climate Change Scoping Plan.

In addition, the proposed project would receive electricity from the Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) program. The CCE program procures approximately 44% of its power from renewable and carbon-free sources, which is approximately 9% more renewable energy than the power sources previously provided by PG&E (RCEA, 2019). Due to the limitations of the California Emissions Estimator Model (CalEEMod), the project was not given credit for GHG emissions reductions that would result from participating in the RCEA CCE program.

Further, the project is consistent with the HCAOG 20-Year RTP (2014), as discussed below. The HCAOG prepared an EIR to evaluate the potential impacts of implementation of the HCAOG 20-Year RTP, which is the long-range planning, policy, action, and financial document for the Humboldt County Region, covering an approximately 20-year period through 2035

(HCAOG, 2014). The EIR concludes that GHG impacts from implementation of the RTP would be less than significant.

Lastly, as indicated in Table 2.8-3 (GHG Laws and Regulations Applicable to the Proposed Project), the project is subject to numerous local, regional, and state regulations that would reduce GHG emissions. Due to the limitations of the California Emissions Estimator Model (CalEEMod), and the information available at the time that the GHG emissions estimates were calculated, compliance with many of these existing regulatory requirements were not factored into the emissions estimates. Although not quantified, it is anticipated that the project's compliance with the existing regulatory requirements listed in Table 2.8-3, in combination with the proposed mitigation measures (see Mitigation Measures 3.1b, 2.8.1a, and 2.8.1b), would provide consistency with the State's 2030 and 2050 GHG reduction goals.

However, as described above, the proposed project has been mitigated to reduce GHG emissions below a project-level efficiency threshold that was developed to provide consistency with AB 32. Typically, to demonstrate consistency with SB 32, a reduced project-level efficiency threshold (i.e., less than 4.6 MT CO₂e/SP/yr) is developed based on the year in which the project would become operational after 2020. Since a GHG project-level efficiency threshold methodology designed to provide consistency with SB 32 has not been adopted for use in the North Coast Air Basin, there is no applicable threshold available to arrive at a significance determination. As such, it is conservatively assumed that the proposed project would conflict with the GHG reduction goal in SB 32 (i.e., 40 percent emissions reductions below 1990 level), and the impact is found to be significant and unavoidable. Because the EIR identifies greenhouse gas emissions as an impact that cannot be reduced to a less than significant level, a Statement of Overriding Considerations would need to be adopted for the Creek Side Homes project.

Arcata Community Greenhouse Gas Reduction Plan

The City of Arcata developed a Community Greenhouse Gas Reduction Plan in 2006 which set a greenhouse gas (GHG) emissions target of 20% below 2000 GHG levels by 2010. The plan was developed in part by analyzing an inventory of community-wide greenhouse gas emissions that was conducted in 2000. The plan focuses on six action areas:

- Energy efficiency
- Renewable energy
- Sustainable transportation
- Waste and consumption reduction
- Sequestration and other methods
- Cross-cutting approaches

In addition to reducing greenhouse gas emissions it is expected that the implementation of this Plan will offer many other community benefits. These include: energy cost savings with subsequent benefits to the local economy, cleaner air, less reliance on fossil fuels and imported energy sources, and a move toward a more sustainable energy economy.

Based on an updated community-wide GHG emissions inventory conducted in 2007, City of Arcata staff estimates that the City's GHG reduction target has not been achieved within the residential, commercial, and industrial sectors. Although the Arcata Community Greenhouse Gas Reduction Plan was adopted in 2006 and is based on GHG inventories using outdated methodologies, it is the only local GHG reduction plan relevant to the proposed project. As such, it is appropriate for all projects in the City subject to CEQA to include an analysis of consistency with the City's adopted plan. Despite the fact that City Staff estimates that the goal of the plan to reduce GHG emissions by 20 percent below 2000 levels by 2010 has not been achieved, it is still appropriate to reach a conclusion that a project will not conflict with the plan if it is consistent with many of the strategies in the plan.

As noted above, implementation of Mitigation Measures 3.1b, 2.8.1a, and 2.8.1b would reduce project GHG emissions by approximately 34.5 percent and below a threshold that was developed to provide consistency with AB 32 (i.e., reduce GHG emissions statewide to 1990 levels by 2020). In addition, as noted above, the State as a whole has already met the AB 32 goal of reducing emissions to 1990 levels by 2020 approximately four years early.

As described below, the proposed project is consistent with the following strategies in the Arcata Community Greenhouse Gas Reduction Plan including:

Encourage Energy Efficient Buildings, Building Construction, and Retrofit

The proposed project would be subject to the City of Arcata Ordinance No. 1507 (Residential Reach Code), which requires new low-rise residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by at least 20 percent.

Improve Pedestrian/Bicycle Infrastructure

The residential development site is located within biking distance (approximately eight-minute ride) from the University and City of Arcata Plaza and Downtown area. Bike lanes near the site include the following: 1) Alliance Road from Spear Avenue to 11th Street (Class II); 2) Foster Avenue from Alliance Road to Sunset Avenue (Class II). There is also a new Class I multi-use trail that provides access along Foster Avenue from Shay Park to Sunset Avenue. The closest bus stop to the site (~700 feet walking distance) is on the Gold and Orange Routes at the intersection of Foster Ave/Alliance Road, with connection to the rest of Arcata and the County.

To comply with the City's General Plan policies and Community Greenhouse Reduction Plan, the proposed project would construct new pedestrian/bicycle pathways to serve the development, some of which are identified in the Arcata Pedestrian and Bicycle Master Plan (2010) and W-Trans Traffic Study (Appendix T.1), including the following (see Mitigation Measure 3.1b):

- a) A pedestrian/bicycle pathway through parcel 505-341-048 is proposed for access to Alliance Road that would include a crossing over Janes Creek. The proposed crossing would include the replacement of an existing overcrossing located mid-way along the eastern boundary of the residential development site. This pathway would connect the eastern edge of the residential development site to an existing paved access road that connects to Alliance Road adjacent to the Janes Creek Townhouses (South).
- b) A portion of the Hammond Trail is proposed to be constructed on parcel 505-161-009 along the southern boundary of the residential development site directly south of the proposed cottage units.
- c) A north-south pathway is proposed on the southeastern portion of the residential development site that will connect the Hammond Trail with the pedestrian/bicycle pathway to Alliance Road.
- d) Sidewalks and bike lanes will be developed within the Foster Avenue connection to provide non-vehicular access from the residential development site to Alliance Road.
- e) The all-weather emergency access proposed to connect the residential development site (APN 505-161-011) with Stewart Avenue will also function as a pedestrian/bicycle pathway.

These improvements would connect the residential development site to the existing pedestrian and bicycle trail systems in the project area and provide a direct route to the bus stops along Alliance Road. The proposed project will promote a balanced transportation system by providing convenient access to pedestrian, bicycle, and bus transit facilities. This will help to reduce vehicle miles traveled and emissions generated by private automobiles.

Smart Growth

The residential development site (APN 505-161-011) is located within the City of Arcata's Sphere of Influence and Urban Services Boundary on a former mill site that is adjacent to existing residential neighborhoods. The residential development site is located within walking and biking distance from Humboldt State University (~1 mile) and City of Arcata Plaza and Downtown area (~1 mile). The project proposes a compact mixed residential development that will provide single-family residential units, assisted living units, and senior-restricted neighborhood cottage units. The project proposes to develop several pedestrian/bicycle pathways that will connect the site to the nearby trail systems and adjacent neighborhoods and encourage alternative forms of transportation. As such, the project will be consistent with several "*smart growth*" development strategies including: 1) compact development pattern; 2) mixture of residential housing types; 3) close proximity to nearby commercial and educational centers; 4) pedestrian/bicycle facilities to encourage alternative forms of transportation; and 5) redevelopment of a former mill site with land uses that are compatible with surrounding development.

Rail Right-of-Way

A privately-owned section of railbed occurs along the southern boundary of the residential development site on parcel 505-161-009. The Arcata Pedestrian and Bicycle Master Plan (2010) proposes to convert the railbed into a section of the Hammond Trail through the Arcata Bottom. As part of this project the railbed will be developed as a Class I multi-use pathway that will provide a connection from the residential development site (APN 505161-011) to the existing pedestrian and bicycle trail system in the project area.

In addition to the Hammond Trail section that will be developed by the applicant, the City of Arcata also proposes to construct a section of the Hammond Trail on parcel 505-151-005. This parcel occurs directly west of parcel 505-161-009 and also historically contained the Simpson Mill spur tracks. The property owner (Arcata Land Company LLC) will dedicate an access easement to the City of Arcata for construction of the proposed trail.

HCAOG 20-Year Regional Transportation Plan (RTP)

Under its authority as the Regional Transportation Planning Agency (RTPA) for Humboldt County, the Humboldt County Association of Governments (HCAOG) is required to adopt and submit an updated Regional Transportation Plan (RTP) to the California Transportation Commission (CTC), and Caltrans, every five years. The most recent updates of the HCAOG RTP were completed in 2014 and 2017 and are entitled “Variety in Rural Options of Mobility (VROOM).” As noted on pg. 6 of the RTP, one of the main objectives of the Plan is “Environmental Stewardship.” As stated on pg. 6 of the Plan (HCAOG, 2014):

“Environmental Stewardship – Enhance the performance of the transportation system while protecting and enhancing the natural environment. Strive to achieve goals of California Global Warming Solutions Act of 2006 (AB 32) and Sustainable Communities and Climate Protection Act of 2008 (SB 375), protect and improve air, water, and land quality, help reduce transportation-related fuel and energy use, help reduce single-occupancy-vehicle (SOV) trips and motorized vehicle miles traveled (VMT), etc.”

One of the most important legislative actions to address GHG is Assembly Bill 32 (Nunez, 2005), the California Global Warming Solutions Act of 2006. AB 32 requires the California Air Resources Board (CARB) to set statewide GHG emission reduction targets. California aims to reduce GHG emissions to 1990 levels by 2020—a reduction of approximately 30%, and by 2050 reduce emissions 80% below 1990 levels. Senate Bill 375 (Steinberg, 2007), Sustainable Communities and Climate Protection Act of 2008, provides key support in achieving AB 32 goals. Senate Bill 375 directs CARB to set regional emissions reduction targets from passenger vehicles, which are the single largest source of greenhouse gas emissions statewide, accounting for 30% of total emissions (HCAOG, 2014).

RTPA’s have a role in meeting these goals by conducting proactive, collaborative, and “adaptive” transportation planning that always considers the real threats of global climate change, and the large role fossil-fuel-based transportation plays in it. The HCAOG RTP promotes integrating transportation and land use to reduce CO2 emissions from the regional

transportation system. The RTP's goal and objectives, specifically the Environmental Stewardship objective, complement AB 32 and SB 375 goals (HCAOG, 2014).

Since the project is an infill residential development within the City of Arcata Sphere of Influence and Urban Services Boundary, and proposes pedestrian and bicycle improvements to encourage alternative modes of transportation, it is consistent with the HCAOG 20-Year RTP (2014). The HCAOG prepared an EIR to evaluate the potential impacts of implementation of the HCAOG 20-Year RTP (2014), which is the long-range planning, policy, action, and financial document for the Humboldt County Region, covering an approximately 20-year period through 2035 (HCAOG 20-Year RTP EIR, pg. ES-24). The HCAOG EIR quantitatively projects emissions as a result of implementation of the HCAOG 20-Year RTP until the year 2035, concluding that emissions in 2035 without the project would be 24.90 lbs per capita of CO₂ per day, while with the project emissions would be slightly reduced to 24.89 lbs per day (Id., pgs. 4.5-13, -14). As compared to baseline 2013 levels of 28.96 lbs per day, this is an approximately 14 percent reduction, and the EIR concludes that impacts are less than significant (Id., pg. 4.5-14).

NCUAQMD Particulate Matter Attainment Plan

The NCUAQMD prepared a Particulate Matter Attainment Plan, Draft Report, in May 1995 with the goal of achieving and maintaining state ambient air quality standards for PM₁₀. This report includes a description of the planning area (North Coast Unified Air District), an emissions inventory, general attainment goals, and a listing of cost-effective control strategies. The Air District's Attainment Plan established goals to reduce PM₁₀ emissions and eliminate the number of days in which standards are exceeded. The Plan includes three areas of recommended control strategies to meet these goals: transportation, land use, and burning. Control measures for these areas are included in the Attainment Plan and have also been incorporated as policies in the Arcata General Plan. Compliance with the control measures in the Particulate Matter Attainment Plan would not only result in a reduction in PM₁₀ emissions, but would also result in a reduction of GHG emissions. Control strategies focused on reducing transportation emissions, more efficient land-use patterns, and reducing emissions from burning activities would also reduce the amount of GHG emissions from land use development projects. The project is proposing the following measures consistent with the plan:

Transportation

The project proposes to contribute a fair-share contribution towards the applicable traffic flow improvements recommended in the W-Trans Traffic Study (Appendix T.1) and by the City of Arcata, which will improve traffic flow conditions and minimize the amount of vehicular related exhaust emissions, including GHG emissions.

Land Use

The residential development site is located on the western boundary of the City of Arcata adjacent to existing residential neighborhoods and within walking and biking distance of Humboldt State University (~1 mile) and the City of Arcata Plaza and Downtown area (~1 mile). The site is also within walking and biking distance from the Westwood neighborhood

commercial center (~1/3 mile) to the north. The close proximity of the site to existing educational, commercial, and employment centers will encourage the use of alternative modes of transportation by future residents which will reduce vehicle miles traveled and associated GHG emissions.

Burning

The proposed residential units and assisted living facility will use forced-air gas or electric heating instead of woodstoves or fireplaces, which will reduce GHG emissions generated from heating during operation of the project.

As described above under the discussion of Senate Bill 32 (SB 32), with the proposed project design features, mitigation measures, and compliance with existing regulatory requirements, it cannot be found with certainty that the proposed project would be consistent with the GHG reduction goals in SB 32 (i.e., 40 percent emissions reductions below 1990 level). Therefore, the proposed project is conservatively assumed to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Determination:

Significant and unavoidable impact with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures would reduce the potential impacts, but impacts would remain significant and unavoidable.

Same as *Mitigation Measures 2.8.1a (GHG Reduction Measures)*, *2.8.1b (Purchase of Carbon Offsets)*, and *3.1b (Pedestrian/Bicycle Improvements)*.

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Section 2.9

NOISE

This section evaluates the potential impacts related to noise during construction and operation of the project. To provide the basis for this evaluation, the Environmental Setting section describes the fundamentals of acoustics, groundborne vibration, and the existing noise environment for the project area. The Regulatory Framework section describes the regulatory background that applies to the project with regard to noise and vibration. The Impact Analysis section establishes the thresholds of significance, evaluates potential noise and vibration impacts, and identifies the significance of impacts. Where appropriate, mitigation is presented to reduce impacts to less than significant levels.

ENVIRONMENTAL SETTING

Fundamentals of Acoustics

Noise is often defined as unwanted or annoying sound. The human response to objectionable sound, or noise, is a subjective reaction to characteristics of a physical phenomenon. The objectionable nature of sound could be caused by either the pitch or loudness of a tone. Pitch is the height or depth of a sound, depending on the relative rapidity (frequency) of the vibrations produced. Loudness is the intensity, or amplitude, of sound waves combined with the reception characteristics of the human ear.


There are several methods of characterizing sound. The standard unit of sound level measurement is the decibel, which is represented by dB. The decibel system of measuring sound gives a rough correlation of the intensity of sound and its perceived loudness to the human ear. Unlike linear measurement units such as inches or pounds, decibels are measured using a logarithmic scale. On a logarithmic scale, a ten dB increase is ten times more intense than a one dB increase, and an additional 20 dB increase would be 100 times more intense. Noise measurements are usually based on the range of sound frequencies, which most human ears can hear, called the “*A-weighted*” scale; as a result, most measurements are reported as “*dBA*.” See Table 2.9-1 for examples of sound levels and a subjective description of the response to those sound levels.

Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy equivalent sound/noise descriptor is called Leq. The most common averaging period is hourly, but Leq can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus one dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus one to two dBA.

Beyond the measurement of sound levels, a discussion of noise levels requires that a standard be identified. The most commonly used measures of noise levels are the Community Noise Equivalent Level (CNEL) and the Day/Night Noise Level (L_{dn}). These measures are used to account for the fact that people are more sensitive to unwanted sound occurring during evening and nighttime hours. The CNEL measure is an average of A-weighted noise over a 24-hour period, with an increment of 5 dBA added to the noise level between the hours 7:00 p.m. and 10:00 p.m. and 10 dBA added to noise levels between 10:00 p.m. and 7:00 a.m. The L_{dn} measure uses the same methodology except that there is no artificial increment added to noise occurring within the hours between 7:00 p.m. and 10:00 p.m. The City of Arcata uses both measures in its policies intended to reduce the exposure of noise-sensitive land uses to transportation noise.

Table 2.9-1 Examples of Sound Levels

| Noise Source | Sound Level | Subjective Description |
|---|-------------|---|
| AMPLIFIED ROCK 'N ROLL → JET TAKEOFF @ 200 ft. → | 120 dBA |  DEAFENING |
| BUSY URBAN STREET → | 100 dBA | VERY LOUD |
| JET SKI / FREEWAY TRAFFIC @ 5 ft → | 80 dBA | LOUD |
| CONVERSATION @ 6 ft. → | 60 dBA | MODERATE |
| TYPICAL OFFICE INTERIOR → SOFT RADIO MUSIC → | 40 dBA | FAINT |
| RESIDENTIAL INTERIOR → WHISPER @ 6 ft. → | 20 dBA | VERY FAINT |
| HUMAN BREATHING → | 0 dBA | |

Fundamentals of Ground Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several methods are typically used to quantify the amplitude of vibration including Peak Particle Velocity (PPV) and Root Mean Square (RMS) velocity. PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. RMS velocity is defined as the average of the squared amplitude of the signal, usually measured in decibels referenced to one micro-inches per second (in/sec) and reported in VdB. PPV and VdB vibration velocity amplitudes are used in this analysis to evaluate the effect on buildings and human response to vibration.

Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. This rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows. In urban environments, sources of groundborne vibration include construction activities, light and heavy rail transit, and heavy trucks and buses.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile-driving and vibratory compaction equipment typically generates the highest construction-related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Existing Noise Environment

Residential Development Site

The residential development site (APN 505-161-011) is vacant and contains no activities that generate noise. Noise measurements were taken on 04/21/17 by SHN Consulting Engineers & Geologists, Inc. (Appendix F) at the residential development site (APN 505-161-011). Noise levels at the site range from 47.9 dB Ldn/CNEL on the southern boundary of the site adjacent to

Foster Avenue, to 41.8 dB Ldn/CNEL on the eastern boundary of the site adjacent to Janes Creek. Vehicle traffic on Foster Avenue was determined to be the predominant noise sources in the project area.

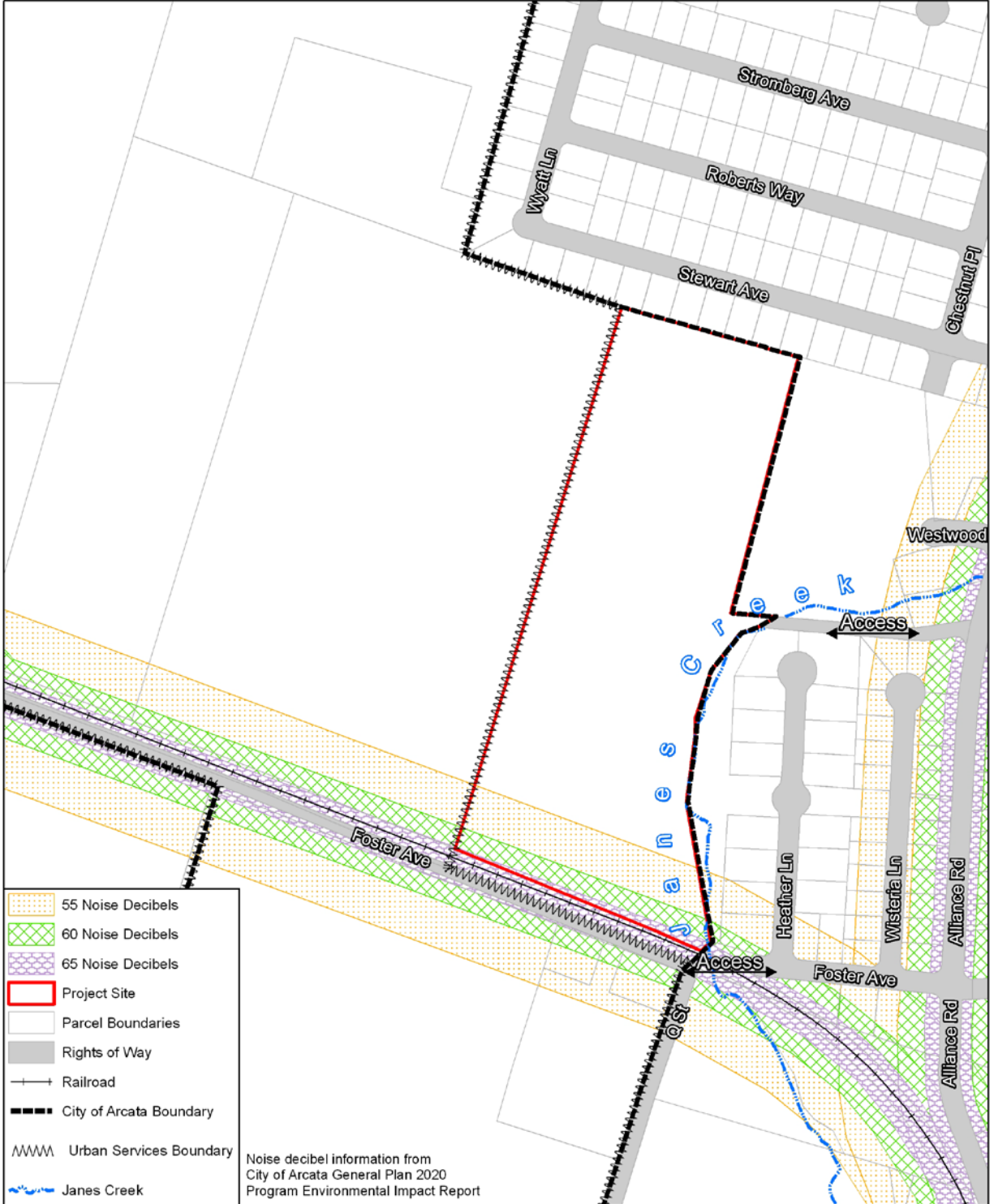
Based on Arcata General Plan Noise Element Figure N-b (Page 6-25), the Simpson Mill spur tracks along the southern boundary of the residential development site, is the greatest potential source of transportation noise that could impact the proposed residential development (see Figure 2.9B). At one time these tracks served the mill formerly located to the west of the site. The former mill site is currently used by Sun Valley Floral Farms agricultural production facility. The spur tracks are privately owned and not active, and there are no plans to restore railroad use on this railbed at this time. According to the Arcata Pedestrian & Bicycle Master Plan (2010, Pages 5-31 – 5-32), it is planned to develop this section of railbed as an extension of the Hammond Trail into Arcata. As described in the Chapter 1 (Introduction) of the EIR, the applicant and City propose to construct portions of the Hammond Trail on the railbed to implement the Pedestrian and Bicycle Master Plan.

Figure 2.9A Simpson Mill Spur Tracks on parcel 505-161-009



Figure 2.9B Projected Noise Contours (Arcata General Plan Figure N-b)

Creekside Homes Annexation Projected Noise Contours



Map Compiled by Planwest Partners
April 11, 2006

0 250 Feet



Noise decibel information from
City of Arcata General Plan 2020
Program Environmental Impact Report

Surrounding the Residential Development Site

The following land uses surround the residential development site: residential to the north (along Stewart Avenue); residential to the east (along Heather Lane and Westwood Court); rural residential, limited industrial and agricultural uses to the south (along Foster Avenue and Q Street); and agricultural uses to the west.

The surrounding residential uses are not considered significant noise generators. The existing industrial activity located on Q Street is subject to City of Arcata regulations relating to noise levels and hours of operations, which are intended to limit its impact on surrounding uses. Sun Valley Floral Farms is located within the unincorporated area approximately 0.4 miles to the west of the site. According to the Humboldt County General Plan Update 2025, Agriculture Resources and Policies report, the operation of Sun Valley Floral Farms has generated conflicts with residents in the Arcata Bottom area, including noise complaints, resulting from the operation of its greenhouses.

During the noise measurements taken on the southern property line of the residential development site (APN 505-161-011) on 04/21/17, vehicle and truck traffic noise on Foster Avenue and Alliance Road were determined to be the predominant noise sources in the project area. The maximum noise level detected from traffic on Foster Avenue was 47.9 dB Ldn/CNEL (Appendix F). Noise generated by agricultural operations to the west of the site was audible in the distance but did not produce noise levels that significantly exceeded ambient background levels.

Noise-Sensitive Land Uses

Certain land uses, such as residences, schools, childcare centers, churches, hospitals, and nursing homes, etc. are generally more sensitive to noise impacts. The sensitive noise receptors in the project area are residential uses to the north, east, and south, and Bloomfield Elementary School to the southwest.

REGULATORY FRAMEWORK

City of Arcata

Arcata General Plan and Land Use Code

The City of Arcata General Plan addresses noise in the Noise Element. The Noise Element contains Goals and related Policies that address reducing noise impacts for sensitive land uses, promoting design techniques that provide sound attenuation, and compliance with the City's noise guidelines. The Noise Element advances the ethic that a low noise-level environment is a common resource that can be enjoyed by all, and that noise generated by some has the potential

to negatively affect others. The Noise Element also contains a map that projects future noise contours associated with Highway 101, major local roadways, and railroad tracks. The Arcata General Plan identifies loud noise as a health issue and lists the following noise-sensitive land uses:

- Residential;
- Transient Lodging;
- Hospitals/Nursing Homes;
- Theaters/Auditoriums/Music Halls;
- Churches/Meeting Halls;
- Office Buildings;
- Schools/Libraries/Museums; and,
- Playgrounds/Neighborhood Parks.

The City of Arcata noise standards are contained in the General Plan Noise Element and Section 9.30.050 (*Noise Standards*) of the Land Use Code. Table 3-2 (*Maximum Allowable Noise Level by Receiving Land Use*) in Section 9.30.050 of the Arcata Land Use Code sets forth the maximum allowable exterior and interior residential noise levels from stationary noise sources. The maximum allowable exterior residential noise levels are 55 dB Leq between 7 a.m. to 7 p.m., 50 dB Leq from 7 p.m. to 10 p.m., and 45 dB Leq from 10 p.m. to 7 a.m. The maximum allowable interior residential noise levels are 45 dB Leq between 7 a.m. to 7 p.m., 40 dB Leq from 7 p.m. to 10 p.m., and 35 dB Leq from 10 p.m. to 7 a.m. Table 3-3 (*Maximum Allowable Transportation Noise Exposure*) in Section 9.30.050 of the Arcata Land Use Code, sets forth the maximum acceptable noise levels for outdoor activity areas and interior spaces from transportation noise sources. The maximum allowable outdoor activity area noise level for residential uses is 60 dB Ldn/CNEL, and the maximum allowable interior space noise level for residential uses is 45 dB Ldn/CNEL.

Table 2.9-2 below contains a list of policies from the Arcata General Plan and requirements from the Arcata Land Use Code that are applicable to the proposed project.

Table 2.9-2 Applicable General Plan Policies and Land Use Code Requirements

| Policy | Objective | Applicable Sub-Policies |
|---|---|-------------------------|
| ARCATA GENERAL PLAN | | |
| N-1 Noise Attenuation | Establish acceptable noise levels for land uses and activities that will protect community residents from the harmful effects of excessive noise exposure from stationary noise generators. | N-1a through N-1c |
| N-2 Stationary Noise Sources and Levels | Establish acceptable noise levels for land uses and activities that will protect community residents from the harmful effects of excessive noise exposure from stationary noise generators. | N-2a through N-2d |

| Policy | Objective | Applicable Sub-Policies |
|---|--|--------------------------------|
| N-3 Transportation Noise Sources and levels | Establish acceptable noise levels for land uses and activities that will protect community residents from the harmful effects of excessive noise exposure due to transportation noise sources. | N-3a and N-3c |
| N-5 Intrusive & Intermittent Noise | Protect community residents from the effects of excessive, intrusive, and intermittent noise. | N-5a, N-5b, N-5d, N-5e |
| ARCATA LAND USE CODE | | |
| Section 9.30.050 (Noise Standards) | Implements the policies of the Noise Element of the General Plan, and provides standards for noise mitigation that are intended to protect the community health, safety, and general welfare by limiting exposure to the unhealthful effects of noise. | 9.30.050(D) |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if the project would result in any of the following effects:

- 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;
- Exposure of persons to, or generation of, excessive groundbourne vibration or groundbourne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- 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 expose people residing or working in the project area to excessive noise levels;
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

Arcata General Plan

Table 2.9-3 Project Consistency with General Plan

| Policy | Consistency Analysis |
|---|--|
| N-1 Noise Attenuation (N-1a through N-1c) | <p>N-1a to N-1c. As discussed in this section, based on the existing noise levels at the residential development site, the projected transportation noise levels in the Arcata General Plan Noise Element, and the project design, the proposed residential development will not generate or be subject to noise levels in excess of the City’s standards.</p> |
| N-2 Stationary Noise Sources and Levels (N-2a through N-2d) | <p>N-2a. The projected noise level contours on Figure N-b of the General Plan Noise Element do not exceed the City’s noise standards for outdoor activity areas on the residential development site (APN 505-161-011). Without use of the railbed on the southern boundary of the residential development site for rail service, noise levels at the site will be well below the projections in the Arcata General Plan Noise Element.</p> <p>N-2b. As discussed in this section, there are no significant stationary noise sources in the project area. Noise measurements taken at the residential development site (APN 505-161-011) indicate that the predominant noise sources in the project area are traffic from Foster Avenue and Alliance Road (Appendix F).</p> <p>N-2c. Residential development is not a land use type that typically generates significant noise levels during long-term operation. Residential development is typically considered to be a noise-sensitive land use, as opposed to a land use that generates significant noise levels. As such it is not anticipated that the future residents will produce noise levels in excess of the City’s standards at nearby land uses.</p> <p>N-2d. The proposed residential units are required to be constructed to meet Title 24 requirements which require additional insulation, double-paned windows and other features which will provide sound attenuation and ensure compliance with the City’s interior noise standards.</p> |
| N-3 Transportation Noise Sources and levels (N-3a and N-3c) | <p>N-3a to N-3c. The existing noise levels at the residential development site (APN 505-161-011) (Appendix F) and projected noise level contours on Figure N-b of the Arcata General Plan Noise Element, do not exceed the City’s noise standards for transportation noise. Without use of the railbed on the southern boundary of the residential development site for rail service, noise levels at the site will be well below the projections in the Arcata General Plan Noise Element.</p> |
| N-5 Intrusive & Intermittent Noise (N-5a, N-5b, N-5d, and N-5e) | <p>N-5a. Consistent with this policy, the potential for intrusive noise, such as nearby agricultural operations to the west of the residential development site (APN 505-161-011), will be disclosed to future residents.</p> <p>N-5b. As discussed in this section, there are no significant non-transportation noise sources in the project area. Noise measurements taken at the residential development site (APN 505-161-011) indicate that the predominant noise sources in the project area are traffic from Foster Avenue and Alliance Road (Appendix F).</p> <p>N-5d. Consistent with this policy, the construction of the proposed project will occur during the stated hours and days. This will be included as a condition of approval by the City of Arcata for the proposed project.</p> <p>N-5e. Based on information provided by the applicant, the proposed construction equipment is consistent with these policy requirements. This will be included as a condition of approval for the proposed project.</p> |

Arcata Land Use Code

Table 2.9-4 Project Consistency with Land Use Code

| Policy | Consistency Analysis |
|------------------------------------|--|
| Section 9.30.050 (Noise Standards) | 9.30.050(D). As discussed under Finding 2.9.1, the proposed residential development will not produce noise levels or be subject to noise levels in excess of the standards in the Arcata Land Use Code. Compliance with the requirements contained in Section 9.30.050(D)(2) of the Arcata Land Use Code will minimize potential noise impacts from short-term construction activities. |

Proposed Project

Finding 2.9.1: 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.

Discussion:

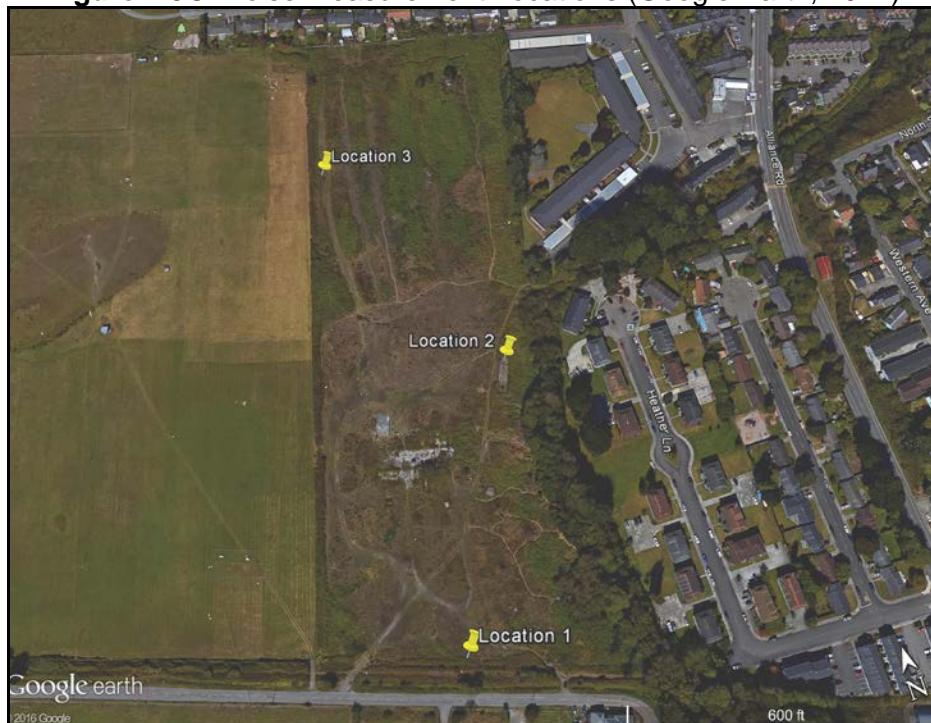
The Creek Side Homes project proposes the annexation, redesignation/rezoning, and subdivision of parcel 505-161-011 for residential and assisted living development that would provide housing for approximately 269 residents. The proposed development of parcel 505-161-011 will generally consist of 32 single-family residential units and 32 second units, an assisted living and memory care facility with 100 care beds, and 25 senior-restricted neighborhood cottage units.

Noise measurements were taken on 04/21/17 by SHN Consulting Engineers & Geologists, Inc. (Appendix F) to assess existing noise levels at the residential development site (APN 505-161-011). Table 2.9-5 (Baseline Noise Levels at the Residential Development Site) shows the results of the noise measurements and Figure 2.9C (Noise Measurement Locations) shows the locations that noise measurements were taken (Appendix F).

Table 2.9-5 Baseline Noise Levels at the Residential Development Site

| Location of Measurement | Primary Noise Source | CNEL/Ldn (dBA) |
|-------------------------|----------------------|----------------|
| Location 1 | Foster Avenue | 47.9 |
| Location 2 | Foster Avenue | 41.8 |
| Location 3 | Foster Avenue | 42.0 |

Figure 2.9C Noise Measurement Locations (Google Earth, 2017)



Vehicle and truck traffic on Foster Avenue and Alliance Road was determined to be the predominant noise source in the project area. Noise generated by agricultural operations to the west of the residential development site was audible in the distance but did not produce noise levels that significantly exceeded ambient background levels.

Development of parcel 505-161-011 for residential uses has the potential to expose persons to or result in elevated noise levels during both short-term construction activities and long-term operation. The City of Arcata noise standards are contained in the General Plan Noise Element and Section 9.30.050 (*Noise Standards*) of the Land Use Code.

Table 3-2 (*Maximum Allowable Noise Level by Receiving Land Use*) in Section 9.30.050 of the Arcata Land Use Code sets forth the maximum allowable exterior and interior residential noise levels from stationary noise sources. The maximum allowable exterior residential noise levels are 55 dB Leq between 7 a.m. to 7 p.m., 50 dB Leq from 7 p.m. to 10 p.m., and 45 dB Leq from 10 p.m. to 7 a.m. The maximum allowable interior residential noise levels are 45 dB Leq between 7 a.m. to 7 p.m., 40 dB Leq from 7 p.m. to 10 p.m., and 35 dB Leq from 10 p.m. to 7 a.m. As noted in the Environmental Setting, there are no significant stationary noise sources in the project area.

Table 3-3 (*Maximum Allowable Transportation Noise Exposure*) in Section 9.30.050 of the Arcata Land Use Code, sets forth the maximum acceptable noise levels for outdoor activity areas and interior spaces from transportation noise sources. The maximum allowable outdoor activity area noise level for residential uses is 60 dB Ldn/CNEL, and the maximum allowable interior space noise level for residential uses is 45 dB Ldn/CNEL.

Since the predominant noise sources in the project area that will impact the proposed residential development during operation are vehicle traffic on Foster Avenue and Alliance Road, the analysis of noise impacts to the project addresses compliance with the standards in Table 3-3 of Section 9.30.050 of the Arcata Land Use Code.

Noise from Construction Activities

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. Activities involved in construction would generate maximum noise levels, as indicated in Table 2.9-6, ranging from 85 to 87 dB at a distance of 50 feet.

Table 2.9-6 Construction Equipment Noise

| Type of Equipment | Maximum Level, dB at 50 feet |
|-------------------|------------------------------|
| Bulldozers | 85 |
| Heavy Trucks | 88 |
| Backhoe | 80 |
| Pneumatic Tools | 85 |

Source: FHWA, 2006

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from the project parcels. This noise increase would be of short duration, and would occur during daytime hours. Compliance with the requirements contained in the Arcata General Plan Noise Element (Policies N-5d and N-5e) and the Arcata Land Use Code (Section 9.30.050[D][2]), will minimize potential noise impacts from short-term construction activities. These requirements place limitations on the days and hours of construction activities, as shown in Table 2.9-7, to allow construction schedules to take advantage of the weather and normal daylight hours, and to ensure that nearby residents as well as nonresidential activities are not disturbed by the early morning or late night activities. It is also required for all stationary and construction equipment to be maintained in good working order and fitted with factory approved muffler systems. The Arcata General Plan PEIR (Pg. 5-54) concludes that implementation of Noise Element Policies N-5d (Construction site tool or equipment noise) and N-5e (Stationary and construction equipment noise), will reduce potential construction noise impacts to a less than significant level. The requirements of Arcata General Plan Noise Element (Policies N-5d and N-5e) and the Arcata Land Use Code (Section 9.30.050[D][2]) related to construction noise, will be included as a condition of approval by the City of Arcata for the proposed project.

Table 2.9-7 Allowable Hours of Construction (Arcata LUC Table 3-4)

| Day | Allowable Hours |
|-----------------------|--|
| Monday through Friday | 8:00 a.m. to 7:00 p.m. |
| Saturday | 9:00 a.m. to 7:00 p.m. |
| Sunday, Holidays | No heavy equipment-related construction activities allowed |

Noise Impacts from the Project

The residential development site (APN 505-161-011) is vacant and contains no activities that generate noise. Potential noise sources generated during long-term operation of the proposed residential development include noise produced by the residents within and outside of the proposed structures (e.g., conversation, music, etc.), traffic noise, stationary equipment noise (e.g., HVAC units), and mobile equipment noise (e.g., lawn mowers). Residential development is typically considered to be a noise-sensitive land use, as opposed to a land use that generates significant noise levels. City and County noise standards traditionally have lower noise thresholds for more sensitive receiving land uses such as residential development. Since the project proposes single-family residential housing and two types of senior housing, it is not anticipated that the development will generate significant noise levels that will exceed the noise standards in the Arcata Land Use Code.

As discussed in Chapter 3 (Transportation-Traffic) of the EIR, the W-Trans Traffic Study estimates that the proposed project will generate 1,113 additional trips daily on Foster Avenue (Appendix T.1). In addition, the proposed Foster Avenue connection may increase the volume of traffic using the section of Foster Avenue on the west side of Janes Creek. This increase in traffic will result in an increase in noise levels in the project area. Nearby sensitive receptors that would experience the increase in noise levels are primarily residences along Foster Avenue.

As discussed in Chapter 1 (Introduction) of the EIR, the residential development site (APN 505-161-011) is planned by the City of Arcata to be designated/zoned as Residential Medium Density (RM) upon annexation (see Figure LU-a of the Arcata General Plan Land Use Element). The Residential Medium Density zone allows 7.26 to a maximum of 15 residential units per acre. If the residential development site were built out in accordance with the planned RM designation/zone, a maximum of 240 residential dwelling units could be constructed on the property. This project proposes to designate/zone the residential development site as Residential Low Density (RL) which allows 2 to a maximum of 7.25 residential units per acre. In the RL zone, the project proposes 89 residential units and a 100-bed assisted living facility, which is below the maximum number of units that would be permitted by the City's planned RM designation/zoning.

As noted above, the Arcata General Plan Noise Element Figure N-b (Projected Noise Contours) shows the noise contours in the City based upon the buildout projected in the Arcata General Plan. Figure N-b does not show Foster Avenue, which is classified as a collector street, as being a significant source of transportation noise that would potentially exceed the City's noise standards upon General Plan buildout. The closest road section identified in the General Plan as being a significant source of transportation noise is Alliance Road, which is the main arterial on Arcata's west side. Since the project will provide a lower level of residential density than projected in the Arcata General Plan, it is not anticipated that increases in transportation noise from the proposed project will exceed the City's noise standards at nearby sensitive receptors (e.g., residences along Foster Avenue).

Noise Impacts to the Project

Pursuant to the California Supreme Court's decision in *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, impacts of the environment

on a project are generally not considered CEQA impacts and, therefore, analysis of such impacts in the EIR is not required. Although not required by CEQA, the following analysis of the existing noise environment on future residents of the proposed project is provided for informational purposes only.

As indicated in the noise measurements taken by SHN Consulting Engineers & Geologists, Inc. on the residential development site (Appendix F), the predominant noise source that has the potential to impact the proposed project during long-term operation is traffic noise from Foster Avenue. The maximum noise level detected was 47.9 dB Ldn/CNEL, which occurred along the southern boundary of the site from traffic on Foster Avenue. Noise generated by agricultural operations to the west of the site was audible in the distance but did not produce noise levels that significantly exceeded ambient background levels. Current noise levels at the residential development site comply with the 60 dB Ldn/CNEL noise standard for outdoor activity areas in Section 9.30.050 of the Arcata Land Use Code.

Figure 2.9B (Projected Noise Contours) shows noise contours at the residential development site (APN 505-161-011) based upon the buildout projected in the Arcata General Plan (also see General Plan Noise Element Figure N-b, Page 6-25). As shown on Figure 2.9B, the Simpson Mill spur tracks, which are located along the southern boundary of the residential development site, are the greatest potential source of transportation noise that could impact the proposed residential development. At one time these tracks served the mill formerly located to the west of the site. The former mill site is currently used by Sun Valley Floral Farms agricultural production facility. The spur tracks are privately owned and not active, and there are no plans to restore railroad use on this railbed at this time (see Figure 2.9A). According to the Arcata Pedestrian & Bicycle Master Plan (2010, Pages 5-31 – 5-32), it is planned to develop this section of railbed as an extension of the Hammond Trail into Arcata. As described in Chapter 1 (Introduction) of the EIR, the applicant and City propose to construct portions of the Hammond Trail on the railbed to implement the Pedestrian and Bicycle Master Plan. Without use of the railbed on the southern boundary of the residential development site for rail service, noise levels at the site will be well below the projections in the Arcata General Plan Noise Element. As such, the proposed residential development will be subject to noise levels in compliance with the interior and exterior noise standards in the Arcata Land Use Code.

With the proposed conditions of approval, the project will not expose persons to, or result in the generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standard of other agencies.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.9.2: Exposure of Persons to, or Generation of, Excessive Groundborne Vibration or Groundborne Noise Levels.

Discussion:

Under the existing conditions, there are no known sources of significant ground-borne vibration or noise that affect the residential development site such as an active railroad line or truck routes. As such, the project would not expose future onsite residents to substantial ground-borne vibration.

The closest land uses potentially impacted from groundborne vibration and noise, primarily from the use of heavy equipment during construction activities, are the single-family residential units and apartments located to the north, east, and south of the project parcels. Ground vibrations from construction activities do not often reach the levels that can damage structures. Pile-driving generates the highest levels of vibration; however, pile-driving will not occur during construction of the proposed project. With respect to the impacts of vibration on persons, vibration from the proposed construction activity would be of short duration and would occur during daytime hours, when residents are less likely to be home.

As discussed under Finding 2.9.1, construction activity will be required to comply with the Arcata General Plan Noise Element (Policies N-5d and N-5e) and the Arcata Land Use Code (Section 9.30.050[D][2]). These requirements place limitations on the days and hours of construction activities, to allow construction schedules to take advantage of the weather and normal daylight hours, and to ensure that nearby residents as well as nonresidential activities are not disturbed by the early morning or late-night activities. In addition to reducing construction noise levels, compliance with these requirements also minimizes the potential impacts of vibration on residents adjacent to the project parcels. The requirements of Arcata General Plan Noise Element (Policies N-5d and N-5e) and the Arcata Land Use Code (Section 9.30.050[D][2]), have been included as a condition of approval by the City of Arcata for the proposed project.

Therefore, the proposed project will not expose persons to or generate excessive groundborne vibration or groundborne noise levels.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.9.3: A Substantial Permanent Increase in Ambient Noise Levels in the Project Vicinity Above Levels Existing Without the Project.

Discussion:

The proposed project is not expected to result in a significant increase in permanent ambient noise levels given the type of use (i.e. residential) and size of the project (i.e. 189 residential

units that would provide housing for approximately 269 residents). Construction activities will result in short-term (from a few days to several months depending on the specific activity) increases in ambient noise levels due to the use of heavy equipment which is addressed under Findings 2.9.1 and 2.9.4 of this section.

Therefore, the proposed project will not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.9.4: A Substantial Temporary or Periodic Increase in Ambient Noise Levels in the Project Vicinity Above Levels Existing Without the Project.

Discussion:

The proposed project is not expected to result in a significant temporary or periodic increase in ambient noise levels given the type of use (i.e. residential) and size of the project (i.e. 189 residential units that would provide housing for approximately 266 residents). Construction activities will result in short-term (from a few days to several months depending on the specific activity) increases in ambient noise levels due to the use of heavy equipment.

Compliance with the requirements contained in the Arcata General Plan Noise Element (Policies N-5d and N-5e) and the Arcata Land Use Code (Section 9.30.050[D][2]), will minimize potential noise impacts from short-term construction activities. The Arcata General Plan PEIR (Pg. 5-54) concludes that implementation of Noise Element Policies N-5d (Construction site tool or equipment noise) and N-5e (Stationary and construction equipment noise), will reduce potential construction noise impacts to a less than significant level. The requirements of Arcata General Plan Noise Element and the Arcata Land Use Code related to construction noise will be included as a condition of approval by the City of Arcata for the proposed project. Also see discussion under Finding 2.9.1 above.

With the proposed conditions of approval, the project will not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.9.5: 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 Expose People Residing or Working in the Project Area to Excessive Noise Levels.

Discussion:

The project is not located within an airport land use plan or within two miles of a public airport or public use airport. The closest civilian airports to the project area occur approximately five miles to the south (Murray Field), approximately six miles to the north (California Redwood Coast – Humboldt County Airport), and approximately nine miles to the southwest (Samoa Field). The closest military airport is the United States Coast Guard Air Station which is located adjacent to the California Redwood Coast – Humboldt County Airport approximately six miles to the north of the project area.

Therefore, the project will not, 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, expose people residing or working in the project area to excessive noise levels.

Determination:

No impact.

Mitigation:

None required.

Finding 2.9.6: For a Project Within the Vicinity of a Private Airstrip, Would the Project Expose People Residing or Working in the Project Area to Excessive Noise Levels.

Discussion:

The project area is located on the western edge of the City of Arcata and is not within the vicinity of a private airstrip. The closest airport to the project area, in general, is Murray Field which occurs approximately five miles to the south of the site.

Therefore, the proposed project will not expose people residing or working in the project area to excessive noise levels.

Determination:

No impact.

Mitigation:

None required.

REFERENCES

City of Arcata. 2000. *Draft Final Program EIR (PEIR) for the Arcata General Plan and Local Coastal Land Use Plan*. SCH# 98072069.

City of Arcata. 2008. *Arcata General Plan and Local Coastal Land Use Plan*. Amended Oct. 2008.

City of Arcata. 2008. *City of Arcata Municipal Code – Title 9 – Land Use Code*. Oct. 2008.

City of Arcata. 2010. *Pedestrian & Bicycle Master Plan*. April 2010.

Federal Highway Administration (FHWA). 2006. *Construction Noise Handbook*. Available at: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/. Accessed on: 09/21/18.

Google Earth. 2017. *Aerial Photo of the Creek Side Homes Residential Development Site showing the locations of the noise measurements taken by SHN Consulting Engineers & Geologists, Inc.*

Humboldt County. 2016. *Humboldt County Web GIS – Map of City of Arcata including Airport Clear Zones*. gis.co.humboldt.ca.us. Accessed 06/06/16.

SHN Consulting Engineers & Geologists, Inc. 2017. *Noise Measurements taken on parcel 505-161-011 for the proposed Creek Side Homes project*. April 21.

Section 2.10

HAZARD AND HAZARDOUS MATERIALS

This section evaluates the potential impacts related to hazards and hazardous materials during construction and operation of the project. The Environmental Setting section describes the existing setting as it relates to hazards and hazardous materials. The Regulatory Framework section describes the applicable regulations at the federal, State and local level. The Impact Analysis section establishes the thresholds of significance, evaluates potential hazards and hazardous materials impacts, and identifies the significance of impacts. Where appropriate, mitigation is presented to reduce impacts to less-than-significant levels.

ENVIRONMENTAL SETTING

The residential development site (APN 505-161-011) is a former mill site in the Arcata bottoms that has been subject to hazardous materials investigation and remediation over the last several decades. The following discussion is based on the review of documents and other sources of information related to environmental assessment of parcel 505-161-011 (2000 Foster Avenue) and its past uses. For this evaluation, we have reviewed the following documents, as well as a series of environmental documents related to clean-up of the site:

- Phase I Environmental Site Assessment (Appendix G; SHN, 1993)
- Initial Report of Findings (Appendix H; SHN, Jan. 1995a)
- Work Plan for Hydro-geologic Investigations and Remedial Action (Appendix I; SHN, May 1995b)
- Initial Groundwater Investigation Report of Findings (Appendix J; SHN, Aug. 1995c)
- Quarterly Groundwater Monitoring Reports (Appendix K; SHN, 1996-1998)
- Subsurface Investigation Report of Findings (Appendix L; SHN, June 1996a)
- Remedial Action Plan (Appendix M; SHN, July 1996b)
- Soil Excavation Report of Findings (Appendix N; SHN, July 1997)
- Site Development Contamination Contingency and Site Safety Plan (Appendix O; SHN, 1998)
- Additional Site Investigation Report (Appendix P; FES, 2008a)
- Dioxin Assessment Report (Appendix Q; FES, 2008b)
- Excavation and Disposal of Dioxin-Containing Soils Report (Appendix R; FES, 2008)

Land uses surrounding the residential development site include residential development to the north and east, agricultural uses to the west, and a mix of residential and agricultural uses to the south. Schools within a quarter-mile of the site include Bloomfield Elementary School. Fire protection services are provided to the project parcels by the Arcata Fire District (AFD). The

closest public airport or private airstrip to the residential development site is Murray Field which is located five miles to the south.

As indicated in the discussion of known hazardous materials sites below, there is no known hazardous materials contamination on any of the parcels that will be developed with offsite improvements. This includes the properties that will be developed with the Foster Avenue Connection (APNs 505-161-009, -030, 505-162-010, and public right-of-way), Ennes Park Expansion (APNs 505-151-009, 505-284-009, and 505-284-010), emergency access road (APN 505-151-001), and pedestrian/bicycle pathways (APNs 505-161-009 and 505-341-048).

Hazardous Materials

For purposes of the EIR, hazardous materials are defined as substances with certain chemical and physical properties that, if improperly handled, stored, disposed of, or otherwise managed, could pose a substantial present or future hazard to human health or the environment. If improperly handled, hazardous materials can result in public health hazards through human contact with contaminated soils or groundwater, or through airborne releases in vapors, fumes, or dust.

Recorded Sites On or Near the Project Parcels

Information on known and potential hazardous materials sites on or near the project parcels as of 2016 is summarized below. This information includes sites of known (recorded) soil or groundwater contamination, including sites already cleaned up or targeted for cleanup, locations of underground storage tanks, and sites where hazardous materials are generated, stored, handled, or treated. Some business names have changed since the period of initial study; in this report, we retain the original names listed in the Phase I Environmental Assessment (Appendix G).

Federal Databases

Federal databases reviewed in the 1993 Phase I Site Assessment are summarized below (Appendix G). Note that some of the facility names have changed since the 1993 reporting date.

Resource Conservation and Recovery Act Information database: The Resource Conservation and Recovery Act Information (RCRAInfo) includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act. The RCRAInfo database identifies several different categories, including “Treatment, Storage, and Disposal Facilities,” “Large Quantity Generators”, and “Small Quantity Generators.” “Large Quantity Generators” are those that either generate more than 1000 kilograms of hazardous waste, or one kilogram of acutely hazardous waste, per month. “Small Quantity Generators” are those that generate between 100 kilograms and 1000 kilograms of hazardous waste. “Large Quantity Generators” identified in the project vicinity consist of the SBC facility at 1300 G Street in Arcata, which is 0.85 miles southeast of the residential development site, and Humboldt State University one-mile east of the

site. The CVS and Safeway stores 1.15 miles to the southeast of the site are large quantity generators greater than one-mile from the site. “Small Quantity Generators” include Arcata Marine, less than a half-mile to the southeast, Mad River Community Hospital, nearly one-mile to the northeast, the former PC Sacchi auto dealership about one-mile to the southeast, Rick’s Auto Body Shop, 0.7 mile to the southeast, and several facilities that are more than one-mile from the site, including Cummins West on West End Road, the Arcata Body Shop on Samoa Boulevard, and Brannon’s Diesel Service on West End Road.

Civil Enforcement Docket: The civil enforcement docket is the U.S. Environmental Protection Agency’s system for tracking civil judicial cases filed on the agency’s behalf by the Department of Justice. The record search within the review for this report found two reported sites. The City of Arcata was cited however, terms were reached and the case was considered closed in 2008. Similarly, Humboldt Wholesale was cited and terms were reached and the case was considered closed in 2014.

State Data Bases

State of California databases reviewed in this Assessment are summarized below.

Underground Storage Tanks: The Phase I Environmental Assessment (Appendix G) identified fourteen registered Underground Storage Tanks (non-leaking) within a one-mile radius of the site.

Leaking Underground Storage Tanks: The SWRCB Geotracker website (2016) identified three registered Leaking Underground Storage Tanks (LUST) within a one-mile radius of the site. The nearest known LUST was located at the former BP Mini Mart/Big Oil & Tire site at 2205 Alliance Road, less than a quarter-mile from the site. The other LUST sites within one-mile are located at the Philly Cheese Steak Shoppe/former Chevron (3,600 ft east) and Bloxams Shell (4,200 ft southeast). Additionally, there are five permitted Underground Storage Tanks (UST) and thirty closed LUST violations within a one-mile radius of the site.

CalSites: The CalSites database contains potential or confirmed hazardous substance release properties. There are three CalSites within a one-mile radius of the site. Ambrosini’s Lathe Mill on St. Louis Road which is 0.85 miles to the northeast, Jewett Lumber Sales on M Street in Arcata which is 0.6 miles to the southeast, and Sound Lumber at 10th and Q in Arcata which is 0.62 miles to the southwest.

Residential Development Site History

The residential development site (APN 505-161-011) was formerly a lumber mill, which has largely been dismantled. The mill was constructed in 1951 and originally operated as an old growth redwood mill (Figures 2.10A and 2.10B show the mill in operation). Prior to construction of the mill facility, the site was undeveloped open space and was likely used for agricultural pasture. The mill facilities consisted of a mill building with adjacent green chain area and chip bin, a fuel tank and vehicle maintenance area, and a debarker slab. These facilities were located on the southern-half of the property. The northern-half of the property consisted of

Figure 2.10A Former Lumber Mill in Operation (Shuster, 1955)



Figure 2.10B Former Lumber Mill in Operation (Shuster, 1963)



the log deck area, with a series of north-south oriented decks separated by rock-covered access corridors. Simpson Timber Company purchased the mill in 1968 and continued to operate it as a redwood mill. The mill was sold in 1970 to Halverson Industries, who operated it as a hardwood mill, mainly processing tan oak. North Coast Exports acquired the mill in 1985, and operated it as a hardwood mill as well. The mill was dismantled and liquidated in 1986. No wood preservatives were ever reportedly used at the site. The site has been vacant since 1986. Specific elements of the mill operations pertinent to potential contamination of the site are discussed below (Appendix G).

Fuel Storage

Initially, two underground fuel tanks were used at the site. These tanks were removed in the early 1970s, and were replaced by two above ground fuel storage tanks (a 300-gallon gasoline tank and a 1,000-gallon diesel tank). These tanks were removed in the mid 1980s.

Vehicle Maintenance

Raw timber was delivered to the mill by independent truckers who serviced their own vehicles off-site. Finished lumber was shipped from the mill site using independent haulers, who also serviced their own vehicles off-site. The only reported vehicle maintenance that occurred on site was for log loaders. The log loaders were originally serviced on the grounds of the residential development site and were later serviced inside the mill building. Historically, waste oil was disposed in dispersed areas of the site. Later, it was recycled with a state licensed recycler. Waste oil recycling began to be utilized in the late 1960s or early 1970s.

Woodwaste Disposal

Woodwaste was initially burned in a teepee burner on-site. There was no woodwaste disposal activities (of unburned woodwaste) conducted on the site. Ash from the teepee burner was disposed of by the surface spreading method and was not placed in excavated pits. Use of the teepee burner ceased during the late 1960s or early 1970s, after which woodwaste was converted to wood chips or used off-site as hog fuel.

Septic Tank Area

A concrete domestic wastewater septic tank was discovered on the site southwest of the mill structure and east of the fuel tank area.

Investigation of Site Contamination

Based on the results of the 1993 Phase I investigation (Appendix G), a preliminary Phase II field investigation of the residential development site was conducted in 1994. The results of the 1994 field investigation are presented in a January 1995 Initial Report of Findings (Appendix H; SHN 1995a). Analytical results from the field investigations (soil and groundwater sampling), indicated minor to moderate petrochemical contamination of the soil and groundwater. No wood preservatives of any type were reported or indicated to have been used at the site, and no volatile organic compounds were detected in soil or groundwater samples. Specific areas of documented

soil contamination include the fuel tank area, vehicle maintenance area, debarker area, isolated areas of the old log deck, mill leachfield area, and isolated general site areas. The fuel tank area, debarker area, and vehicle maintenance area were associated with soil contamination sufficient to warrant remedial action at the site.

Following communication between the property owner and the Humboldt County Division of Environmental Health (HCDEH), a more extensive Work Plan for hydro-geologic investigation of the residential development site was proposed in May 1995 (Appendix I; SHN, 1995b). The plan proposed installation and monitoring of four monitoring wells. Following comment and review by the HCDEH, monitoring wells were installed in June 1995; soil samples from the borings were collected and analyzed. One well was installed north of (and up-gradient of) all previously identified contaminated areas in order to provide background water quality. Additional wells were installed down-gradient from the fuel tank area, the debarker area, and vehicle maintenance area. After well development, groundwater samples from the wells were analyzed for petroleum hydrocarbons, extractable organics, benzene, toluene, ethylbenzene, xylene, tannins, lignins, and a suite of heavy metals (cadmium, chromium, nickel, zinc, and/or lead).

An Initial Groundwater Investigation, Report of Findings for the site was produced in August 1995 (Appendix J; SHN, 1995c). That report concluded that three areas of concern were present at the site, relative to soil and/or groundwater contamination with petroleum hydrocarbon substances. The fuel tank area, vehicle maintenance area, and the log debarking facility were documented as areas of soil and/or groundwater contamination. Soil and groundwater contamination at the site were characterized as follows:

1. Metals in the site groundwater were not deemed hazardous (relative to definition of the term "hazardous" as stated in the California Code of Regulations Title 22, Chapter 11), and do not pose a health risk for potential potable water;
2. The monitoring well down-gradient of the fuel tank area was the only well with detectable groundwater contamination (diesel). No other petroleum hydrocarbons, volatile organic compounds, or semi-volatile organic compounds were detected in the sampled wells;
3. Petroleum hydrocarbon soil contamination was detected at specific depths in the three wells near the previously identified contamination areas (i.e., fuel tank area, debarker area, and vehicle maintenance area);
4. Elevated lead levels were detected in upper soils down-gradient of the fuel tank area and debarker slab area;
5. No volatile or semi-volatile organic compounds were detected in the soils near the vehicle maintenance area or fuel tank area; and,
6. Tannins and lignins were present in all wells at the site, which is consistent with conditions at other former mill sites throughout the region.

Subsurface investigations at the site continued into 1996, and are summarized in the June 1996 Subsurface Investigation Report of Findings (Appendix L; SHN, 1996a). During 1996, SHN

excavated an additional 15 test pits; installed eight soil gas survey points and three groundwater well points; and collected additional soil and groundwater samples. The soil gas survey points were located in the fuel tank area to allow screening for lateral and vertical extent of soil contamination. Test pits in the vehicle maintenance area found detectable levels of diesel and motor oil range petroleum hydrocarbons in the near-surface and in some deeper samples. That condition was attributed to the likely practice of oiling areas for dust control. Test pits in the debarker area encountered soils with a varying degree of contamination. One of these pits encountered an old wood timber lined pit with oil stained soil and a used drum of hydraulic/waste oil. The 1996 field studies and laboratory testing confirmed the lateral and vertical extent of contamination at the site.

Groundwater monitoring began at the residential development site in 1996 and continued through 1998, when monitoring was ceased (Appendix K; SHN, 1996-1998). The results of the groundwater monitoring were summarized in quarterly reports, which summarized groundwater levels, sampling data, and groundwater flow direction and gradient. The first quarterly report indicated that petroleum hydrocarbons were detectable only in the monitoring well down-gradient of the former fuel tank area. Later reports from 1996 indicated marginally detectable levels of petroleum hydrocarbons in the monitoring well down-gradient of the vehicle maintenance area, in addition to the higher levels of petroleum hydrocarbons near the fuel tank area. These values increased in the final quarterly monitoring period of 1996, presumably due to increased rainfall and groundwater levels. The contamination levels in the first quarterly report in 1997 indicated that all wells were below detectable limits. Detectable diesel was noted again in the second quarterly report in 1997, but the levels were undetectable again in the third quarter. No other detectable petroleum hydrocarbons were noted in the last quarter of 1997 or throughout 1998, except for the detection of diesel range petroleum hydrocarbons at just above the detection limit noted in the final monitoring report in 1998.

Remediation of Site Contamination

Based on the results of site monitoring that identified the extent and concentration of contamination, a Remedial Action Plan was developed in July 1996 (Appendix M; SHN, 1996b). The plan called for excavation of known contaminated soils from the site, and transfer to a storage area in Metropolitan (Eel River Sawmills property) where the soils would undergo bioremediation. Based on the previous sampling and testing, petroleum hydrocarbons as gasoline, diesel, and motor oil were identified as the contaminants of concern in the site soils. Target areas for soil removal were associated with the former fuel tank, vehicle maintenance, and debarker areas. Remaining isolated areas of motor oil and diesel petroleum hydrocarbon contamination were not excavated and are to be addressed during site development. At the target sites, soil was to be excavated to depths of low levels of contamination. The Remedial Action Plan was approved, with comment, by the Humboldt County Environmental Health Department.

Between July 7 and July 17, 1997, contaminated soils were excavated and removed from the residential development site. The results of site remediation efforts are summarized in the July 1997 Soil Excavation Report of Findings (Appendix N; SHN, 1997). Excavation occurred at the three primary contamination sites. Soil samples were collected from the excavation sidewalls and floor, and tested for petroleum hydrocarbon contamination to determine the necessary lateral

and vertical extent of excavation. Additionally, selected samples were tested for benzene, toluene, ethylbenzene and total xylenes, as well as metals cadmium, chromium, nickel, lead, and zinc. Specific details of the three excavation areas follow.

Vehicle Maintenance Area

Excavation of approximately 520 cubic yards of soil in the vehicle maintenance area was conducted in stages, with periodic soil sampling to assess the extent of petroleum hydrocarbon contaminated soils. The depth of the excavation ranged from about one foot to as much as 5.5 feet, and covered an area entirely surrounding the existing concrete ramp. Based on the results of the soil samples collected from all stages of the excavation, it was determined that the source area contaminated soil in the mill ramp area had been removed. The excavation was subsequently backfilled with clean backfill material (slide debris) imported from the Eel River Sawmills facility in Metropolitan, and brought up to original grade.

Debarker Area

Excavation of approximately 420 cubic yards of soil in the debarker area was conducted in stages, with periodic soil sampling to assess the extent of petroleum hydrocarbon contaminated soils. All excavation in the former debarker area was conducted to the east of the concrete slab that is present in this area (see Figures 2.10C [Locations with Potential Hazardous Materials Impacts] and 2.10D [Debarker Slab from former Lumber Mill]). Excavation activities were conducted in a manner that would not impact Janes Creek, and the City of Arcata's creek restoration project. The excavation was up to nine plus feet deep. A previously unidentified, buried concrete slab was discovered during excavation, and after permission was obtained from the City of Arcata and the Humboldt County Environmental Health Department, was relocated in the excavation and buried. Analytical results of soil samples collected from the floor and sidewalls of the excavation in the debarker area indicated that all accessible source area contaminated soil was removed. The excavation was subsequently backfilled, with the relocated concrete slab buried with the backfill.

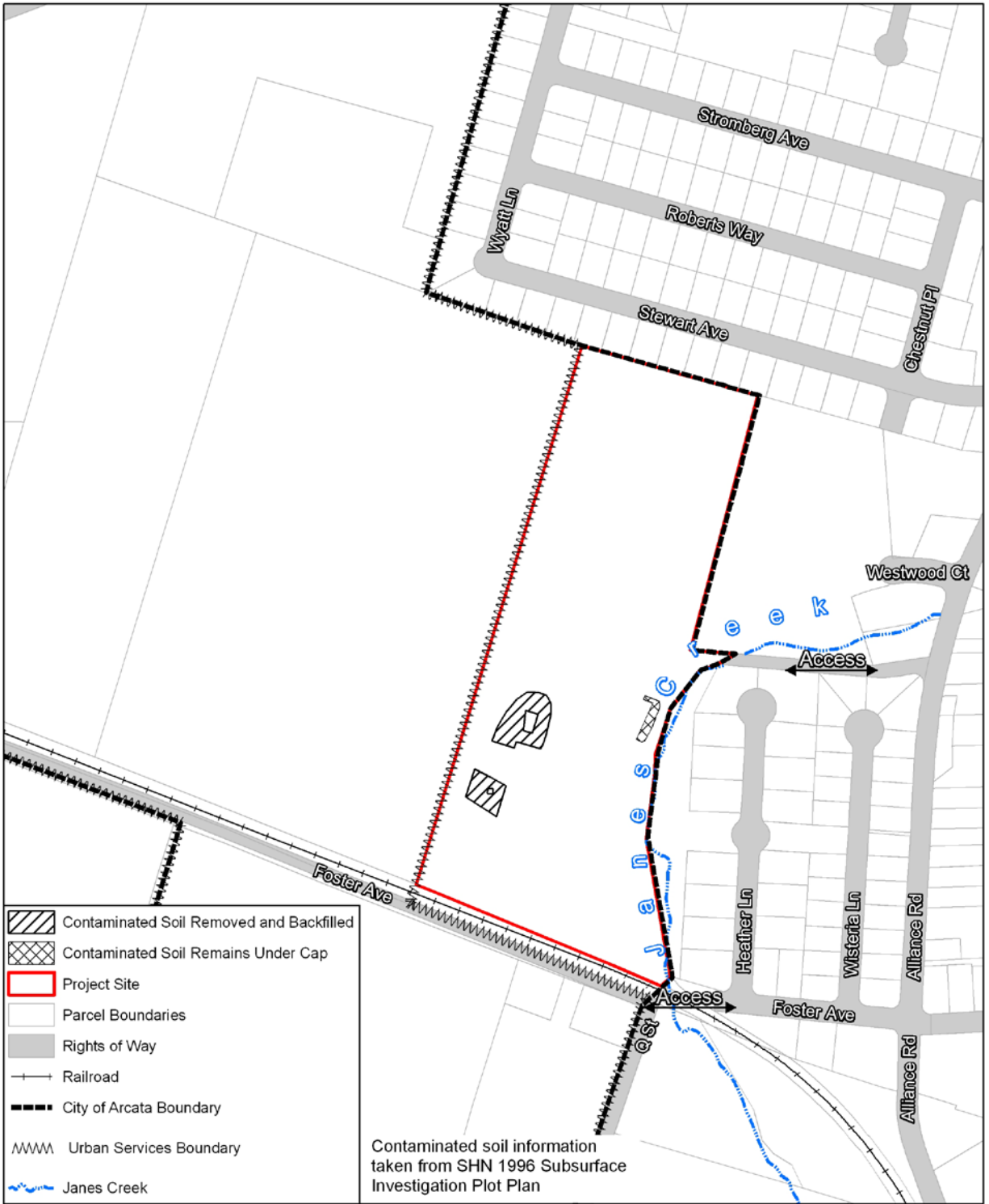
Contaminated soil (petroleum hydrocarbons as motor oil) still exists beneath the existing concrete debarker slab. This soil is inaccessible as long as the existing foundation remains in place (see Figure 2.10D [Debarker Slab from former Lumber Mill]). Hydrocarbon contaminated soils beneath the slab have remained in place due to the low mobility of hydrocarbons in these soils, the low exposure potential to plants and animals at the ground surface, and the impermeable nature of the slab that effectively forms a cap over the contaminated soils.

Fuel Tank Area

Excavation of approximately 1,060 cubic yards of soil in the former fuel tank area was conducted in stages, with periodic soil sampling to assess the extent of petroleum hydrocarbon contaminated soils. The concrete slab that supported the former above ground fuel tanks was removed during excavation, and the excavation proceeded in an area that essentially surrounded the former slab location (see Figure 2.10C [Locations with Potential Hazardous Materials Impacts]). The excavation extended to depths from approximately six to nine feet.

Figure 2.10C Locations with Potential Hazardous Materials Impacts

Creekside Homes Annexation Locations with Potentially Hazardous Impacts



Map Compiled by Planwest Partners
April 11, 2006

0 250 500 Feet

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Figure 2.10D Debarker Slab from former Lumber Mill



Analytical results of samples collected from the excavation indicated that contaminated soil was removed from the site. In the final stage of excavation along the southern wall of the pit, a thin sandy silt layer was identified that retained some petroleum hydrocarbon as gasoline. An additional soil sample was collected just below this thin layer; the sample indicated that the petroleum hydrocarbon had not migrated vertically to the soils below. Based on the contaminant concentration in the silt layer, the thickness of the layer, and the lack of petroleum hydrocarbons in the underlying soil, it was determined that this thin layer did not pose a threat to the environment or human health and could be left in place. The excavation was concluded and the pit backfilled with clean material.

Conclusions of Site Remediation Reporting

The 1997 Soil Excavation Report of Findings (Appendix N) concludes by stating that the soil excavation activities at the site resulted in the removal of nearly 2,000 cubic yards of petroleum hydrocarbon contaminated soils. Analytical results from sampling in each of the three excavation areas (floors and sidewalls of the pits) indicated that all of the source area contaminated soil had been removed, with the exception of the soil beneath the debarker slab. The debarker slab is up to four feet thick, and creates a substantial impermeable barrier for surface water infiltrating into the clayey silt soils.

Monitoring wells continued to be sampled after the soil removal to document the absence of continued groundwater contamination. As discussed above, groundwater monitoring at the site continued through 1998.

The proposed residential development site (APN 505-161-011) was declared “*Completed - Case Closed*” in 2001 by the Humboldt County Division of Environmental Health (HCDEH), who serves as the Certified Unified Program Agency (CUPA) for Humboldt County, in contract with the State Water Resources Control Board (SWRCB). On the SWRCB Geotracker website, the cleanup status for parcel 505-161-011 is listed as “*Completed – Case Closed as of 05/22/2001.*” The Department of Toxic Substances Control (DTSC) Envirostor database also declares this site closed as of 2001. However all studies and protocol taken to cleanup the site are listed within this section as well as mitigation measures and procedures for responding in the event that additional contaminants are encountered during development of the site.

Investigation and Remediation of Dioxin Contamination

As part of the review process for the previous development proposed on the residential development site (*Foster Avenue Annexation and Zoning Modification*), a project referral was sent by the City of Arcata to the North Coast Regional Water Quality Control Board (NCRWQCB). In October 2007, a letter (dated 10/23/07) was received by the City of Arcata from the NCRWQCB indicating that previous investigations performed by the former property owner, Eel River Sawmills, were considered to be incomplete.

Based on the request for additional study of the residential development site (APN 505-161-011) by the NCRWQCB, an Additional Site Investigation report was completed by Freshwater Environmental Services (FES) in 2008 (Appendix P; FES, 2008a). The FES Additional Site Investigation examined the accuracy of previous reports and the potential for contaminants to exist beyond the scope of the previous study, in addition to investigating the success of the contaminate removal in 1997 (see Appendices G - N). As indicated in the report, there was no detections of any petroleum products or compounds, including diesel, motor oil, or gasoline. None of the gasoline components including benzene, toluene, ethylbenzene, or xylenes were detected, indicating the site cleanup done in 1997, and considered case closed in 2001, was complete and addressed the petroleum pollutants introduced into the site by the previous use. The conclusion of the FES report stated the following:

“Based on the results of this investigation, petroleum compounds including gasoline, diesel and motor oil, were not detected in the groundwater grab samples collected from the areas of concern. Dissolved metals including chromium, nickel, and zinc detected in the groundwater grab samples is likely due to the leaching of background concentrations of metals from onsite soils. One soil sample (SS-2) was found to have a Dioxin/furan TEQ exceeding applicable residential regulatory standards.”

Based on review of the Additional Site Investigation (Appendix P; FES, 2008a) by the NCRWQCB, a letter (dated 03/25/08) was received requesting additional investigation in the area of the site where the sample was obtained containing dioxin/furan levels exceeding applicable residential regulatory standards. Based on the request for additional investigation by the NCRWQCB, Freshwater Environmental Services (FES) prepared a Dioxin Assessment Report (Appendix Q; FES, 2008b) that delineated the extent of the dioxin/furan contamination at the site and recommended excavation and disposal of the contaminated soils.

The Dioxin Assessment Report included soil and water samples from numerous bore sites in order to determine the presence and potential extent of dioxin/furan contamination. Dioxin/furan compounds were not detected within the groundwater samples and none of the soil samples analyzed within the investigation were found to exceed applicable residential regulatory standards. The area of soil impacted with dioxin/furan compounds exceeding applicable residential regulatory standards, as determined during the previous Additional Site Investigation, was delineated vertically and horizontally. This area was limited to 29 feet in diameter to a depth of 0.5 feet below ground level (bgl) which amounted to approximately 15 cubic yards of material to be removed. The recommendation for removal of the dioxin/furans in the Dioxin Assessment Report stated the following (Appendix Q; FES, 2008b, Pg. 11):

“...It is recommended that soils within the defined area of impact be excavated to a depth of 0.5 feet bgl. Freshwater Environmental Services proposes that the excavated soil be placed in DOT-approved containers. All excavation equipment will be decontaminated by washing with a laboratory grade detergent/water solution followed by a tap water rinse and a final distilled water rinse. Equipment rinse water will also be placed in a DOT-approved container. The containers will be labeled, covered, sealed, and temporarily stored in a secure area at a nearby facility owned by the Site owner. The excavated soil and water will be disposed of following all applicable regulations. A brief letter report is proposed that will document excavation activities and disposal of soil and investigation derived wastes.”

On September 12, 2008, the dioxin-containing soils were removed from the site and transported to an approved disposal facility by NRC Environmental Services. Letters were sent to the NCRWQCB by FES in Oct. and Nov. 2008, describing the soil excavation and disposal activities and containing the disposal documentation (Appendix R; FES, 2008c and 2008d). In response to the additional remediation activities conducted at the site, a letter (dated 03/10/09) was received from the NCRWQCB stating that “*No Further Action*” for the site is required.

Site Safety Plan for Subsequent Development

Due to the inherent limitations in identifying and mitigating contaminated soils across former industrial sites such as the subject property, there is an unknown potential for additional contaminated soils to be encountered during site development activities. A Site Development Contamination Contingency and Site Safety Plan was developed by SHN Consulting Engineers & Geologists, Inc. in 1998 (Appendix O; SHN, 1998). The intent of this plan is “*to provide health and safety guidelines, for the personal protection of personnel involved with the development and future occupation of land formerly occupied by and operated as the Specialty Mill, as related to encountering and dealing with potentially hazardous materials at the site.*” The Safety Plan is to be implemented immediately upon detection or suspected presence of any contaminants. All site personnel are to read the Site Safety Plan prior to the conducting of grading, excavation, or other subsurface work on the site. The Site Safety Plan is not intended to provide general safety guidelines involving operation of heavy equipment, or working in/near excavations and trenches; these activities are subject to standard OSHA guidelines.

The Site Safety Plan requires designation of an OSHA trained and certified Site Safety Supervisor (SSS) or Site Safety Officer (SSO). The SSS/SSO will be responsible for

periodically visually observing and smelling all site earthwork operations and making a documented evaluation of the potential for the presence or absence of potentially hazardous substances. If such monitoring indicates potential contamination that requires soils testing, all work in the suspect area shall cease immediately, the area and excavated soils will be secured, and the SSS/SSO shall notify the appropriate State, County, and Local regulatory agencies. Analytical reports of the tested materials will be submitted to the lead regulatory agency and further investigation, if warranted, will be negotiated between the involved parties.

The Site Safety Plan describes the likely hazardous materials that may be encountered, and the associated symptoms. Physical hazards associated with the site include field activities, proximity to the operation of heavy equipment, and the suspension of dust particles in the air. Special hazards are present due to the fact that this is an old mill site with unknown disconnected and buried water, gas, and electrical lines.

A monitoring plan is outlined that requires use of an Organic Vapor Analyzer (OVA) to monitor the air and soil for possible exposure to toxic materials such as volatile organics. This monitoring is to be conducted on a daily and periodic basis, and the results documented. The plan further defines the use of Personal Protective Equipment should contaminants be encountered, and at what contamination levels such equipment is required. Protocols for site control and decontamination are outlined in the plan.

REGULATORY FRAMEWORK

Federal

Numerous federal laws and regulations pertain, in some form, to hazards and hazardous materials, either as regulated substances used every day in households or hazardous wastes generated by industrial processes. These laws and regulations also outline requirements for handling, storage, transportation, and disposal of these wastes or waste by-products.

Environmental Protection Agency

The EPA is responsible for enforcing regulations at the federal level pertaining to hazardous substances and wastes, water quality, and other potentially hazardous substances. Pertinent federal authorities under EPA oversight and regulation related to hazardous materials include the following:

- Federal Water Pollution Control Act;
- Clean Air Act;
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA);

- Resource Conservation and Recovery Act (RCRA);
- Superfund Amendment and Reauthorization Act (SARA);
- Federal Insecticide, Fungicide and Rodenticide Act.

Department of Transportation

The US Department of Transportation (DOT) has the responsibility for management of the transportation of hazardous materials, including hazardous wastes, through the Hazardous Materials Transportation Act. The DOT sets standards for carriers (motor, rail, ship), including manifests, container labeling, reporting, and spill notifications.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration (OSHA) have the responsibility for the administration of the Occupational Safety and Health Act. The Act requires specialized worker training who use hazardous materials, the appropriate placarding and notifications of locations of hazardous materials, labeling and storage of hazardous materials, and record keeping procedures related to these uses and activities.

State of California

Soil and Groundwater Contamination

The cleanup of sites contaminated by releases of hazardous substances is regulated primarily by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), which was amended by the Superfund Amendment and Reauthorization Act of 1986 (SARA), the Brownfields Amendments (2002) and by similar State laws. Under CERCLA, the EPA has authority to seek the parties responsible for releasing hazardous substances and to ensure their cooperation in site remediation. CERCLA provides a defense to CERCLA liability, for those persons who could demonstrate, among other requirements, that they “did not know and had no reason to know” prior to purchasing a property that any hazardous substance that is the subject of a release or threatened release was disposed of on, in, or at the property. Such persons, to demonstrate that they had “no reason to know” must have undertaken, prior to, or on the date of acquisition of the property, “all appropriate inquiries” (AAI) into the previous ownership and uses of the property consistent with good commercial or customary standards and practices.

The State’s Hazardous Waste and Substances Sites List (Cortese List, Government Code Section 65962.5) identifies sites with leaking underground fuel tanks, hazardous waste facilities subject to corrective actions, solid waste disposal facilities from which there is a known migration of hazardous waste, and other sites where environmental releases have occurred. Before a local agency accepts an application as complete for any development project, the applicant must

certify whether or not the residential development site is on the Cortese List. Databases that provide information regarding the facilities or sites identified as meeting Cortese List requirements are managed by the DTSC and SWRCB. At sites where contamination is suspected or known to have occurred, the site owner is required to perform a site investigation and conduct site remediation, if necessary. There are two clean-up standards; one for residential and the other for commercial/industrial land uses. Standards are set for soil, groundwater, soil gas, and vapor intrusion of contaminants into buildings.

Hazardous Materials Transportation

The State of California has adopted DOT regulations for the intrastate movement of hazardous materials. State regulations are contained in Title 26 of the CCR. In addition, the State of California regulates the transportation of hazardous waste originating in the State and passing through the State. Both regulatory programs apply in California. The two State agencies that have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and Caltrans.

Occupational Safety

Worker health and safety is regulated at the federal level by the U.S. Department of Labor, Occupational Safety and Health Administration (Fed/OSHA). Under this jurisdiction, workers at hazardous waste sites (or workers coming into contact with hazardous wastes that might be encountered during excavation of contaminated soils) must receive specialized training and medical supervision according to the HAZWOPER regulations. Worker health and safety in California is regulated by Cal/OSHA, Fed/OSHA's counterpart. California standards for workers dealing with hazardous materials (including hazardous wastes) are contained in CCR Title 8. DTSC and the State Department of Occupational Health and Safety are the agencies that are responsible for overseeing that appropriate measures are taken to protect workers from exposure to potential soiled groundwater contaminants. At sites known or suspected to have soil or groundwater contamination, a site health and safety plan must be prepared and generally require approval by the CUPA. The health and safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at a contaminated site.

Emergency Response

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local government, and private agencies. Responding to hazardous materials incidents is a part of this plan. The plan is administered by the State Office of Emergency Services (OES), which coordinates the responses of other agencies such as local fire and police agencies, emergency medical providers, CHP, the CDFW, and Caltrans.

Humboldt County has an adopted Humboldt County Operational Area Hazard Mitigation Plan as identified below. FEMA approved the Humboldt Operational Area Hazard Mitigation Plan in March 2014.

Risk of Fires

The California PRC sets forth fire safety regulations that include the following:

- Earthmoving and portable equipment with internal combustion engines must be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (PRC Section 4442)
- Appropriate fire suppression equipment must be maintained during the highest fire danger period – from April 1 to December 1 (PRC Section 4428)
- On days when a burning permit is required, flammable materials must be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor would maintain the appropriate fire suppression equipment (PRC Section 4427)
- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines must not be used within 25 feet of any flammable materials (PRC Section 4431)

Regional

North Coast Regional Water Quality Control Board (NCRWQCB)

The NCRWQCB administers a Site Cleanup Program (SCP) that is designed to protect and restore water quality from spills, leaks, and similar discharges. The SCP program has several components at the NCRWQCB: 1) complaint response; 2) non-permitted discharge investigations; 3) site cleanups under the oversight of the Water Board; 4) site cleanups pursuant to methods analogous to procedures in the Resource Conservation and Recovery Act; and 5) cleanups performed by redevelopment agencies. Voluntary or directed cleanups may occur under Orders issued pursuant to Section 13304 of the California Water Code (CWC), or through technical reports required pursuant to CWC Section 13267. State Water Resources Control Board (SWRCB) Resolution 92-49 is the over-riding policy guiding the Regional Water Board's SLIC cleanup program (NCRWQCB, 2016).

Cleanup levels for soil are determined based on the threat to water quality. Such levels are determined on a case-by-case basis considering the nature of the contaminants, the type of soil, the depth to groundwater, distance to surface water, and other hydrogeologic characteristics. Cleanup levels for groundwaters and surface waters are determined based on application of existing laws, regulations, plans, and policies. In general, waters shall be cleaned up to: background, where feasible; to levels achievable through best available technology; and in all cases at least to water quality objectives. The water quality objective is determined based on the beneficial water use, and the most stringent water quality objective is selected for a given receiving water. Water quality objectives may be numerical (such as those based on Maximum Contaminant Levels or drinking water standards), or may be based in narrative standards, and converted to numerical limits (such as those associated with taste and odor) (NCRWQCB, 2016).

The SWRCB GeoTracker website lists all the sites where discharges to the environment have been identified. On the Geotracker website, the proposed residential development site (APN 505-161-011) is classified as a LUST Cleanup Site (T0602300394) with a cleanup status listed as “*Completed – Case Closed as of 05/22/2001*” (SWRCB, 2016).

County of Humboldt

Humboldt County Division of Environmental Health (HCDEH)

Californians are protected from hazardous waste and materials by a Unified Program that ensures consistency throughout the State in regard to administrative requirements, permits, inspections, and enforcement. CalEPA oversees the program as a whole, and certifies 83 local government agencies known as Certified Unified Program Agencies (CUPA) to implement the hazardous waste and materials standards set by five different state agencies. The Humboldt County Division of Environmental Health (HCDEH) is the CUPA for Humboldt County which administers the Local Oversight Program (LOP). The CUPA regulates facilities that store hazardous materials or generate hazardous wastes. Permits are required for underground storage tank construction, removal, modification, and operation (HCDEH, 2016). Since this project proposes to redevelop a former mill site that has petroleum hydrocarbon contamination, it is subject to the jurisdiction of the Humboldt County DEH as the CUPA.

Humboldt County Operational Area Hazard Mitigation Plan

The 2014 Humboldt County Operational Area Hazard Mitigation Plan is the county’s plan to identify and reduce hazards before any type of hazard event occurs. It aims to reduce losses from future disasters such as dam failure, drought, earthquake, fish losses, flooding, landslide, severe weather, tsunami, and wildfire. The plan also includes a vulnerability analysis and identifying mitigation initiatives and implementation.

Humboldt County Emergency Operations Plan

The Humboldt County Emergency Operations Plan (EOP) addresses the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies in or affecting Humboldt County. The plan also addresses integration and coordination with other governmental levels when required. The EOP accomplishes the following:

- Establishes the emergency management organization required to mitigate any significant emergency or disaster affecting Humboldt County;
- Identifies the policies, responsibilities, and procedures required to protect the health and safety of Humboldt County communities, public and private property, and the environmental effects of natural and technological emergencies and disasters;

- Establishes the operational concepts and procedures associated with field response to emergencies, County Emergency Operations Center (EOC) activities, and the recovery process.

City of Arcata

Arcata General Plan

The City of Arcata General Plan contains guidelines for hazards and hazardous materials within the Public Safety Element. Table 2.10-1 below contains a list of policies from the Arcata General Plan that are applicable to the proposed project.

Table 2.10-1 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|-----------------------------|---|-------------------------|
| PS-1 Emergency Preparedness | Ensure that the City, its residents, businesses, agencies, and organizations are prepared for emergencies or disasters and have effective response and recovery plans in place. | PS-1e |
| PS-5 Fire Hazards | Minimize risk of personal injury and property damage resulting from structural (urban) and wildland fires. | PS-5d |
| PS-6 Hazardous Materials | Minimize the personal injury, property damage, and public health risks associated with the production, use, storage, disposal, and transporting of toxic substances or hazardous materials. | PS-6b and PS-6f |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if it meets any of the following criteria.

If the project 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 project 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 are adjacent to urbanized areas or where residences are intermixed with wildlands.

Arcata General Plan

Table 2.10-2 Project Consistency with General Plan

| Policy | Consistency Analysis |
|--|--|
| PS-1 Emergency Response | PS-1e. Consistent with this policy, the design of the project will be required to comply with the emergency access standards of the fire and police departments. |
| PS-5 Fire Hazards | PS-5d. There are no forested areas near the project parcels. The closest forest lands are approximately 1 mile from the project parcels on the east side of Highway 101. The largest area of natural vegetation near the residential development site is the Janes Creek riparian corridor. As such, the project area is at a very low risk from wildland fires. |
| PS-6 Hazardous Materials (PS-6b and PS-6f) | PS-6b. Consistent with this policy, the site has been investigated and remediated for hazardous materials including petroleum hydrocarbons and dioxins/furans. Remaining contamination at the site occurs in the area of the debarker slab and is proposed to be remediated as part of the construction phase of the proposed project. Due to the potential for the discovery of unknown contamination during development of the site, the applicant shall implement a Site Development Contamination Contingency and Site Safety Plan (Appendix O; SHN, 1998) during project construction activities. To the extent that any contaminants are determined to be present, construction will cease immediately and investigation and remediation will be required. Ultimately, the Humboldt County Department of Environmental Health (HCDEH) and |

| Policy | Consistency Analysis |
|--------|---|
| | North Coast Regional Water Quality Control Board (NCRWQCB) must certify the site cleanup prior to the completion of construction and occupation of the site for residential uses. |

Proposed Project

Finding 2.10.1: Create a Significant Hazard to the Public or the Environment through the Routine Transport, Use, or Disposal of Hazardous Materials.

Discussion:

The project proposes single-family residential, senior assisted living, and senior-restricted neighborhood cottage residential units within a former industrial site (APN 505-161-011) that is within the City’s Sphere of Influence and Urban Service Boundary. Off-site improvements include the Foster Avenue Connection, development of parkland, emergency access road, and pedestrian/bicycle pathways.

Construction Impacts

Construction of the proposed project would involve the use of materials that are generally regarded as hazardous, such as gasoline, diesel fuel, hydraulic fluids, paint, and other similar materials. The risks associated with the routine transport, use, and storage of these materials during construction are anticipated to be relatively small. With appropriate handling and disposal practices, there is relatively little potential for an accidental release of hazardous materials during construction, and the likelihood is small that workers and the public would be exposed to health hazards. Storage and handling of materials during construction would employ best management practices (BMPs) and would be subject to provisions of the project Storm Water Pollution Prevention Plan (SWPPP), which is described in greater detail in Section 4.2 (Hydrology and Water Quality) of the EIR. BMPs would include provisions for safely refueling equipment, and spill response and containment procedures.

Operation Impacts

The proposed residential development includes single-family housing, a senior assisted living facility, and senior-restricted neighborhood cottage units. This type of residential land use is not typically associated with the routine transport, use, or disposal of hazardous materials. Although, residential uses may utilize cleaning products that contain toxic substances, which are usually in low concentration and small in amount and would not pose a significant risk to humans or the environment during transport to and from or use at the proposed residential development.

Therefore, the proposed project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.10.2: 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.

Discussion:

The proposed residential development site (APN 505-161-011) was previously a lumber mill and contamination of site soil due to that use has been documented. The site has been investigated and remediated, under regulatory oversight, with respect to soils contaminated with petroleum hydrocarbons and dioxins/furans. Investigation included soil and groundwater testing in test pits and boreholes distributed across the residential development site. Remediation included excavation and removal of contaminated soils (see Appendices G - N). Based on the remediation activities that occurred in 1997 to remove petroleum hydrocarbon contaminated soils, the proposed residential development site was declared “*Completed - Case Closed*” in 2001 by the Humboldt County Division of Environmental Health (HCDEH), who serves as the Certified Unified Program Agency (CUPA) for Humboldt County, in contract with the State Water Resources Control Board (SWRCB). Based on the additional site investigation and remediation activities conducted at the site to remove dioxin/furan contaminated soils in 2008 (see Appendices P - R), a letter (dated 03/10/09) was received from the NCRWQCB stating the “*No Further Action*” for the site is required. As discussed in the Environmental Setting, remaining petroleum hydrocarbon contamination exists on the residential development site under the debarker slab, which acts as a concrete “cap.”

There is no known hazardous materials contamination on any of the other parcels that will be developed with off-site improvements including the properties that will be developed with the Foster Avenue Connection (APNs 505-161-009, -030, 505-162-010, and public right-of-way), Ennes Park Expansion (APNs 505-151-009, 505-284-009, and 505-284-010), emergency access road (APN 505-151-001), and pedestrian/bicycle pathways (APNs 505-161-009 and 505-341-048).

Construction Impacts

Heavy construction equipment (e.g. bulldozers, excavators, heavy trucks) would be operated on the project parcels during construction of the proposed project. This heavy equipment would likely be fueled and maintained by petroleum-based substances such as diesel fuel, gasoline, oil, and hydraulic fluid, which is considered hazardous if improperly stored or handled. In addition, materials such as paints, adhesives, solvents, and other substances typically used in building construction would be located on the site during construction. Improper use, storage, or transportation of hazardous materials could result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This is a standard risk on all construction sites, and there would be no greater risk for improper handling, transportation, or

spills associated with the proposed project than would normally occur for any other similar construction site. Construction contractors are required to comply with all applicable federal, State, and local laws and regulations regarding construction-related hazardous materials, including, but not limited to, requirements imposed by the Environmental Protection Agency, the California Department of Toxic Substances Control, the North Coast Unified Air Quality Management District, and the North Coast Regional Water Quality Control Board.

At the beginning of project construction activities, it is proposed to remove the remnants of the former lumber mill. This includes concrete and steel foundations and slabs, a concrete and steel ramp, utility infrastructure, fill materials, and a septic system. There are no remaining structures at the site that potentially contain asbestos or lead-based materials that could be released during demolition activities.

Contaminated soils that are known to be remaining at the residential development site (APN 505-161-011) are shown in Figure 2.10C (Locations with Potential Hazardous Materials Impacts). This soil is under the debarker slab, which is a concrete "cap" that will need to be removed in order to construct the proposed wetland mitigation area. The removal of the concrete cap and the contaminated soil could potentially release hydrocarbon contamination from construction activity, as well as the remaining exposed contaminated soil.

To mitigate the potential impacts of the release of hazardous materials, prior to receiving a grading permit from the City of Arcata for the first phase of the project, the applicant shall submit a plan for soil removal and cleanup in the debarker slab area to the Humboldt County Division of Environmental Health (HCDEH) and the North Coast Regional Water Quality Control Board (NCRWQCB) for review and approval. Ultimately, the HCDEH and NCRWQCB must certify the site cleanup prior to the completion of construction and occupation of the site for residential uses. This has been included as Mitigation Measure 2.10.2a for the proposed project.

Additionally, despite the extensive site investigations that have occurred at the residential development site since the early 1990s, residual site soils may still contain localized pockets of petroleum hydrocarbon contamination in the form of gasoline, diesel, motor oil, and "aromatic" hydrocarbons (benzene, toluene, ethylbenzene, and xylene), as well as dioxins/furans, that were not encountered in previous site investigations. Without additional sampling and/or removing all soil underlying the site (which is inherently infeasible), there can be no guarantee that there is an absolute absence of contaminated soil.

Following completion of remediation efforts at the site in the 1990s, a Site Development Contamination Contingency and Site Safety Plan was developed to guide safe development (Appendix O; SHN, 1998). The intent of the Safety Plan is to limit exposure to potentially hazardous materials during the development and future occupation of the site. A designated OSHA trained and certified Site Safety Supervisor (SSS) or Site Safety Officer (SSO) will be responsible for periodic visual and olfactory (smell) inspection of all site earthwork, and for making documented evaluation of the potential for the presence or absence of potentially hazardous substances. A specific monitoring plan is elaborated, in which the SSS/SSO or designee conducts daily and periodic inspections with an Organic Vapor Analyzer. The Safety Plan requires that if environmental monitoring indicates the presence of potentially contaminated

soil or groundwater, work in the suspect area cease immediately, the subject area be secured, and the SSS/SSO immediately notify the appropriate State, County, and Local regulatory agencies (in this case, the first response should be to the County Division of Environmental Health and the North Coast Regional Water Quality Control Board). Implementation of the “Contingency and Site Safety Plan” during future site development will reduce the potential for exposure of workers and the public to hazardous materials to a less than significant level.

An investigation to identify the extent and magnitude of contamination, following procedures outlined in the Safety Plan, is to follow any identification of contaminated soils. Any contaminated soils exceeding regulatory screening levels for residential development shall be remediated to the satisfaction of regulatory agencies. Ultimately, the HCDEH and NCRWQCB must certify the site cleanup prior to the completion of construction and occupation of the site for residential uses. This has been included as Mitigation Measure 2.10.2b for the proposed project.

Operational Impacts

The proposed residential development includes single-family housing, a senior assisted living facility, and senior-restricted neighborhood cottage units. Off-site improvements include the Foster Avenue Connection, development of parkland, emergency access road, and pedestrian/bicycle pathways. These types of land uses are not typically associated with the use, transport, or disposal of significant quantities of hazardous materials. Although, residential uses may utilize cleaning products that contain toxic substances, which are usually in low concentration and small in amount and would not pose a significant risk to humans or the environment from an accidental release.

With the proposed mitigation measures, the proposed project will not 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.

Determination:

Less than significant with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measure would reduce potential impacts to a less than significant level.

Mitigation Measure 2.10.2a. Prior to receiving a grading permit from the City of Arcata for the first phase of the project, the applicant shall submit a plan for soil removal and cleanup in the debarker slab area to the Humboldt County Division of Environmental Health (HCDEH) and the North Coast Regional Water Quality Control Board (NCRWQCB) for review and approval. The applicant shall conduct the soil remediation activities in the debarker slab area according to the plan approved by the HCDEH and the NCRWQCB. Prior to issuance of the certificate of occupancy by the City of Arcata for the first phase of the project, the HCDEH and the NCRWQCB must certify the site cleanup.

Mitigation Measure 2.10.2b. The applicant shall implement the Site Development Contamination Contingency and Site Safety Plan (Appendix O; SHN, 1998) during site

development to minimize impacts to workers and future residents from development of parcel 505-161-011 for residential uses. Following the identification of any contaminated soils at the site during construction, construction activities shall cease and an investigation shall occur to identify the extent and magnitude of contamination following procedures outlined in the Safety Plan. Any contaminated soils exceeding regulatory screening levels for residential development shall be remediated to the satisfaction of regulatory agencies. Prior to the completion of construction and occupation of the site for residential uses, the Humboldt County Division of Environmental Health (HCDEH) and North Coast Regional Water Quality Control Board (NCRWQCB) must certify the site cleanup.

Finding 2.10.3: Release of Hazardous Emissions or Handling of Hazardous Materials within ¼ Mile of an Existing or Proposed School.

Discussion:

The Bloomfield Elementary School is approximately one-quarter mile southwest of the residential development site. At the beginning of project construction activities it is proposed to remove the remnants of the former lumber mill. This includes concrete and steel foundations and slabs, a concrete and steel ramp, utility infrastructure, fill materials, and a septic system. There are no remaining structures at the site that potentially contain asbestos or lead-based materials that could be released during demolition activities. The proposed site remediation activities (removal of the debarker slab and underlying contaminated soils) will occur according to an approved remediation plan (see Mitigation Measure 2.10.2a), which will minimize potential impacts from the handling of residual hazardous materials at the residential development site. As such, impacts from removal of the remnants of the former lumber mill would be less than significant and no additional mitigation measures would be required.

As discussed in Section 2.7 (Air Quality) of the EIR, the City's standard condition for controlling dust emissions during construction (General Plan Policy AQ-2f (Control Measures 1-10), Pgs. 4-47 and 4-48) will be included as a condition of approval by the City of Arcata for the proposed project. Compliance with the requirements in General Plan Policy AQ-2f will minimize nuisance dust generation during construction activity. In addition to Control Measures 1-10, General Plan Policy AQ-2f also contains additional control measures for minimizing impacts to sensitive receptors from construction emissions. These measures include the following:

- 11) Install wheel washers for exiting trucks, or wash all equipment leaving site.
- 12) Install wind breaks, or plant trees/vegetation at windward sides of construction area, or avoid removing existing vegetation which acts as a wind break.
- 13) Suspend excavation and grading activity when winds exceed 25 mph.
- 14) Limit area subject to excavation, grading, and other construction activities at any one time.

The City's standard condition for minimizing impacts to sensitive receptors from construction emissions (General Plan Policy AQ-2f (Control Measures 11-14), Pg. 4-48) will be included by

the City of Arcata as a condition of approval for the proposed project. The Arcata General Plan PEIR (Pg. 5-32) concludes that Control Measures 11-14 in Air Quality Element Policy AQ-2f are similar to the most stringent adopted by other agencies in the State, and when implemented, would provide adequate protection to sensitive receptors.

The proposed residential development includes single-family housing, a senior assisted living facility, and senior-restricted neighborhood cottage units. Off-site improvements include the Foster Avenue Connection, development of parkland, emergency access road, and pedestrian/bicycle pathways. These types of land uses are not typically associated with the release of hazardous emissions or handling of hazardous materials during long-term operation. Although, residential uses may utilize cleaning products that contain toxic substances, they are usually in low concentration and small in amount, and would not pose a significant risk to Bloomfield Elementary School.

Therefore, the proposed project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Determination:

Less than significant with incorporation of mitigation measures.

Mitigation:

Same as *Mitigation Measure 2.10.2a (Hazardous Materials Remediation)*.

Finding 2.10.4: Creation of a Significant Hazard to the Environment due to the Location on a Site Included on a List of Hazardous Materials Sites Compiled Pursuant to Government Code Section 65962.5.

Discussion:

As discussed in the Environmental Setting and under Finding 2.10.2, the residential development site was historically used as a lumber mill and has been subject to hazardous materials investigation and remediation over the last several decades. It has been determined by the County Division of Environmental Health (HCDEH) and the North Coast Regional Water Quality Control Board (NCRWQCB) that the site has undergone adequate remediation and can be developed for residential uses.

As described under Finding 2.10.2, known remaining contamination at the site occurs in the area of the debarker slab, which currently functions as a “cap” over an area of known hydrocarbon contamination. Since the debarker slab is proposed to be removed for construction of the wetland mitigation area, the applicant must submit a plan for soil removal and cleanup to the Humboldt County Division of Environmental Health (HCDEH) and the North Coast Regional Water Quality Control Board (NCRWQCB) for review and approval. Prior to issuance of the certificate of occupancy by the City of Arcata for the first phase of the project, the HCDEH and NCRWQCB must certify the site cleanup. This has been included as Mitigation Measure 2.10.2a for the proposed project.

In addition, there is still the potential to uncover localized pockets of petroleum hydrocarbon contamination and dioxins/furans that were not encountered in previous site investigations. Due to the potential for the discovery of unknown contamination during development of the site, the applicant shall implement a Site Development Contamination Contingency and Site Safety Plan (Appendix O; SHN, 1998) during project construction activities. To the extent that any contaminants are determined to be present, construction will cease immediately and investigation and remediation will be required. This has been included as Mitigation Measure 2.10.2b for the proposed project. Ultimately, the HCDEH and NCRWQCB must certify the site cleanup prior to the completion of construction and occupation of the site for residential uses. As such, the potential impacts associated with exposure to hazardous materials related to the former lumber mill, will be less than significant.

With the proposed mitigation measures, the proposed project would not create a significant hazard to the public or the environment due to its location on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5

Determination:

Less than significant with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures would reduce potential impacts to a less than significant level.

Same as *Mitigation Measures 2.10.2a (Hazardous Materials Remediation)* and *2.10.2b (Site Development Contingency Plan)*.

Finding 2.10.5: Result in a Safety Hazard for People Residing or Working in the Project Area Due to Close Proximity to a Public Airport or Public Use Airport.

Discussion:

A review of the Humboldt County Web GIS system (Humboldt County, 2016) shows that the project parcels are not located within two miles of an airport or within an airport land use plan. The closest civilian airports to the project area occur approximately 5 miles to the south (Murray Field), approximately 6 miles to the north (California Redwood Coast – Humboldt County Airport) and approximately 9 miles to the southwest (Samoa Field). The closest military airport is the United States Coast Guard Air Station which is located adjacent to the California Redwood Coast – Humboldt County Airport approximately 6 miles to the north of the project area.

Therefore, the proposed project will not, result in a safety hazard for people residing or working in the project area due to the close proximity to a public airport or public use airport.

Determination:

Less than significant impact.

Mitigation:
None required.

Finding 2.10.6: Result in a Safety Hazard for People Residing or Working in the Project Area Due to Close Proximity to a Private Airstrip.

Discussion:
A review of the Humboldt County Web GIS system (Humboldt County, 2016) shows that the project parcels are not located within two miles of a private airstrip. The closest airport, in general, to the project area occurs approximately 5 miles to the south (Murray Field).

Therefore, the proposed project will not, result in a safety hazard for people residing or working in the project area due to the close proximity to a private airstrip.

Determination:
Less than significant impact.

Mitigation:
None required.

Finding 2.10.7: Impair Implementation of or Physically Interfere With An Adopted Emergency Response Plan or Emergency Evacuation Plan.

Discussion:
The Arcata Fire District (AFD) and City of Arcata Police Department (APD) have provided comments on emergency access and fire abatement requirements during the review of this project. City policy also requires projects to be consistent with General Plan Policy PS-1e (*Development & design standards for emergency response*) (Pg. 6-5). The site design has been developed to incorporate the requirements of the AFD and APD. Proposed street improvements will improve emergency access and circulation within the site and neighborhood.

Therefore, the proposed project will not impair the implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Determination:
Less than significant impact.

Mitigation:
None required.

Finding 2.10.8: Expose People or Structures to a Significant Risk of Loss, Injury or Death Involving Wildland Fires.

Discussion:

The project parcels are located in the Arcata Bottom and are surrounded by residential development and agricultural lands. The project area is shown on the Humboldt County Web GIS system (Humboldt County, 2016) as having a “Low” fire rating. The portions of the Arcata Planning Area shown as having a “High” fire rating primarily include forested areas east of Highway 101. Policy PS-5d of the General Plan Public Safety Element addresses wildland fire hazards which states:

PS-5d Management of wildland fire hazards. Wildland fires in forested areas of the City can cause property damage and threaten nearby structures. Buildings in forested areas shall use materials such as non-flammable perimeter vegetation and roofing material to prevent exposure to wildland fires. The City shall encourage the Arcata Fire Department to maintain its mutual aid agreement with the California Department of Forestry and Fire Prevention (CDF) to insure rapid response to wildland fires.

There are no forested areas near the project parcels. The largest area of natural vegetation near the residential development site is the Janes Creek riparian corridor. The closest forest lands are approximately 1 mile from the project parcels on the east side of Highway 101. As such, the proposed residential development project will not increase risks involving wildland fires.

Therefore, the project will not expose people or structures to a significant risk of loss, injury or death involving wildland fires.

Determination:

Less than significant impact.

Mitigation:

None required.

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Section 2.11

UTILITIES AND SERVICE SYSTEMS

This section evaluates the potential impacts related to utilities and service systems with construction and operation of the project. The Environmental Setting section describes the existing setting as it relates to utilities and service systems and the Regulatory Framework section describes the applicable regulations at the federal, State, and local level. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to utilities and service systems, and identifies the significance of impacts. Where appropriate, mitigation is presented to reduce impacts to less than significant levels.

ENVIRONMENTAL SETTING

Public Facilities

Domestic Water Supply

The residential development site is located within a portion of the Humboldt County unincorporated area where municipal drinking water is not available to residents. Drinking water is generally supplied to residents from private wells. When the site was operated as a mill, the mill received water from an on-site well. However, as explained in the Phase I Environmental Assessment prepared by SHN (Appendix G) for the residential development site (APN 505-161-011), the precise location of the well is unknown.

Upon annexation, drinking water would be available from the City of Arcata water system. The City of Arcata provides water and wastewater service to residences, businesses, and public facilities for all areas of the city except several small neighborhoods near the city limits (those neighborhoods are served by private wells and on-site wastewater treatment). The City's water system has one primary water source, a secondary groundwater source, and distribution system interconnections designed to provide additional means of bringing water into the distribution system. The City of Arcata has an Urban Water Management Plan (as required by the California Water Code) that defines the current and future capacity of the system. The City last updated its Urban Water Management Plan in 2015. The Arcata General Plan requires that this plan be updated every five years.

Arcata's municipal water system currently delivers water to approximately 6,260 connections which includes supplying water to the Jacoby Creek Water District (Urban Water Management Plan, 2015; Pg. 7). The majority of the City's water supply is purchased from the Humboldt Bay Municipal Water District (HBMWD) and enters the City's water system at the Alliance Road Transfer Station, Aldergrove Intertie Station, and the Wymore Road Intertie. The City currently purchases an average of 1.8 million gallons per day (MGD) from the HBMWD. The HBMWD

water is obtained from horizontal collection chambers buried approximately 100 feet below the bed of the Mad River between Blue Lake and Arcata. The HBMWD has appropriative water rights permits from the State Water Resources Control Board through the year 2029 for surface water storage and diversion. HBMWD's water rights permits allow it to store and divert a combined 75 MGD from the Mad River. Each municipal customer is designated a Peak Rate Allocation (PRA) which is the maximum daily use in any given calendar year and is reviewed annually by HBMWD. The PRA for Arcata is 3.25 MGD or 9.97 acre-feet/day and accounts for approximately 4.3 percent of HBMWD's water rights. The City's PRA would allow the City to use 1.86 billion gallons of water annually (Urban Water Management Plan, 2010; Pgs. 16-17).

The following table contains past and projected data regarding water service connections by type of user and volume of water consumed per year.

Table 2.11-1 City of Arcata Water Service Data (Actual and Projected)

| City of Arcata Water Service Connections | | | | | | | | | | |
|---|-------------|----------|-------------|----------|-------------|----------|-------------|----------|-------------|----------|
| | 2010 | | 2015 | | 2020 | | 2025 | | 2030 | |
| | No. | % | No. | % | No. | % | No. | % | No. | % |
| Single Family | 4,904 | 81.5 | 5,154 | 81 | 5,417 | 81 | 5,693 | 81.4 | 5,984 | 81.7 |
| Multi Family | 570 | 9 | 599 | 10 | 630 | 9.5 | 662 | 9.5 | 696 | 9.5 |
| Commercial | 503 | 8 | 509 | 7 | 516 | 7 | 522 | 7.5 | 529 | 7.2 |
| Industrial | 62 | 1 | 66 | 1 | 71 | 1 | 75 | 1.1 | 79 | 1.1 |
| Instit/Govt. | 37 | 0.05 | 37 | 1 | 38 | 0.05 | 38 | 0.5 | 39 | 0.5 |
| Total | 6,076 | 100 | 6,365 | 100 | 6,672 | 100 | 6,990 | 100 | 7,327 | 100 |

Source: City of Arcata Urban Water Management Plan, 2010.

| City of Arcata Water Consumption | | | | | | | | | | |
|---|-------------------------|----------|-------------------------|----------|-------------------------|----------|-------------------------|----------|-------------------------|----------|
| | 2015² | | 2020³ | | 2025³ | | 2030³ | | 2035³ | |
| | Vol.¹ | % | Vol.¹ | % | Vol.¹ | % | Vol.¹ | % | Vol.¹ | % |
| Single Family | 218 | 33 | 221 | 30.2 | 227 | 29 | 231 | 28.3 | 235 | 27.7 |
| Multi Family | 135 | 20.4 | 180 | 24.7 | 206 | 26.2 | 210 | 25.8 | 214 | 25.2 |
| Commercial | 110 | 16.6 | 121 | 16.6 | 133 | 17 | 147 | 18 | 162 | 19 |
| Industrial | 20 | 3 | 21 | 2.9 | 23 | 2.9 | 24 | 2.9 | 26 | 3.1 |
| Instit/Govt. | 55 | 8.3 | 58 | 7.9 | 62 | 7.9 | 66 | 8.1 | 71 | 8.4 |
| Other | 24 | 3.6 | 24 | 3.2 | 24 | 3 | 24 | 3 | 24 | 2.9 |
| Losses | 100 | 15.1 | 105 | 14.4 | 110 | 14 | 113 | 13.9 | 116 | 13.7 |
| Total | 660 | 100 | 730 | 100 | 785 | 100 | 815 | 100 | 848 | 100 |

¹Vol. = Volume of water consumed, measured in millions of gallons per year.

² 2015 = Actual water consumed

³2020-2035 = Projected water consumption

Source: City of Arcata Urban Water Management Plan, 2015.

The City of Arcata also invested in a groundwater source, referred to as the Heindon Well, to diversify its water supply and better prepare its service area during emergencies. Pumping from

the Heindon Well began in 1999 to augment the general water supply; although use of the groundwater well was very sporadic from 1999-2002. In July of 2002, the City began pumping continuously from the groundwater well at a rate of approximately 500,000 gallons per day. Since 2005, average pumping rates have decreased to approximately 350,000 gallons per day. Ultimately, the well is capable of producing approximately 183 million gallons of water per year. The Heindon Well will continue to be operated as an auxiliary water supply.

In 2015, the City used 660 million gallons or approximately 55 percent of its PRA. The change in water demand is anticipated to increase 28 percent between 2015 and 2035; an increase from 660 million gallons per year in 2015, up to 847 million gallons per year in 2035.

The City of Arcata Water System Evaluation Summary Report (SHN, 1998) provides a summary of the City's water system and a general evaluation of the systems facilities. The most common problem encountered was the need for more storage capacity. Ideally, a municipal water system should provide seven days of storage capacity. Arcata's water system currently provides only 48 hours of storage capacity. The ideal goal of seven days of storage is not often attained by municipal water systems. The City has established a more realistic goal of increasing the water systems storage capacity to 72 hours. To achieve this goal, an additional 1.5 million gallons of storage would be required.

The City's water system is composed of thirteen (13) service areas or zones. The largest service area (Zone 1, Central City) includes approximately 75 percent of the City's water customers. Facilities in Zone 1 represent the backbone of the City's water system. Much of the City's commercial and industrial zoned lands are located within Zone 1. Water in Zone 1 is supplied by the HBMWD, through the Alliance Road Transfer Station, and by the Heindon Well. City Staff reports no problems at the Alliance Road Transfer Station or Heindon Well that cannot be addressed by routine maintenance. Storage is provided by welded steel tanks at 16th and Union, and Margaret Lane. The total combined storage capacity of Zone 1 is approximately 3 million gallons.

City staff indicates that the water supply distribution system is adequate to serve General Plan projected growth through 2020, and that existing storage capacity will allow most land owners to develop property within the City limits. Uses requiring large amounts of treated water may be required to construct on-site storage. Furthermore, intensive manufacturers, agriculture projects, or new major subdivisions/developments may be required to upgrade the City's storage systems. Developers are often required to construct mainline extensions from existing facilities and all required laterals to serve the proposed development.

The residential development site is located within City of Arcata water Zone 1. There is an existing waterline on Foster Avenue to the south of the site (see Figure 2.11A [Public Facilities]). The waterline extends from Alliance Road to 17th Street, onto Q Street, and ends approximately 400 feet west of the intersection of Q Street and Foster Avenue. There is a water valve and a fire hydrant located to the south of the site on Foster Avenue. The water valve and fire hydrant are located at the northeast corner of parcel 505-171-006 (1983 Foster Avenue). The City has indicated that it can serve the proposed project with water. Public Utility Easements (PUEs) benefiting the City will be required for all onsite utility infrastructure.

Wastewater Collection & Disposal

Currently, municipal wastewater treatment is not available to residents located in the unincorporated area along Foster Avenue. Domestic wastewater treatment is accomplished through private on-site septic systems. Upon annexation of the residential development site, wastewater service would be available through the City of Arcata.

Arcata's wastewater collection system consists of pipes, manholes, and lift stations. The collection system drains via gravity, to eight lift stations. Wastewater is pumped from the lift stations to the wastewater treatment facility. There are numerous studies illustrating the degree of infiltration and inflow into the City's collection system. Infiltration and inflow is water flowing into the collection system from an outside source such as groundwater or surface drainage. This condition is especially prevalent during the peak wet weather season.

Based on an analysis prepared by the project applicant, the proposed project would produce approximately 17,460 gallons per day of wastewater. Wastewater that would be generated by the project would flow to the western lift station before reaching the marsh treatment system. There is an existing sewer line along Foster Avenue adjacent to the site (see Figure 2.11A [Public Facilities]). Public Utility Easements (PUEs) benefiting the City will be required for all onsite utility infrastructure.

Wastewater is treated by the City's wastewater treatment plant and marsh systems (see Figure 2.11B [Aerial Photo of Arcata Wastewater Treatment Plant]). The wastewater treatment plant facilities include headworks, primary clarifiers, oxidation ponds, treatment wetlands, enhancement wetlands, and chlorine disinfection. Solids removed in the primary clarifiers are treated in anaerobic digesters and solids drying beds (City of Arcata, 2016c). The treatment plant is designed for an average dry weather flow of 2.3 million gallons per day, and a peak wet weather flow of 5.0 million gallons per day. The City is currently at approximately 70 percent of dry weather design flow (City of Arcata, 2016a). The City regulates wastewater disposal, including industrial pretreatment standards, according to Chapter 2, Title VII of the Arcata Municipal Code. Wastewater treatment at the Arcata plant includes the following steps:

- Primary treatment using clarifiers (settling tanks) to remove solids and organic matter;
- Secondary treatment using oxidation ponds to remove additional organic matter;
- Additional organic matter and nutrient removal using treatment marshes;
- Mixing with outflow from the marshes at the Arcata Marsh and Wildlife Sanctuary; and
- Chlorination to kill disease organisms, followed by removal of the chlorine (which is toxic to aquatic life).

Figure 2.11A Public Facilities

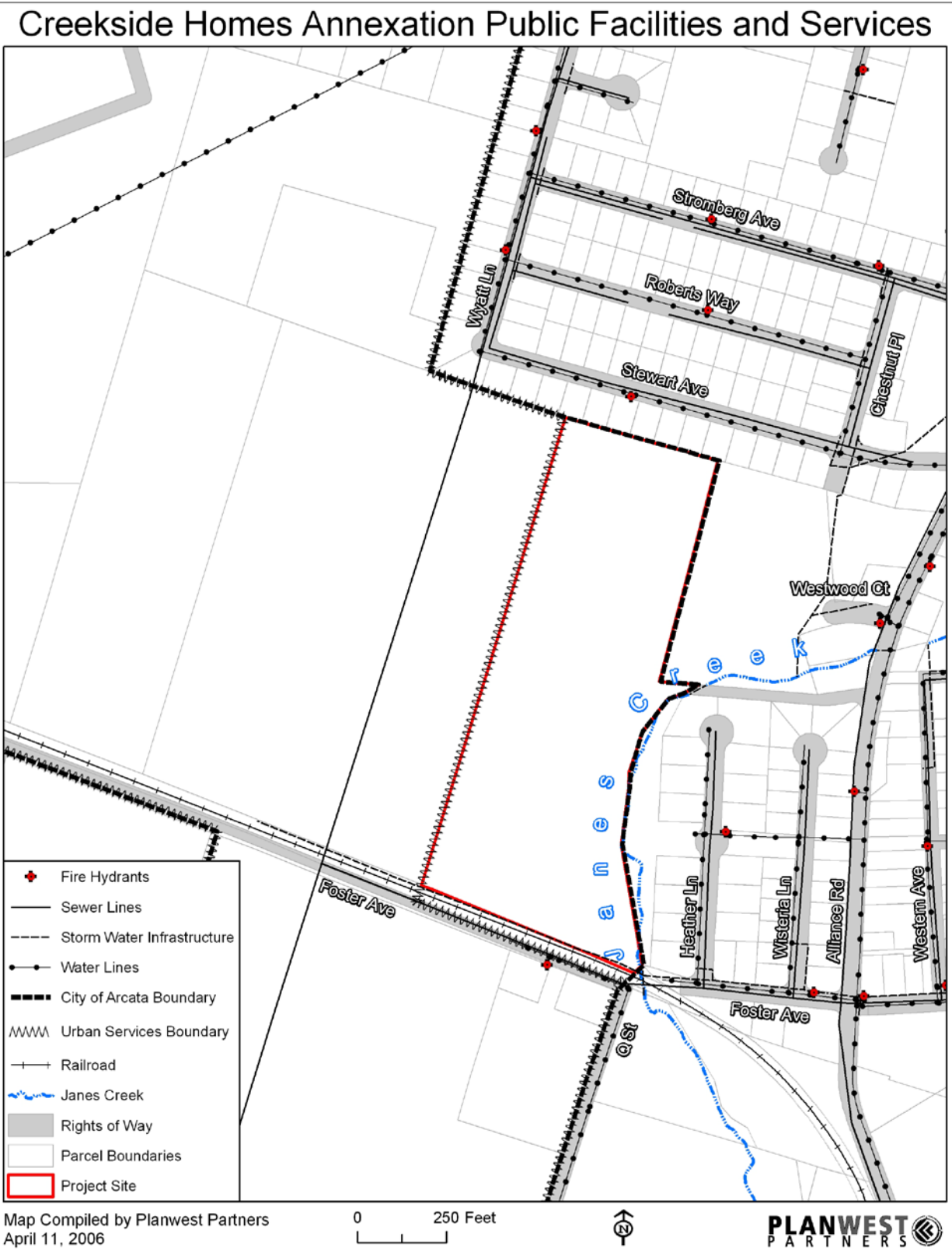


Figure 2.11B Aerial Photo of Arcata Wastewater Treatment Plant (Google Earth, 2017)



Under normal conditions, treated wastewater is discharged to Arcata Bay after flowing through the Arcata Marsh. About half of the Arcata Marsh outflow is returned to the treatment plant for mixing, and the rest discharged into Arcata Bay.

Arcata's wastewater treatment system must comply with regulatory requirements established by its National Pollutant Discharge Elimination System (NPDES) permit issued by the California Regional Water Quality Control Board. As described in the City's Wastewater Treatment Facility Improvements Project Report (2016c), effluent monitoring data shows that there have been ongoing exceedances of discharge limits on total suspended solids (TSS), biochemical oxygen demand (BOD, a measure of biodegradable organic matter), pH, dichlorobromomethane, chronic toxicity, chlorine, and fecal coliform since 2004.

In 2012, the City's wastewater treatment system began operating under a new NPDES permit that specifically addressed several long-term issues regarding disinfection, treatment units, and outfalls. The new permit enabled changes to be made to improve wastewater treatment, protect beneficial uses, increase energy efficiency, reduce chemical usage, and reduce the potential for permit violations. Improvements to the City's wastewater treatment system that are required as part of the 2012 NPDES permit includes the following:

- 1) Conversion of the flow configuration to a single pass disinfection system and discharge through a new outfall of 5.9 mgd. Piping, screening, pumps, and pump station modifications will be required to switch to single pass flow through the system.
- 2) Construction of a new UV disinfection system for the disinfection of secondary effluent up to 5.9 mgd. The UV process will eliminate the disinfection by-product formation and permit violations that are occurring with the use of chlorine.

In response to the new permit requirements, the City initiated a Facility Plan and plant improvement project (2016c) to address several issues including:

- Ongoing NPDES permit violation and regulatory compliance.
- Need to repair or rehabilitate (R&R) aging infrastructure and address deferred maintenance.
- Providing reliable capacity and treatment for both wet and dry weather flows now and into the future.
- Repairing conveyance infrastructure to reduce inflow and infiltration (I&I).

The facility plan provides overall direction for current permit compliance as well as a future Capital Improvements Program (CIP) needed to maintain the treatment facility assets, repair, and rehabilitate existing assets, and modernize the facility to meet current levels of service. As part of the facility plan, the wastewater treatment plant facilities were evaluated for their overall condition. The findings from the assessment indicate that a majority of the mechanical equipment has exceeded its expected life, and that major structures are also starting to approach the end of their useful life. Based on the conditions assessment and capacity evaluations conducted as part of the Facility Plan, numerous facilities will need to be improved in the next

ten years based on their expected useful life and current condition. Facilities that will be improved as part of this plan include the headworks, primary clarifiers, anaerobic digesters, and sludge heating/mixing systems. Other improvements to the wastewater treatment system that are proposed in the Facility Plan include the following:

- 1) Removal of solids and vegetation from the oxidations ponds and treatment wetlands to improve treatment and hydraulic capacity.
- 2) Construction of a new treatment wetland to increase the capacity of the treatment wetlands from 1.8 mgd to 2.3 mgd.
- 3) Vegetation removal and the installation of new baffles and new inlet/outlet structures in the enhancement wetlands to improve treatment and hydraulic efficiency and capacity.
- 4) Replacement of aging pump stations to increase capacity.
- 5) Augmentation of secondary treatment capacity to address BOD ITSS capacity shortfalls with a 1.8 mgd oxidation ditch.

The proposed project, which includes the annexation of approximately 21 acres of land into the City of Arcata, will be required to pay standard sewer capital connection fees for residential development, as well as a Wastewater Treatment Plant Offset Fee (\$160,000) negotiated through a Development Agreement with the City, which will be used to fund some of the proposed improvements to the City's wastewater treatment system.

Stormwater Collection

The City of Arcata operates a stormwater drainage system that includes gutters and drop inlets associated with streets, as well as ditches, culverts, basins, creeks, and the Arcata Marsh. There are eight creeks traversing the Urban Area that accept stormwater runoff.

The City prepared a Drainage Master Plan (1997) to guide stormwater management which includes a hydrological analysis, drainage management alternatives, operational plan, needs assessment, and capital improvement program. The City of Arcata prepared a Storm Water Management Program (SWMP) in 2005 in response to the requirements of the State Water Resources Control Board (SWRCB). The program covers the eleven square-mile area of the City of Arcata. The goal of the SWMP is to protect the health of the recreational public and the environment, meet Clean Water Act mandates through compliance with Phase II NPDES Permit requirements and applicable regulations, and foster heightened public involvement and awareness.

The residential development site (APN 505-161-011) is not currently connected to a municipal stormwater system. Stormwater runoff at the site currently infiltrates on-site or drains into Janes Creek or into the drainage ditches along the railbed which ultimately drain into Janes Creek. Consistent with requirements of the State Water Resources Control Board (SWRCB) and City of Arcata, the proposed project will be required to manage stormwater runoff on the project parcels and will not be connected to the City of Arcata stormwater infrastructure.

Public Services

Solid Waste Collection

Residences within the City of Arcata, and the unincorporated area in the vicinity of Foster Avenue, can receive curbside solid waste collection services from the City's franchise contractor, Recology Arcata. Solid waste is transported to the Humboldt Waste Management Authority (HWMA) Solid Waste Transfer Station in Eureka. Large recyclable materials (scrap metal, wood, and concrete) and hazardous materials (washers, dryers, televisions, tires, etc.) are pulled from the waste stream at the Eureka facility, and the remaining solid waste is shipped to the Dry Creek Landfill, in Medford, Oregon, and the Anderson Landfill, in Anderson, California. There are also recycling drop off centers at Humboldt Sanitation in McKinleyville, Eel River Resource Recovery in Samoa, and HWMA in Eureka. HWMA, in partnership with the City of Arcata and Wes Green Landscaping, operates the Mad River Compost Facility on West End Road in Arcata, where greenwaste is processed into compost (HWMA, 2016). The City is in compliance with State waste reduction goals.

The Dry Creek Landfill is located in Jackson County, Oregon and receives approximately 900 tons of solid waste per day. The Dry Creek Landfill has a total capacity of 35,700,000 cubic yards and is projected to close in 2074 (Rogue Disposal & Recycling, 2016). The Anderson Landfill is located in Shasta County, California and is currently permitted to receive 1,850 tons per day. The Anderson Landfill has a maximum permitted capacity of 16,840,000 cubic yards and is projected to close in 2093 (CalRecycle, 2016).

REGULATORY FRAMEWORK

Federal

Clean Water Act

The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Under the Clean Water Act, the U.S. EPA has implemented pollution control programs such as setting wastewater standards for industry and water quality standards for all contaminants in surface waters. The Clean Water Act made it unlawful to discharge any pollutant from a point source (direct discharge) into navigable waters. The U.S. EPA's NPDES permit program controls direct and non-point discharges through the NCRWQCB.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) of 1976, as amended, addressed the nations increasing volumes of municipal and industrial solid waste. RCRA addressed both solid

waste, and hazardous wastes and their disposal, and authorized the EPA to regulate waste management activities across the country. RCRA also authorized states to develop their own regulations for the management and enforcement of waste management programs. RCRA was amended by the Hazardous and Solid Waste Amendments (HSWA) of 1984.

State of California

Porter-Cologne Water Quality Control Act

In 1969, the California Legislature enacted the Porter-Cologne Water Quality Control Act to preserve, enhance, and restore the quality of the State's water resources. The act established the SWRCB and nine RWQCBs as the principal State agencies with the responsibility for controlling water quality in California. The SWRCB is responsible for implementing the Clean Water Act, issues NPDES permits to cities and counties through Regional Water Quality Control Boards, and implements and enforces the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009, as amended by Order No. 2010-0014). Order No. 2009-0009 took effect on July 1, 2010 and was amended on February 14, 2011. The Order applies to construction sites that include one or more acres of soil disturbance. Construction activities include clearing, grading, grubbing, excavation, stockpiling, and reconstruction of existing facilities involving removal or replacement.

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (Public Resources Code Division 30), enacted through Assembly Bill (AB) 939 and modified by subsequent legislation, required all California cities and counties to implement programs to divert waste from landfills (Public Resources Code Section 41780). Compliance with AB 939 is determined by the Department of Resources, Recycling, and Recovery (CalRecycle), formerly known as the California Integrated Waste Management Board (CIWMB). Each county is required to prepare and submit an Integrated Waste Management Plan for expected solid waste generation within the county to the CIWMB. The Act also required each city to prepare a Source Reduction and Recycling Element for achieving a solid waste diversion goal of 25 percent by January 1, 1995, and 50 percent by January 1, 2000. In 2015, the City of Arcata met or exceeded the waste diversion mandate of 50 percent set by the Integrated Waste Management Act of 1989 (City of Arcata, 2016b).

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Re-use and Recycling Access Act of 1991 was enacted to help government entities with the implementation of AB 939. As part of the Act, the California Integrated Waste Management Board (now CalRecycle) was directed to draft a “*model ordinance*” relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance requires that any new development project, for

which an application is submitted on or after September 1, 1994, include “adequate, accessible, and convenient areas for collecting and loading recyclable materials.”

SB 1018

Senate Bill 1018 requires businesses that generate four cubic yards or more of commercial solid waste per week, or is a multi-family residential dwelling of five units or more, shall arrange for recycling services.

Utility Notification Requirements

Title 8, Section 1541 of the California Code of Regulations requires excavators to determine the approximate locations of subsurface installations such as sewer, telephone, fuel, electric, and waterlines (or any other subsurface installations that may reasonably be encountered during excavation work) prior to opening an excavation. The California Government Code (Sections 4216 et seq.) requires owners and operators of underground utilities to become members of and participate in a regional notification center. According to Section 4216.1, operators of subsurface installations who are members of, participate in, and share in the costs of a regional notification center are in compliance with this section of the code. Underground Service Alert North (USA North) receives planned excavation reports from public and private excavators and transmits those reports to all participating members of USA North that may have underground facilities at the location of excavation. At this point, members of the regional notification center will mark or stake their facilities, provide information, or give clearance to dig (USA North 2014).

California Public Utilities Commission

The California Public Utilities Commission (PUC) regulates privately owned electric, natural gas, communications, water, sewer utilities, railroads, and passenger transportation companies in the State. Regulations are established that ensure the public safety and reasonable rates. The PUC does not regulate personal private utility systems (such as individual water wells, solar panels, private roads, etc.), or private utility associations (such as Community Service Districts).

City of Arcata

Arcata General Plan

The City of Arcata General Plan contains guidelines for utilities and service systems within the Public Facilities and Infrastructure Element. The General Plan has developed several specific Goals and related Policies that address these systems. Table 2.11-2 below contains a list of policies from the Arcata General Plan that are applicable to the proposed project.

Table 2.11-2 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|---|--|--------------------------------|
| PF-2 Wastewater Collection, Treatment, & Disposal | Collect and treat wastewater to achieve safe water quality standards, utilizing the City's internationally renowned marsh treatment facility. | PF-2a |
| PF-3 Stormwater Management | Implement the City's Drainage Master Plan to utilize natural drainage systems; minimize increases in stormwater runoff, flooding, and erosion; maintain the integrity of stream hydrology; reduce pollutant loads; and acquire easements and properties for effective drainage management. | PF-3a, PF-3b, PF-3c, and PF-3e |
| PF-5 Public Facilities | Provide adequate facilities for services and programs administered by the City and other public service providers, including City administrative and meeting facilities (City Hall), police and fire departments, libraries, and community centers. | -- |
| PF-6 Integrated Waste Management | Reduce solid waste generation at the source; maximize re-use and repair of appropriate items and material; promote composting and recycling; and properly transport non-recyclable solid waste to approved disposal sites. | PF-6a |

Urban Water Management Plan

The City of Arcata has an Urban Water Management Plan (as required by the California Water Code) that defines the current and future capacity of the system. The evaluation of water demands includes an assessment of historical demands and a projection of future demands based on forecasted development of the remaining developable lands within the City's Urban Services Boundary. Projections were done in five-year increments, as estimated from the status and timing of currently approved development as well as probable future development within the context of the City General Plan. The City last updated its Urban Water Management Plan in 2015.

Drainage Master Plan

The City prepared a Drainage Master Plan (1997) to guide storm water management which includes a hydrological analysis, drainage management alternatives, an operational plan, a needs assessment, and a capital improvement program. At the time that the Drainage Master Plan was completed, there were 900 acres of impervious surface Citywide (buildings and paved area), 40 percent of which is the public street system. The Master Plan projected that, at general plan buildout, there would be 1,582 acres of impervious surface Citywide.

Storm Water Management Program

The City of Arcata prepared a Storm Water Management Program (SWMP) in response to State Water Resources Control Board (SWRCB) Water Quality Draft Order No. 2003–0005–DWQ1 (GENERAL PERMIT NO. CAS000004) for National Pollutant Discharge Elimination System (NPDES) Phase II. The program covers the eleven square mile area of the City of Arcata. Although none of the small urban streams in or near the City have been identified as “impaired,” by the 303(d) list, the Mad River is listed as impaired due to temperature, sediment, turbidity and siltation. Humboldt Bay, which receives Arcata runoff, is listed as “*impaired*” by the State of California for polychlorinated biphenyls (PCBs).

The City’s stormwater quality program has been derived from ongoing City programs that have been enhanced to meet the requirements of the SWRCB. The goal of the SWMP is to protect the health of the recreational public and the environment, meet Clean Water Act mandates through compliance with Phase II NPDES Permit requirements and applicable regulations, and foster heightened public involvement and awareness. Water quality monitoring has identified bacteria, nutrients, and sediment as pollutants of concern. Storm drains typically flow into creeks that have already passed through a variety of land uses, including natural, agricultural, urban and industrial, and in some cases, through more than one permit jurisdiction. The City is faced with the challenge of requiring and implementing controls to reduce the discharge of pollutants in stormwater runoff to the technology-based standard of “*Maximum Extent Practicable*” (MEP) as required by § 402(p)(3)(B)(iii) of the Clean Water Act, 33 U.S.C. § 1342(p)(3)(B)(iii) (City of Arcata 2005, Pg. 6).

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact to utilities and service systems is considered to be significant if it meets any of the following criteria.

If the project would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- 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;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments;
- Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs; or
- Comply with federal, State, and local statutes and regulations related to solid waste.

Arcata General Plan

Table 2.11-3 Project Consistency with General Plan

| Policy | Consistency Analysis |
|---|--|
| PF-2 Wastewater Collection, Treatment, & Disposal (PF-2a) | <p>PF-2a. Consistent with this policy, the City initiated a Wastewater Treatment Facility Plan and plant improvement project (2016c) which proposes a variety of improvements to the wastewater treatment system to increase treatment capacity and prevent the exceedance of discharge limitations. The standard sewer capital connection fees from the proposed project will be used to assist with implementation of the Facility Plan.</p> |
| PF-3 Stormwater Management (PF-3a, PF-3b, PF-3c, and PF-3e) | <p>PF-3a. Consistent with this policy, the proposed project utilizes Janes Creek as a natural drainage system and includes improvements to the creek corridor (e.g., culvert replacement) to preserve its basic natural functions.</p> <p>PF-3b. Consistent with this policy, the proposed project will use low-impact development (LID) site design measures to provide a balanced drainage system to meet the Drainage Master Plan objectives.</p> <p>PF-3c. Consistent with this policy, the proposed project will use low-impact development (LID) site design measures including bioswales, rain gardens, tree planting, soil amendment, and permeable paving to protect surface and groundwater quality.</p> <p>PF-3e. Consistent with this policy, the proposed project would dedicate necessary easements to the City of Arcata to maintain the proposed storm water system.</p> |
| PF-6 Integrated Waste Management (PF-6a) | <p>PF-6a. Consistent with this policy, the proposed project includes measures, such as onsite collection areas, to minimize solid waste through recycling.</p> |

Proposed Project

Finding 2.11.1: Exceed Wastewater Treatment Requirements of the Applicable Regional Water Quality Control Board.

Discussion:

The proposed project would develop 89 residential units and a 100-bed assisted living facility on a former mill site that will provide housing for approximately 269 residents. All wastewater generated by the development is expected to be domestic sewage and would not include industrial or agricultural effluent.

The proposed project will be served by the City of Arcata wastewater treatment plant which is an innovative system that combines conventional wastewater treatment with the natural processes of constructed wetlands. Arcata's wastewater treatment system must comply with regulatory requirements established by its National Pollutant Discharge Elimination System (NPDES) permit issued by the California Regional Water Quality Control Board. As described in the City's Wastewater Treatment Facility Improvements Project Report (2016c), effluent monitoring data shows that there have been ongoing exceedances of discharge limits on total suspended solids (TSS), biochemical oxygen demand (BOD, a measure of biodegradable organic matter), pH, dichlorobromomethane, chronic toxicity, chlorine, and fecal coliform since 2004.

In 2012, the City's wastewater treatment system began operating under a new NPDES permit that specifically addressed several long-term issues regarding disinfection, treatment units, and outfalls. The new permit enabled changes to be made to improve wastewater treatment, protect beneficial uses, increase energy efficiency, reduce chemical usage, and reduce the potential for permit violations. As described in the Environmental Setting, the City initiated a Facility Plan and plant improvement project (2016c), which proposes a variety of improvements to the wastewater treatment system to increase treatment capacity and prevent the exceedance of discharge limitations.

The City of Arcata also prepared a memorandum (dated June 23, 2017) which analyzed the potential wastewater impacts of the Sunset Area housing projects including the Creek Side Homes project (Appendix S). The memorandum contains an analysis that estimates the increase in population and residential units that will occur from buildout of available land in the City in combination with upzoning and annexation proposed by the Sunset Area housing projects (see Chapter 7 [Cumulative Impact Analysis] for a list of the Sunset Area housing projects). The analysis determined that there is sufficient wastewater treatment capacity for the existing feasible residential development potential in the City as well as the upzoning and annexation proposed by the Sunset Area housing projects. However, as described above, the wastewater treatment facilities must be improved to meet the demand of both current and future population. The proposed project, which includes the annexation of approximately 21 acres of land into the City of Arcata, will be required to pay standard sewer capital connection fees for residential development, as well as a Wastewater Treatment Plant Offset Fee (\$160,000) negotiated through a Development Agreement with the City, which will be used to fund some of the

proposed improvements to the City's wastewater treatment system. These improvements will occur as part of implementation of the City's Facility Plan.

In addition, discharge/pre-treatment requirements for development projects are regulated by the City of Arcata subject to information submitted on the City's wastewater survey/questionnaire. This will be required as part of the review of the proposed residential development to describe pre-treatment/discharge equipment and system design so that discharges will not impact the City's wastewater system.

Any surface or stormwater runoff from the site is addressed in the responses to Findings 4.2.1, 4.2.3, 4.2.5, and 4.2.6 in Section 4.2 (Hydrology and Water Quality) of the EIR.

Therefore, the proposed project will not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.11.2: 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.

Discussion:

The proposed project would result in the development of 89 residential units and a 100-bed assisted living facility that would provide housing for approximately 269 residents.

Water Facilities

The project area is already served by the City's public potable water system. Existing utility lines adjacent to the residential development site will be extended to serve the proposed project. Based on an analysis prepared by the project applicant, the proposed project would generate a demand for approximately 25,809 gallons per day of water for domestic purposes and fire flow requirements of 1,000 gallons per minute for a four hour period, or 240,000 gallons.

The proposed project would create an increase in demand for domestic water service from the City but would not result in the need for the construction of new water treatment facilities or the expansion of existing treatment facilities. The Arcata General Plan PEIR (Pg. 5-22) discusses the fact that the City's existing water rights are more than adequate to serve the projected growth (see discussion under Finding 2.11.4). The Public Works Department provided input through the project referral process that there is adequate water capacity for the proposed residential development.

The project will require the expansion of water conveyance facilities including new looped water lines and tie-ins to the existing water lines in Foster Avenue to serve the proposed residential structures. The installation of the water conveyance infrastructure to serve the project would result in physical impacts to the surface and subsurface of the project parcels and public right-of-way. These impacts are considered to be part of the project's construction phase and are evaluated in Chapters 2 (Community Environment), 3 (Transportation-Traffic), 4 (Natural Environment), 5 (Energy Conservation), and 7 (Cumulative Impact Analysis). In instances where significant impacts have been identified, mitigation measures are included to reduce these impacts to less than significant levels. No additional mitigation measures beyond those already identified would be required.

As noted above, the Public Works Department has determined that there is adequate water capacity for the proposed project. The applicant will be required to pay standard water capital connection fees for residential development, as well as a cash contribution of \$56,000 negotiated through a Development Agreement with the City, which will be used to fund some of the water storage improvements planned for Zone 1 of the City's water system. The cash contribution that will be paid by the applicant through the Development Agreement is an amenity of the project and is not needed to ensure the City's water system has storage capacity to serve the project. The contribution has been requested by the City to provide the desired factor of safety for water storage in Zone 1. Since the City has determined there is adequate water capacity to serve the project, any improvements to the water system that occur using the water capital connection fees and cash contribution in the Development Agreement, will be analyzed by the City as part of implementation of the City's capital improvements plans.

Wastewater Facilities

The project area is served by the City of Arcata wastewater treatment plant which is an innovative system that combines conventional wastewater treatment with the natural processes of constructed wetlands. Based on an analysis prepared by the project applicant, the proposed project would produce approximately 17,460 gallons per day of wastewater.

The Arcata General Plan PEIR (Pg. 5-20) analyzed impacts to the City's wastewater treatment system resulting from "buildout" and found that the projected increases in wastewater production will bring the Arcata treatment plant close to its design capacity. The Arcata General Plan includes policies directing the City to monitor the system closely and plan and budget for future improvements (Pgs. 2-78 – 2-80).

As described in the Environmental Setting, the City has initiated a Facility Plan and plant improvement project (2016c), which proposes a variety of improvements to the wastewater treatment system to increase treatment capacity and prevent the exceedance of discharge limitations. The City of Arcata also prepared a memorandum (dated June 23, 2017) which analyzed the potential wastewater impacts of the approved/planned Sunset Area housing projects, which includes the Creek Side Homes project (Appendix S). The projects, referred to as the Sunset Area housing projects, are listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. The memorandum contains an analysis that estimates the increase in population and residential units that will occur from buildout of available land in the City in combination with upzoning and annexation proposed by the Sunset Area housing projects. The analysis

determined that there is sufficient wastewater treatment capacity for the existing feasible residential development potential in the City as well as the upzoning and annexation proposed by the Sunset Area housing projects. However, as described above, the wastewater treatment facilities must be improved to meet the demand of both current and future population. The proposed project, which includes the annexation of approximately 21 acres of land into the City of Arcata, will be required to pay standard sewer capital connection fees for residential development, as well as a Wastewater Treatment Plant Offset Fee (\$160,000) negotiated through a Development Agreement with the City, which will be used to fund some of the proposed improvements to the City's wastewater treatment system.

The standard sewer capital connection fees that will be paid by the applicant will be used to implement the City's Facility Plan for the wastewater treatment plant, as will occur for all new development in the City that will have wastewater discharge. The \$160,000 Wastewater Treatment Plant Offset Fee that will be paid by the applicant through the Development Agreement is an amenity of the project and is not needed to ensure the City's wastewater treatment plant has capacity to serve the project. Since the City has determined there is adequate wastewater treatment capacity to serve the project, any improvements to the wastewater treatment plant that occur using the sewer capital connection fees and Wastewater Treatment Plant Offset Fee, will be analyzed by the City as part of implementation of the City's Facility Plan.

The project will require the expansion of wastewater conveyance facilities including tie-ins to the existing sewer lines adjacent to the residential development site (APN 505-161-011). The installation of the wastewater conveyance infrastructure to serve the project would result in physical impacts to the surface and subsurface of the project parcels and public right-of-way. These impacts are considered to be part of the project's construction phase and are evaluated in Chapters 2 (Community Environment), 3 (Transportation-Traffic), 4 (Natural Environment), 5 (Energy Conservation), and 7 (Cumulative Impact Analysis). In instances where significant impacts have been identified, mitigation measures are included to reduce these impacts to less than significant levels. No additional mitigation measures beyond those already identified would be required.

Therefore, with the proposed mitigation measures included in other sections of the EIR, the proposed project will 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.

Determination:

Less than significant impact with incorporation of mitigation measures.

Mitigation:

Same as *Mitigation Measures 2.10.2a (Hazardous Materials Remediation)*, *2.10.2b (Site Development Contingency Plan)*, and *4.3.1a (Biological Surveys)*.

Finding 2.11.3: 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.

Discussion:

The surface water features on the residential development site include a section of Janes Creek on the eastern boundary of the site, several isolated wetlands, and a drainage ditch on the southern boundary of the site along the railbed. The site is relatively flat at an elevation of approximately 20 feet above mean sea level (Appendix G; SHN, 1993, Pg. 5). Slopes on the site are approximately 1% toward the southwest and stormwater currently infiltrates into the ground where permeable.

Currently, the majority of the residential development site is covered in compacted gravel fill, which exhibits low to moderate infiltration. Development of the residential development site will create new impervious surfaces (e.g. buildings, pavement, etc.) and has the potential to increase the amount of surface runoff. Approximately 12 acres will be developed throughout the entire 16-acre residential development site. Of the developed area, approximately 6.28 acres will be impervious surfaces consisting of residential structures, roads, parking areas, and sidewalks (Appendix X). This increase in impermeable surface has the potential to increase the rate of runoff and the volume generated during storm events.

Stormwater drainage facilities for the development are required to be designed to meet both State and local stormwater regulations which are focused on maintaining or improving a site's pre-development runoff characteristics. As described in the Stormwater Management Assessment completed by SHN (Appendix X), compliance with State and local stormwater regulations will be achieved by the on-site management of stormwater through low impact development (LID) site design measures including soil quality improvement and maintenance, tree planting and preservation, vegetated swales, porous asphalt, stream setbacks and buffers, and rain gardens (see further discussion in Section 4.2 [Hydrology and Water Quality] of the EIR).

The installation of the on-site stormwater drainage facilities, as proposed by the project, would result in physical impacts to the surface and subsurface of the residential development site (APN 505-161-011). These impacts are considered to be part of the project's construction phase and are evaluated in Chapters 2 (Community Environment), 3 (Transportation-Traffic), 4 (Natural Environment), 5 (Energy Conservation), and 7 (Cumulative Impact Analysis). In instances where significant impacts have been identified, mitigation measures are included to reduce these impacts to less than significant levels. No additional mitigation measures beyond those already identified would be required.

Therefore, with the proposed mitigation measures included in other sections of the EIR, the proposed project will not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Determination:

Less than significant impact with incorporation of mitigation measures.

Mitigation:

Same as *Mitigation Measures 2.10.2a (Hazardous Materials Remediation), 2.10.2b (Site Development Contingency Plan), and 4.3.1a (Biological Surveys)*.

Finding 2.11.4: Have Sufficient Water Supplies Available to Serve the Project from Existing Entitlements and Resources, or are New or Expanded Entitlements Needed.

Discussion:

The proposed project would result in the development of 89 residential units and a 100-bed assisted living facility. The proposed project would include the installation of a water distribution system, meters, and service lines to new residential units and the assisted living facility. Domestic water would be provided by the City of Arcata. The majority of the City's water supply is purchased from the Humboldt Bay Municipal Water District (HBMWD) with a secondary source from the City owned Heindon Well.

The City of Arcata has an Urban Water Management Plan (as required by the California Water Code) that defines the current and future capacity of the system. The evaluation of water demands includes an assessment of historical demands and a projection of future demands based on forecasted development of the remaining developable lands within the City's Urban Services Boundary. Projections were done in five-year increments, as estimated from the status and timing of currently approved development as well as probable future development within the context of the City General Plan. The City last updated its Urban Water Management Plan in 2015.

The residential development site is located in the City of Arcata Sphere of Influence and Urban Services Boundary. As shown on Figure LU-a of the Arcata General Plan Land Use Element, the residential development site has been planned by the City to be designated/zoned Residential Medium Density (RM) upon annexation. The Residential Medium Density (RM) designation/zone allows residential densities from 7.26 to 15 units per acre. If the site were built out in accordance with the planned RM designation/zone, a maximum of 240 residential dwelling units could be constructed on the property. The project proposes 89 residential units and a 100-bed assisted living facility, which is below the maximum number of units that would be permitted by the City's planned RM designation/zoning. The City's Urban Water Management Plan contains a discussion of the approved/planned Sunset Area housing projects, which are factored into the service area population in the plan (City of Arcata, 2015; Pg. 9 and 11). The plan anticipates that the site will be developed with a 189-unit residential development.

Each HBMWD municipal customer is designated a Peak Rate Allocation (PRA) which is the maximum daily use in any given calendar year and is reviewed annually by HBMWD. The PRA for Arcata is currently 3.25 million gallons per day (MGD) or 9.97 acre-feet/day and accounts for approximately 4.3 percent of HBMWD's water rights. The City's PRA would allow the City to use 1.86 billion gallons of water annually. When the water from the Heindon Well is factored in (183 million gallons per year), the City has 2.04 billion gallons of water available annually. In

2015, the City purchased and produced a total of 660 million gallons of potable water or an average of 1.8 million gallons per day (MGD). Change in potable water demand is anticipated to increase 34 percent between 2015 and 2040; an increase from 660 million gallons per year to 880 million gallons per year (Urban Water Management Plan 2010, Pgs. 12-15 and 29). The City of Arcata, with its present mix of water sources, possesses a significant surplus of capacity.

Based on an analysis prepared by the project applicant, the proposed project would generate a demand for approximately 25,809 gallons per day of water for domestic purposes and fire flow requirements of 1,000 gallons per minute for a four hour period, or 240,000 gallons. As noted under Finding 2.11.2, the City Public Works Department has determined that there is adequate water capacity to serve the proposed project.

Therefore, the proposed project will have sufficient water supplies available to serve the project from existing entitlements and resources.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.11.5: Result in a Determination by the Wastewater Treatment Provider which Serves or may Serve the Project that it has Adequate Capacity to Serve the Project's Projected Demand in Addition to the Provider's Existing Commitments.

Discussion:

The proposed project would result in the development of 89 residential units and a 100-bed assisted living facility. Based on an analysis prepared by the project applicant, the proposed project would produce approximately 17,460 gallons per day of wastewater.

The Arcata General Plan PEIR (Pg. 5-20) analyzed impacts to the City's wastewater treatment system resulting from "buildout" and found that the projected increases in wastewater production will bring the Arcata treatment plant close to its design capacity. The Arcata General Plan includes policies directing the City to monitor the system closely and plan and budget for future improvements (Pgs. 2-78 – 2-80).

As described in the Environmental Setting, the City has initiated a Facility Plan and plant improvement project (2016c), which proposes a variety of improvements to the wastewater treatment system to increase treatment capacity and prevent the exceedance of discharge limitations. The City of Arcata also prepared a memorandum (dated June 23, 2017) which analyzed the potential wastewater impacts of the approved/planned Sunset Area housing projects, which includes the Creek Side Homes project (Appendix S). The projects, referred to as the Sunset Area housing projects, are listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. The memorandum contains an analysis that estimates the increase in population and residential units that will occur from buildout of available land in the City in combination with

upzoning and annexation proposed by the Sunset Area housing projects. The analysis determined that there is sufficient wastewater treatment capacity for the existing feasible residential development potential in the City as well as the upzoning and annexation proposed by the Sunset Area housing projects. However, as described above, the wastewater treatment facilities must be improved to meet the demand of both current and future population. The proposed project, which includes the annexation of approximately 21 acres of land into the City of Arcata, will be required to pay standard sewer capital connection fees for residential development, as well as a Wastewater Treatment Plant Offset Fee (\$160,000) negotiated through a Development Agreement with the City, which will be used to fund some of the proposed improvements to the City's wastewater treatment system.

The standard sewer capital connection fees that will be paid by the applicant will be used to implement the City's Facility Plan for the wastewater treatment plant, as will occur for all new development in the City that will have wastewater discharge. The \$160,000 Wastewater Treatment Plant Offset Fee that will be paid by the applicant through the Development Agreement is an amenity of the project and is not needed to ensure the City's wastewater treatment plant has capacity to serve the project.

Therefore, the wastewater treatment provider which serves or may serve the project has determined that there is adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.11.6: Be Served by a Landfill with Sufficient Permitted Capacity to Accommodate the Project's Solid Waste Disposal Needs.

Discussion:

The proposed annexation and subsequent increase in the City of Arcata's resident population would increase the amount of solid waste generated in the City. Based on the CalRecycle Per Capita Disposal Rates Trends for the City of Arcata (2014a), residents of Arcata generate on average approximately 2.24 pounds of waste per person per day (approximately 0.41 tons per year). Based on this average, the estimated 169 residents of the proposed residential single-family and senior-restricted cottage units would generate approximately 378.6 pounds of solid waste per day (69.1 tons per year).

The proposed 100-bed assisted living facility would also create an additional source of solid waste. According to the CalRecycle Generator-Based Characterization of Commercial Sector Disposal (2014b), Residential Care Facilities generate approximately 3.12 pounds of waste per bed per day (0.57 tons per bed per year) of solid waste. With 100 care-beds proposed for the project that would result in approximately 312 pounds of solid waste per day (57 tons per year).

The Humboldt Waste Management Authority waste transfer facility was designed to accommodate the solid waste stream countywide, both current and anticipated, for the next 25 years. The increases in solid waste that would be generated by the proposed project, approximately 690.6 pounds per day (126 tons per year), could be accommodated by the HWMA transfer station, which is currently operating below capacity. The HWMA utilizes several landfills, all of which are located outside of Humboldt County. These primarily include the Anderson Landfill located at 18703 Cambridge Road, Anderson, CA and Dry Creek Landfill located at 6260 Dry Creek Road, Eagle Point, Oregon. The Anderson Landfill is located in Shasta County, California and is currently permitted to receive 1,850 tons per day. The Anderson Landfill has a maximum permitted capacity of 16,840,000 cubic yards and is projected to close in 2049 (CalRecycle, 2016). The Dry Creek Landfill is located in Jackson County, Oregon and receives an average of 1,450 tons of solid waste per day. The Dry Creek Landfill has a total capacity of 54,850,000 cubic yards and has a predicted lifespan in excess of 100 years (Dry Creek Landfill, 2018).

As such, the landfills that would serve the proposed project have adequate permitted capacity to accommodate the project's solid waste disposal needs. In addition, State law mandates recycling for certain businesses and multi-family residential development, which would apply to the assisted living facility and senior-restricted neighborhood cottage units. The City of Arcata also requires all property owners to subscribe to recycling collection services, which would apply to the single-family residences and accessory dwelling units. Compliance with State and City regulations will reduce the amount of solid waste entering the landfills serving the project and assist the City in meeting its waste diversion goals. See additional discussion under Finding 2.11.7.

Therefore, the proposed project will be served by landfills with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.11.7: Comply with Federal, State, and Local Statutes and Regulations Related to Solid Waste.

Discussion:

The proposed residential development project would generate solid waste during both construction and operation. State law requires the City to reduce its solid waste generation. For example, the California Integrated Waste Management Act of 1989 (AB 939) requires local jurisdictions to divert 50 percent of the total 1990 waste stream from landfill disposal by 2000 and beyond. AB 939 requires source reduction (waste prevention), recycling, and safe disposal. Arcata's AB 939 Source Reduction and Recycling Element (SRRE) contains programs and

policies to accomplish the City's 50% landfill diversion goals. The Arcata Zero Waste Action Plan (ZWAP) builds on and updates the SRRE and must be reviewed and updated regularly, to account for changes in market and infrastructure condition waste stream characteristics, and project and program implementation (City of Arcata, 2017b). The City also implements these requirements through its General Plan Public Facilities & Infrastructure Element which includes source reduction (PF-6a, Pg. 2-80) and recycling policies (PF-6b, Pg. 2-80 – 2-81).

To implement the statutes and regulations related to the reduction of solid waste, the City contracts with Recology Arcata for waste disposal and recycling services. The City of Arcata has also developed a universal curbside solid waste and recycling collection program to comply with State waste reduction mandates. The program requires all property owners to subscribe to garbage and recycling collection services. Using 1990 baseline data, the City's 2015 landfill diversion was 68 percent (City of Arcata, 2017b). As such, the City is in compliance with the AB 939 landfill diversion goals. The proposed single-family residences and accessory dwelling units would be required to participate in the City's curbside recycling program.

State law (SB 1018) mandates recycling for all businesses that generate four or more cubic yards of waste weekly, and all multi-family housing with five or more units. The proposed assisted living facility and senior-restricted neighborhood cottage units would be required to provide adequate areas for collecting and loading recyclable materials where solid waste is collected. The collection areas are required to be shown on construction drawings and installed before occupancy permits are issued by the building department.

The City's ZWAP contains goals and strategies intended to guide the City's waste reduction decision-making and implementation. The proposed project is consistent with several of the goals and strategies of the Plan, including reduction of construction and demolition waste and the onsite provision of areas for the collecting and loading of recyclable materials.

Therefore, in compliance with State and City of Arcata regulations, the proposed project will not violate any federal, State, and local statutes and regulations related to solid waste.

Determination:

Less than significant impact.

Mitigation:

None required.

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Section 2.12

TRIBAL CULTURAL RESOURCES

This section evaluates the potential impacts related to tribal cultural resources during construction and operation of the project. To provide the basis for this evaluation, the Environmental Setting section describes the tribal cultural setting for the project area, and the Regulatory Framework section describes the applicable State and local regulations affecting the project area. Descriptions in this section are based on reviews of published information, reports, and plans regarding cultural resources. The Impact Analysis section establishes the thresholds of significance, evaluates potential cultural resource impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

ENVIRONMENTAL SETTING

Tribal Cultural Resources

Resources in the Vicinity

The first known inhabitants of the Humboldt Bay Region were Wiyot Indians, a member of the Algonquin linguistic group. The Wiyot population prior to 1850 is estimated to have been between 1,000 and 3,300 individuals (E. Taylor & J. Roscoe, October 1998). Wiyot settlements were located chiefly along the lower Mad River, and around Humboldt Bay, and the lower Eel River. Village sites were located at the water's edge, ocean, bay, or creek, with trails leading to grassy openings and from one village to another. A small part of the population lived in an area from the Mad River to the northern portion of Humboldt Bay; they lived in settlements of one to three families. Within the Arcata planning area, they lived in semi-permanent settlements and often traveled seasonally for hunting and gathering. The estimated population for the Arcata planning area, in or about the year 1848, is 600 inhabitants (Arcata General Plan).

After the start of the California Gold Rush, from 1850 to 1860, Wiyot territory became the center of the largest concentrations of European settlers in California north of San Francisco. The settlers utilized Humboldt Bay as a major shipping point for supplies to the gold mines on the Trinity, Klamath, and Upper Sacramento Rivers. In addition, the establishment of the Redwood timber industry, and homesteading of the Eel River and Arcata Bottom for ranching and farming purposes, brought more people into the area. The influx of new settlers brought violence, including the Indian Island Massacre of February 26, 1860, which nearly destroyed the entire Wiyot population.

There are currently 32 recorded archaeological sites in the Arcata planning area. Most sites are situated along the margins of Humboldt Bay, along the edges of marshes and sloughs, and in the

Arcata Bottom area. Sites also tend to be located at the base of hills and on mid-slope terraces near sources of water. Data collected by L. L. Loud (1918) identified a number of Wiyot habitation and resource procurement sites in the general vicinity of the project parcels. One site is Camp Curtis, located on LK Wood Blvd., approximately one mile east of the project area (E. Taylor & J Roscoe, 1998). Taylor & Roscoe (1998) also state that there are reported locations of several other prehistoric village sites near Camp Curtis.

According to the Arcata General Plan, the most likely location for additional (unrecorded) archaeological sites is a band approximately 1,000 meters wide along the Humboldt Bay shoreline and the Mad River. There is also the possibility of encountering archaeological resources elsewhere in the Arcata planning area.

Resources at the Residential Development Site

The Native American Heritage Commission (NAHC) performed a cultural resources record search for the project area, and made the following findings:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites (Appendix C).

A complete records search for the project area was also conducted by the Northwest Information Center (Appendix C). According to the records on file at the NWIC, the entire project area has been previously subject to a cursory level cultural resources survey in the mid to late 1970s during large reconnaissance efforts of the Humboldt Bay area. Within a one-half mile radius, ten previous surveys have been conducted for various road or housing construction projects. These previous nearby surveys reported negative findings for archaeological resources, however do disclose the presence of historic period mill sites and related features. No cultural resources have been previously recorded in the project area. The NWIC has no record of historic districts, historical landmarks, locally registered historic resources, nationally registered historic properties or other archaeological or historical sites in the direct project area. Ethnographic and historic research identified three Wiyot villages in the general vicinity, but more than 500 meters distant.

As per the Arcata General Plan, an archaeological survey by a professional archaeologist or other qualified expert is required if the project area is determined to have a high probability of archaeological resources (Policy H-7b). A Cultural Resources Investigation of the project area was conducted by William Rich and Associates (WRA) in late 2015/early 2016 (Appendix C). The investigation concluded that pre-construction archaeological testing should be conducted within the vertical limits of the proposed project due to the relatively high sensitivity for Native American archaeological remains within the Janes Creek watercourse. WRA also recommended an inadvertent discovery protocol for the discovery of cultural resources and human remains.

In September 2016, a Geo-Archaeological Survey was conducted by WRA which involved the excavation of three test pits to assess the general near-surface stratigraphy on the residential development site (APN 505-161-011) (Appendix D). Based on the analysis of the test pits it was determined that the upper 30 to 60 cm of the stratigraphy is historic fill emplaced to level the site and that there does not appear to be an intact pre-European ground surface (paleosol) beneath the fill.

As required by AB 52 and SB 18, the City of Arcata sent requests for formal consultation on 02/23/16 to the Tribal Historic Preservation Officers (THPOs) for the Blue Lake Rancheria, Wiyot Tribe, and the Bear River Band of the Rohnerville Rancheria. The City received requests for consultation from the Blue Lake Rancheria on 03/02/16, Bear River Band of Rohnerville Rancheria on 03/03/16, and Wiyot Tribe on 03/07/16. As part of the consultation under AB 52 and SB 18, the THPOs requested for a Cultural Resources Investigation and Geo-Archaeological Survey to be conducted for the project. Based on the results of the archaeological surveys conducted by WRA (Appendices C & D), comments were received from the Tribal Historic Preservation Officers (THPOs) of the Wiyot Tribe (received 02/13/17), Blue Lake Rancheria (received 02/16/17), and Bear River Band of the Rohnerville Rancheria (received 02/17/17) stating that requiring the inadvertent discovery protocol recommended in the WRA Cultural Resources Investigation for the proposed project would adequately protect unknown cultural resources.

REGULATORY FRAMEWORK

State of California

California Register of Historical Resources

Assembly Bill 2881 (AB 2881) established the California Register of Historical Resources (CRHR). The CRHR is an authoritative guide in California used by State and local agencies, and private groups to identify the State's historical resources (similar to the NRHP for federal resources). The criteria for eligibility and listing on the CRHR are based on the requirements of the National Register. The California Office of Historic Preservation (OHP) has authority under federal and State law for historic preservation programs in the State, and the OHP can make determinations of eligibility for listing resources on both the National Register and the CRHR. Resources can be listed singly as a California Resource or on both the National and California Registers.

In California, in addition to meeting one or more of the listed criteria for inclusion on the CRHR, eligibility for the California Register requires that a resource retains sufficient integrity to convey a sense of its significance or importance. Seven elements are considered key in considering a property's integrity, which are (1) location, (2) design, (3) setting, (4) materials, (5) workmanship, (6) feeling, and (7) association. Additionally, the OHP advocates that all historical resources over 45 years old be recorded for inclusion in the OHP filing system, although the use of professional judgment is urged in determining whether a resource warrants documentation.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) established definitions and criteria that are applicable to tribal cultural resource evaluations, with specific significance criteria and thresholds provided in the Impact Analysis portion of this section.

Assembly Bill 52

Assembly Bill 52 (AB 52) establishes a consultation process with California Native American Tribes that involves Tribes in the early coordination and development of projects under the jurisdiction of state and local agencies that have discretionary approval authority for projects. AB 52 recognizes that California Native American Tribes have unique expertise regarding their tribal history, culture and land use practices, and that this information may be useful during the environmental analysis process. The intent of AB 52 is to establish an early consultation process that hopefully will delay and avoid conflicts during the CEQA process and allow for the identification of Tribal Cultural Resources (TCR) that may exist or be affected by a project.

Senate Bill 18

Senate Bill 52 (SB 18) requires local governments to consult with California Native American Tribes, identified by the California Native American Heritage Commission (NAHC), prior to the adoption of amendment of a general plan or specific plan. The purpose of this consultation is to preserve or mitigate impacts to cultural places.

City of Arcata

Arcata General Plan

The Arcata General Plan contains guidelines for cultural resources within the Historic Preservation Element. The General Plan has developed specific Goals and related Policies that address cultural resources within the City. Table 2.12-1 below contains a list of policies from the Arcata General Plan that are applicable to the proposed project.

Table 2.12-1 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|---|---|--------------------------------|
| H-7 Archaeological and Cultural Resources | Protect and preserve Native American and Euro-American archaeological sites and cultural resources within the City of Arcata. | H-7b to H-7d, and H-7f |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if it meets any of the following criteria.

Would the project 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, or 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:

- 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);
- 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.

Arcata General Plan

Table 2.12-2 Project Consistency with General Plan

| Policy | Consistency Analysis |
|--|---|
| H-7 Archaeological and Cultural Resources (H-7b to H-7d, and H-7f) | <p>H-7b. Consistent with this policy, a Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D) were conducted for the project parcels by William Rich and Associates.</p> <p>H-7c. The Cultural Resources Investigation and Geo-Archaeological Assessment (Appendices C & D) conducted by William Rich and Associates did not discover any tribal cultural resources on the project parcels. Upon review of the reports, the Tribal Historic Preservation Officers for the local Wiyot Tribes determined that the implementation of inadvertent discovery protocols would adequately protect potential unknown tribal cultural resources.</p> <p>H-7d. Upon review of the results of the Cultural Resources Investigation and Geo-Archaeological Assessment conducted by William Rich and Associates (Appendices C & D), the Tribal Historic Preservation Officers for the local Wiyot Tribes determined that the implementation of inadvertent discovery protocols would adequately protect potential unknown tribal cultural resources during construction activities.</p> <p>H-7f. Consistent with this policy, the inadvertent discovery protocol for</p> |

| Policy | Consistency Analysis |
|--------|--|
| | cultural resources and human remains recommended in the Cultural Resources Investigation (Appendix C) will be included as mitigation for the proposed project. |

Proposed Project

Finding 2.12.1: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource 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).

Discussion:

As per the Arcata General Plan, an archaeological survey by a professional archaeologist or other qualified expert is required if the project area is determined to have a high probability of archaeological resources (Policy H-7b). A Cultural Resources Investigation of the project area was conducted by William Rich and Associates (WRA) in January 2016 which included a field survey (Appendix C). The investigation concluded that pre-construction archaeological testing should be conducted within the vertical limits of the proposed project due to the relatively high sensitivity for Native American archaeological remains within the Janes Creek watercourse. As stated on Page 27 of the WRA Cultural Resources Investigation (2016):

“Because the portions of the project area in the vicinity of Janes Creek contain imported fill, covering the historical ground surface, it is recommended that pre-construction archaeological testing be conducted within the vertical limits of the proposed project. This is an area of relatively high sensitivity for Native American archaeological remains, as sites and more recently isolated artifacts have been documented along this watercourse (Roscoe 2001, Eidsness 2012).

Testing should include the strategic removal of the existing overburden to expose representative samples of the underlying native sediment in the areas of proposed ground disturbance. Much of this creek margin is, however, designed for a wetland and creek protection zone with reconstruction activities proposed for habitat restoration. This testing should be conducted by a qualified archaeologist working in close coordination with Wiyot Tribal representatives.

This report concludes that no significant archaeological or historic period cultural resources appear to exist in the limits of the surveyed area. It is possible, however, that buried archaeological materials are present below the gravel fill in the vicinity of Janes Creek.”

WRA also recommended an inadvertent discovery protocol for the discovery of tribal cultural resources which states the following:

“Because of the sensitivity for archaeological remains associated with Wiyot habitation of the areas along Janes Creek, it is recommended that the following protocol be adapted into the construction scenario and contractors agreements for implementation of this project. If cultural resources, such as lithic materials or ground stone, historic debris, building foundations, or bone are discovered during ground-disturbance activities, work shall be stopped within 20 meters (66 feet) of the discovery, per the requirements of CEQA (January 1999 Revised Guidelines, Title 14 CCR 15064.5 (f)). If the proposed project receives federal funding, it may be considered a federal undertaking triggering the necessity to comply with Section 106 of the National Historic Preservation Act of 1966 as amended (NHPA). Inadvertent discoveries shall be treated as outlined in 43 CFR 10.4 and 36 CFR 800.13 (b) (2). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior’s Standards and Guidelines, has evaluated the materials and offered recommendations for further action. Prehistoric materials which could be encountered include: obsidian and chert debitage or formal tools, grinding implements, (e.g., pestles, handstones, bowl mortars, slabs), locally darkened midden, deposits of shell, faunal remains, and human burials. Historic materials which could be encountered include: ceramics/pottery, glass, metal, can and bottle dumps, cut bone, barbed wire fences, building pads, structures, trails/roads, etc.”

In September 2016, a Geo-Archaeological Survey was conducted by WRA which involved the excavation of three test pits to assess the general near-surface stratigraphy on the residential development site (APN 505-161-011) (Appendix D). Based on the analysis of the test pits, it was determined that the upper 30 to 60 cm of the stratigraphy is historic fill emplaced to level the site and that there does not appear to be an intact pre-European ground surface (paleosol) beneath the fill.

Based on the results of the archaeological surveys conducted by WRA (Appendices C & D), comments were received from the Tribal Historic Preservation Officers (THPOs) of the Wiyot Tribe (received 02/13/17), Blue Lake Rancheria (received 02/16/17), and Bear River Band of the Rohnerville Rancheria (received 02/17/17) stating that requiring the inadvertent discovery protocol recommended in the WRA Cultural Resources Investigation (2016) for the proposed project would adequately protect unknown tribal cultural resources. The inadvertent discovery protocol recommended in the WRA investigation for the discovery of tribal cultural resources will be included as a condition of approval by the City of Arcata for the proposed project.

With the proposed conditions of approval, the project will not cause a substantial adverse change in the significance of a tribal cultural resource.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 2.12.2: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource Determined by the Lead Agency to be Significant Pursuant to Criteria Set Forth in Subdivision (c) of Public Resources Code Section 5024.1.

Discussion:

As required by AB 52 and SB 18, the City of Arcata sent request for consultation letters to the three Wiyot area tribes including the Blue Lake Rancheria, Wiyot Tribe, and Bear River Band of Rohnerville Rancheria. As noted under Finding 2.12.1, William Rich and Associates (WRA) conducted a Cultural Resources Investigation in January 2016 (Appendix C) and a Geo-Archaeological Survey in September 2016 (Appendix D) at the residential development site. The reports concluded that no tribal cultural resources were discovered at the site. Due to the potential to discover unknown tribal cultural resources, WRA also recommended an inadvertent discovery protocol.

Based on the results of the archaeological surveys conducted by WRA (Appendices C & D), comments were received from the Tribal Historic Preservation Officers (THPOs) of the Wiyot Tribe (received 02/13/17), Blue Lake Rancheria (received 02/16/17), and Bear River Band of the Rohnerville Rancheria (received 02/17/17) stating that requiring the inadvertent discovery protocol recommended in the WRA Cultural Resources Investigation (2016) for the proposed project would adequately protect unknown tribal cultural resources.

Upon review of the WRA reports and the comments from the Wiyot area tribes, the City of Arcata determined that the proposed project will not cause a substantial adverse change in the significance of a known tribal cultural resource. However, due to the potential to uncover unknown tribal cultural resources during construction activities, the inadvertent discovery protocol recommended in the WRA Cultural Resources Investigation (Appendix C) will be included as a condition of approval by the City of Arcata for the proposed project.

With the proposed conditions of approval, the project will not cause a substantial adverse change in the significance of a tribal cultural resource.

Determination:

Less than significant impact.

Mitigation:

None required.

REFERENCES

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CHAPTER 3.

TRANSPORTATION - TRAFFIC

The following Sections are included in this Chapter:

Environmental Setting
Regulatory Framework
Impact Analysis
References

Chapter 3

TRANSPORTATION - TRAFFIC

This section evaluates the potential impacts to transportation during construction and operation of the proposed project. To provide the basis for this evaluation, the Environmental Setting section describes the existing conditions related to transportation for the project area, and the Regulatory Framework section describes the regulatory background that applies to the project. The Impact Analysis section establishes thresholds of significance, evaluates potential transportation impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less-than-significant levels.

ENVIRONMENTAL SETTING

Arcata's local transportation and circulation network are described as shown in the City's General Plan Transportation Element:

***Existing Roadway System.** Arcata's pattern of highways and streets is similar to many small and rural communities. The central business district has a traditional grid pattern of streets, with a one-way couplet system comprising the primary arterial. A non-grid series of arterial and collector streets surrounds the central business district and serves outlying residential subdivisions, neighborhood shopping centers, Humboldt State University, and industrial areas. On the outer edges of Arcata, the transportation system is comprised of rural roads and highways serving isolated farms and residences. Arcata is bisected by the State Route 101 freeway, the main state route serving the North Coast of California from San Francisco to Oregon.*

The proposed residential development will be located northwest of the central grid of the Arcata central business district. The residential development site abuts the south-western border of the Westwood neighborhood. The site is adjacent to the City's western boundary, west of Alliance Road.

Traffic conditions in the study area are heavily influenced by residential uses and schools located on Alliance Road and M Street as well as agricultural uses to the west of the residential development site. In the project area are northbound and southbound travel in the Alliance Road/K Street corridor, which is the main arterial on Arcata's west side. This corridor provides access to local services, downtown Arcata, and Highway 101. The disbursement of traffic westbound to State Route 255 and access across Highway 101 to Humboldt State University via Foster Avenue and Sunset Avenue also flows from this corridor.

The City of Arcata commissioned W-Trans to conduct a comprehensive traffic study to address the cumulative impacts associated with the potential development of six sites located in central Arcata within three-quarter of a mile of one another (Appendix T.1). These projects, which

include the Creek Side Homes project, are referred to by the City of Arcata as the Sunset Area housing projects, and are listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. The results of the traffic study are discussed throughout this chapter including estimated trip generation and distribution, changes in Level of Service (LOS), and potential impact on alternative modes of transportation from the proposed project. The reader is referred to this report for the full context of analysis.

Roadway Segments and Intersections

Roadway segments that will receive the greatest use from the proposed project are described below and shown in Figure 3A (Roadway Segments and Intersections).

Each Segment is Described in the Following Format:

- Significance of roadway segment in the overall circulation of the immediate vicinity
- Number of lanes in each direction
- Pedestrian and bicycle facilities

Alliance Road between 13th Street and Westwood Court

Alliance is a primary north-south arterial connecting the central business district to the primarily residential neighborhoods to the north. Alliance is a two-lane road with one travel lane in each direction. There are painted medians and left turn pockets leading up to intersections. The streets intersecting this segment include 17th Street, M Street/15th Street, L Street/14th Street, Foster Avenue, and Westwood Court. There are striped bicycle lanes in both travel directions. Sidewalks are also present along the entire segment. There is a crosswalk across Alliance Road at 16th Street, two crosswalks along Alliance Road at the Foster Avenue and Alliance Road intersection (4-way stop), and a crosswalk across Alliance Road south of Westwood Court.

K Street between 11th Street and 13th Street

Alliance Road turns into K Street as it crosses 13th Street in the southbound direction. This segment is two blocks and only two lanes of travel, one in each direction. Traffic along K Street is uncontrolled. Traffic approaching Alliance Road from 11th, 12th and 13th is controlled with stop signs. The bicycle lanes striped along Alliance Road continue to 11th Street. There are crosswalks along both sides of this segment with two crosswalks along K Street at the 11th Street and K Street intersection (4-way stop).

Foster Avenue between Alliance Road and Sunset Avenue

This segment of Foster Avenue was recently extended from Eastern Avenue to Sunset Avenue. Previously Eastern and Western Avenues were used to connect Alliance Road and Highway 101. This segment is now approximately 0.33 miles long with two lanes of travel, one lane in each direction. There are striped bicycle lanes in both travel directions and a multi-use trail occurs parallel to Foster Avenue along this segment. Sidewalk also exists on the south side of this

segment in the area of the bus stop. Foster Avenue ends at a roundabout at Sunset Avenue near the Arcata skate park.

Sunset Avenue between Foster Avenue and LK Wood

Sunset Avenue is the eastern portion of the route connecting Alliance Road and Highway 101. Sunset Avenue has two lanes of travel with one in each direction. Sidewalks exist in some areas along this segment and there is only one crosswalk crossing Sunset Avenue. This crosswalk provides access to the skate park from the south side of Sunset Avenue. There is a short segment of bicycle lane along Sunset Avenue between G and H Street and LK Wood Boulevard. There are three intersections along this segment with the two eastern most intersections connecting to freeway access ramps.

Foster Avenue, Q Street, and 17th Street between Alliance Road and Janes Road

These segments of roadway currently provide the primary access from the residential development site to Alliance Road, Highway 101, and Humboldt State University. This segment is approximately 0.67 miles long with two lanes of travel, one lane in each direction. These segments do not currently contain any striped bicycle lanes, but do contain sidewalk on the south side of 17th Street between Alliance Road and Q Street. There are also crosswalks across 17th Street at Alliance Road and across Q Street at 17th Street.

Janes Road between Foster Avenue and 11th Street

This segment of roadway may be used by the future residents to provide access from the residential development site to 11th Street and Highway 255 to the south. This segment is approximately 0.5 miles long with two lanes of travel, one lane in each direction. This segment does not currently contain any striped bicycle lanes, but does contain sidewalks on the east side of Janes Road between 11th Street and St. Mary's Catholic Church and on the west side of Janes Road between 11th Street and Haeger Avenue. There are also several crosswalks at the following locations: 1) across 11th Street at Janes Road on the western side of the intersection; 2) across Haeger Avenue at Janes Road on the western side of the intersection; and 3) across Zehndner Avenue at Janes Road.

Existing Conditions of the Studied Intersections:

Each studied intersection that was analyzed in the W-Trans traffic study is shown in Figure 3A (Roadway Segments and Intersections) and described below (Appendix T.1; Pgs. 5-6):

1. St Louis Rd/US 101 Overcrossing

This is a three-legged intersection, with stop controls on the northbound St. Louis Road and westbound approaches. There is a crosswalk across the overcrossing approach.

2. LK Wood Blvd/US 101 Overcrossing

This is a three-legged intersection, with the southbound LK Wood approach stop-controlled. There is a crosswalk to the southeast of this intersection just past Ridge Road.

3. Sunset Ave/LK Wood Blvd

This is an all-way stop-controlled tee intersection that is separated from the ramps at US 101 North by less than 150 feet. It has separate right-turn lanes on the eastbound approach for both Sunset Avenue and the US 101 North off-ramp that converge just as they enter LK Wood Boulevard. The only crosswalk at the intersection is across the south leg of the intersection, and it crosses the eastbound right-turn lane coming from Sunset Boulevard, but not the one from US 101 North.

4. Sunset Ave/US 101 N Ramps

This is a four-legged intersection with the off- and on-ramps forming the south and north legs of the intersection respectively. The off-ramp approach is stop-controlled and has a crosswalk connecting through to LK Wood Boulevard.

5. Sunset Ave/US 101 S Ramps-G/H Streets

This is a four-legged, all-way stop-controlled intersection with a crosswalk on the south leg only. G and H Streets form a one-way couplet, with G Street serving the northbound approach to the intersection and H Street carrying southbound traffic away from intersection.

6. Sunset Ave/Foster Ave-Jay St

This intersection was recently converted to roundabout control, with crosswalks on all four legs of the intersection.

7. Foster Ave/Alliance Rd

This a four-legged intersection with stop controls and crosswalks on all four approaches.

8. 17th St/Q St

This is a three-legged intersection, with *de facto* stop-control on the northbound Q Street. There is a yellow crosswalk (school crossing) on the south leg of the intersection.

9. 17th St/Alliance Rd

This is a three-legged intersection with stop control on the eastbound approach and a yellow crosswalk on the west leg. This intersection also contains the northern leg of the Arcata Rail with Trail.

10. 11th St/K St

This is a four-legged, all-way stop-controlled intersection with crosswalks on each leg.

11. 11th St/Janes Rd

This is a four-legged intersection with stop-control on eastbound and westbound 11th Street. There is a crosswalk on the west leg of the intersection.

12. Foster Ave/Janes Rd

This is a three-legged intersection with stop-control on the northbound Janes Road.

13. Foster Ave/Residential Development Site Entrance

Presently this location is not an intersection. Primary access to the Creek Side Homes project is proposed via a new street, which would intersect Foster Avenue at the southwest corner of the residential development site. This entry street would intersect Foster Avenue along a straight two-lane section of Foster Avenue approximately 575 feet west of Q Street.

14. Q St./Foster Ave

Presently this location is not an intersection. There are currently no crosswalks at this location. There are two lanes, one in each direction and a solid yellow line separating the travel lanes. With the extension of Foster Avenue eastward to connect to Alliance Road, this would become a three-legged intersection with Foster Avenue and Q Street. Three-way stop-sign control would be provided, with crosswalks.

Bicycle and Pedestrian Activity

This project is located within the vicinity of proposed bicycle and pedestrian routes. The City of Arcata's Pedestrian and Bicycle Master Plan (April, 2010; Figure 5B) identifies the planned and existing facilities in the project area which are shown in Figure 3B (Planned and Existing Pedestrian and Bicycle Facilities).

Bicycle

There are no bike lanes along the Foster Avenue frontage of the residential development site (APN 505-161-011). Bike lanes near the site include the following: 1) Alliance Road from Spear Avenue to 11th Street (Class II); 2) Foster Avenue from Alliance Road to Sunset Avenue (Class II). There is also a new Class I multi-use trail that provides access along Foster Avenue from Shay Park to Sunset Avenue.

The Pedestrian and Bicycle Master Plan identifies three proposed bicycle shared-use paths on or near the residential development site. The proposed Janes Creek Shared Use (off-street) Path runs along the eastern edge of the site. There is a proposed connector trail running through the site to provide a connection between the Janes Creek Shared Use (off-street) Path and Ennes Park. Along the southern edge of the residential development site is the proposed Hammond Trail, which is described on pages 5-30 - 5-31 of the Pedestrian and Bicycle Master Plan. The proposed Hammond Trail is identified as a Class I shared use pathway through the Arcata bottoms. The Hammond Trail is designated to utilize the Northwestern Pacific Railroad right-of-way providing an alternate north-south route from McKinleyville that is suitable for both pedestrians and bicyclists.

Figure 3A Roadway Segments and Intersections

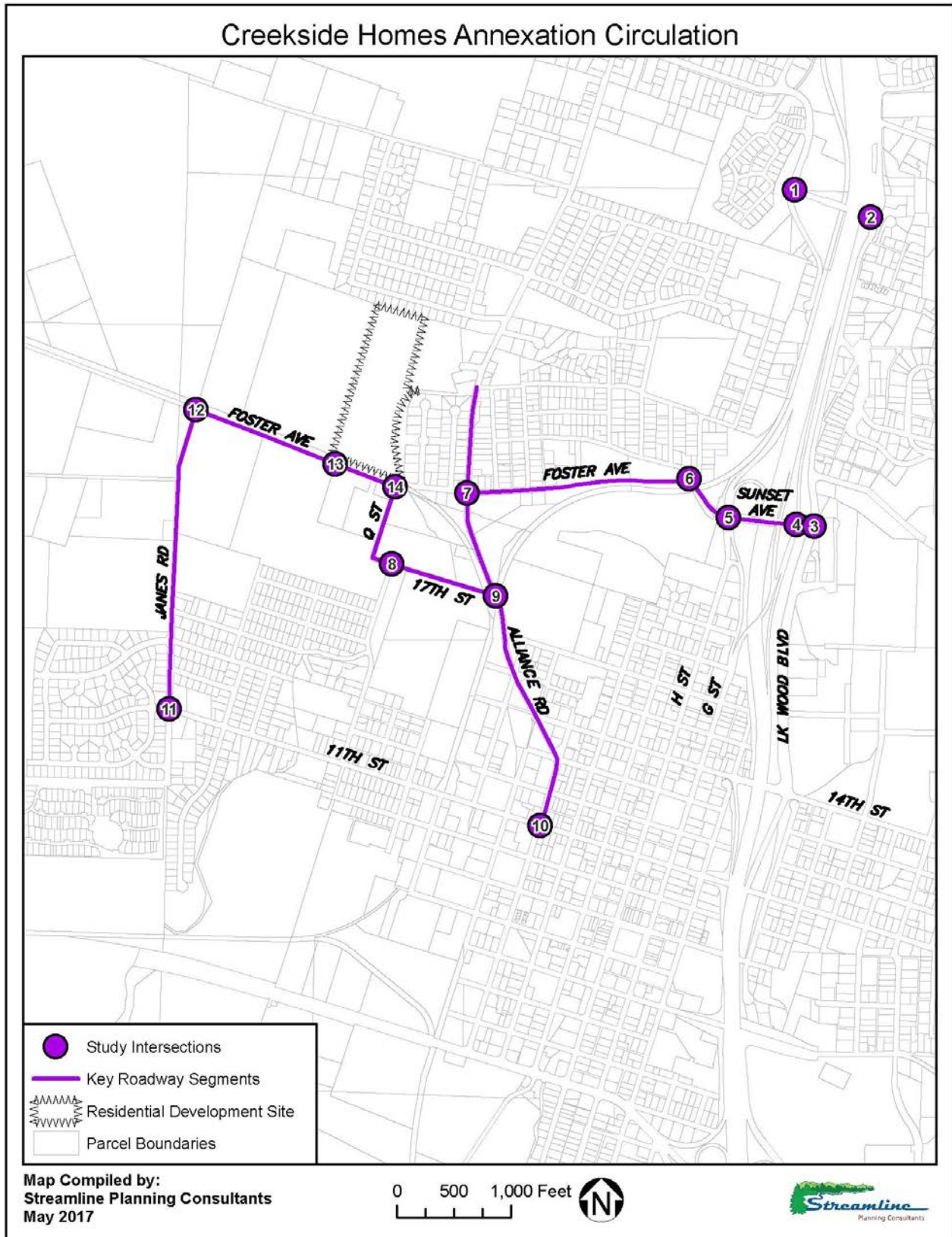
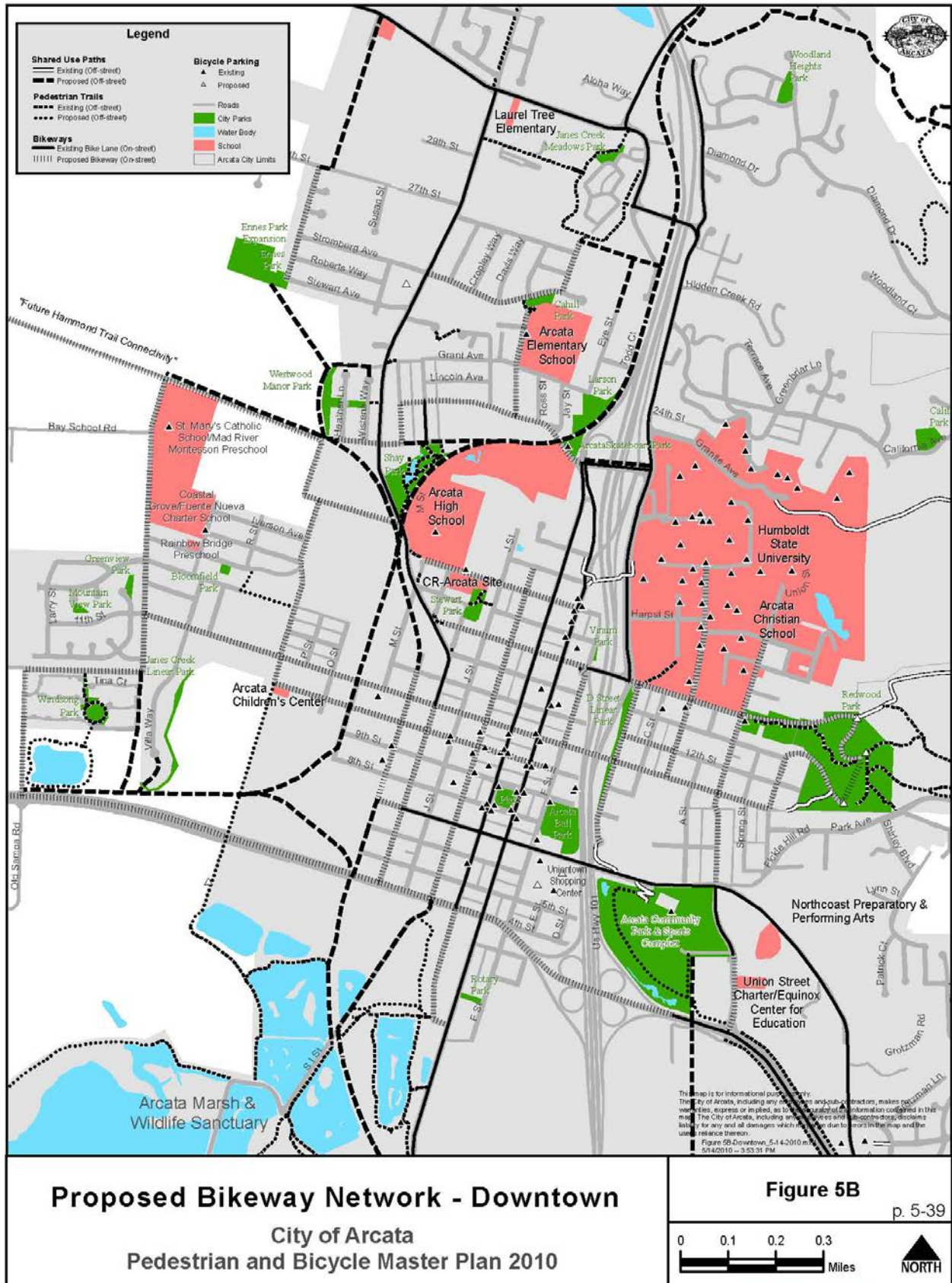


Figure 3B Planned and Existing Bicycle and Pedestrian Facilities (Arcata, 2010; Figure 5B)



Pedestrian

There are no sidewalks along the Foster Avenue frontage of the residential development site. Sidewalks near the site exist on 17th Street, Alliance Road, and portions of Foster Avenue (east of Janes Creek). There is also a new Class I multi-use trail that provides access along Foster Avenue from Shay Park to Sunset Avenue. The railroad tracks paralleling Foster Avenue and crossing Janes Creek are also used as a foot path. There are a handful of other informal footpaths traversing the site, including another Janes Creek crossing mid-site, connecting to Alliance Road via a dedicated access. This shows a need for pedestrian transportation options through the site. The existing condition has no improved pedestrian access across Janes Creek.

Transit

The “passenger transit mode” in Humboldt County is exclusively bus and van. There is no passenger rail, subway, or ferry service. The region provides public transportation via transit buses and complementary paratransit. Local public transit is augmented by social service organizations and non-profits that offer transportation services to eligible populations (HCAOG, 2014). Figure 3C (Arcata Transit Routes), which is from the Humboldt County Association of Governments (HCOAG) 20-Year Regional Transportation Plan (2014; Figure 5.1b), shows the location of transit routes in the Arcata area.

Regional

The regional transit bus routes in Humboldt County provide a level of connectivity at major transfer points. These locations include downtown Eureka, the Bayshore Mall in Eureka, and the Arcata Intermodal Transportation Facility (ITF). The Bayshore Mall, as well as the area of 3rd/4th/5th and H Street, provides connections between Redwood Transit System (RTS), South Humboldt Transit System (SHTS), and Eureka Transit System (ETS) buses. The Arcata ITF is a central transfer facility where, in addition to inter-regional buses, many local bus systems stop, including RTS, Willow Creek Transit System, Arcata & Mad River Transit System (A&MRTS), Blue Lake Rancheria Transit System (BLRTS), and RCT of Del Norte County (HCAOG, 2014).

The Humboldt Transit Authority (HTA) is a joint powers authority (JPA), established in 1975 by a joint powers agreement signed by Humboldt County and the cities of Arcata, Eureka, Fortuna, Rio Dell, and Trinidad. HTA is funded primarily through fares and Transportation Development Act (TDA) funds from the JPA members. HTA operates and maintains the Redwood Transit System (RTS), the Willow Creek Transit Service, and the Southern Humboldt Transit Systems. Also, under contract, HTA operates and maintains the Eureka Transit System, and provides paratransit (Dial-A-Ride and Dial-A-Lift) administrative services for the region (HCAOG, 2014).

HTA operates Redwood Transit System (RTS), which is the primary intercity public transit system in the county. The RTS line is a fixed-route commuter service, along the U.S. 101 corridor, between the cities of Scotia and Trinidad. Key trip origins and destinations include

HSU, the Intermodal Transit Facility in Arcata, Downtown Eureka, the Bayshore Mall, and College of the Redwoods. RTS runs seven days a week (HCAOG, 2014). HTA also operates the fixed-route Willow Creek Transit System along State Route 299, between Willow Creek and the Arcata Intermodal Transit Facility. This bus runs weekdays and Saturdays (HCAOG, 2014).

Local

The Arcata City Council initiated the Arcata & Mad River Transit System (A&MRTS) in 1975, and operates it through the Public Works Department. A&MRTS provides fixed-route transit service within the Arcata city limits; service runs weekdays and Saturdays. Its hub is the Arcata Intermodal Transit Facility (HCAOG, 2014).

AMRTS provides transit service along the Red, Gold, and Orange routes for the City of Arcata. The Red and Gold Routes operate Monday through Friday with approximately one hour headways between 7:00 a.m. and 10:00 p.m. The Orange Route provides Saturday service with approximately one hour headways between 7:00 a.m. and 7:00 p.m. The closest bus stop to the residential development site (~700 feet walking distance) is on the Gold and Orange Routes at the intersection of Foster Ave/Alliance Road. The next closest bus stops to the site include the following: 1) At the Westwood Shopping Center (~1,300 feet walking distance) on the Gold and Orange Routes; and 2) Intersection of Q Street/Zehndner Ave (~1,600 feet walking distance) on the Red and Orange Routes (AMRTS, 2017).

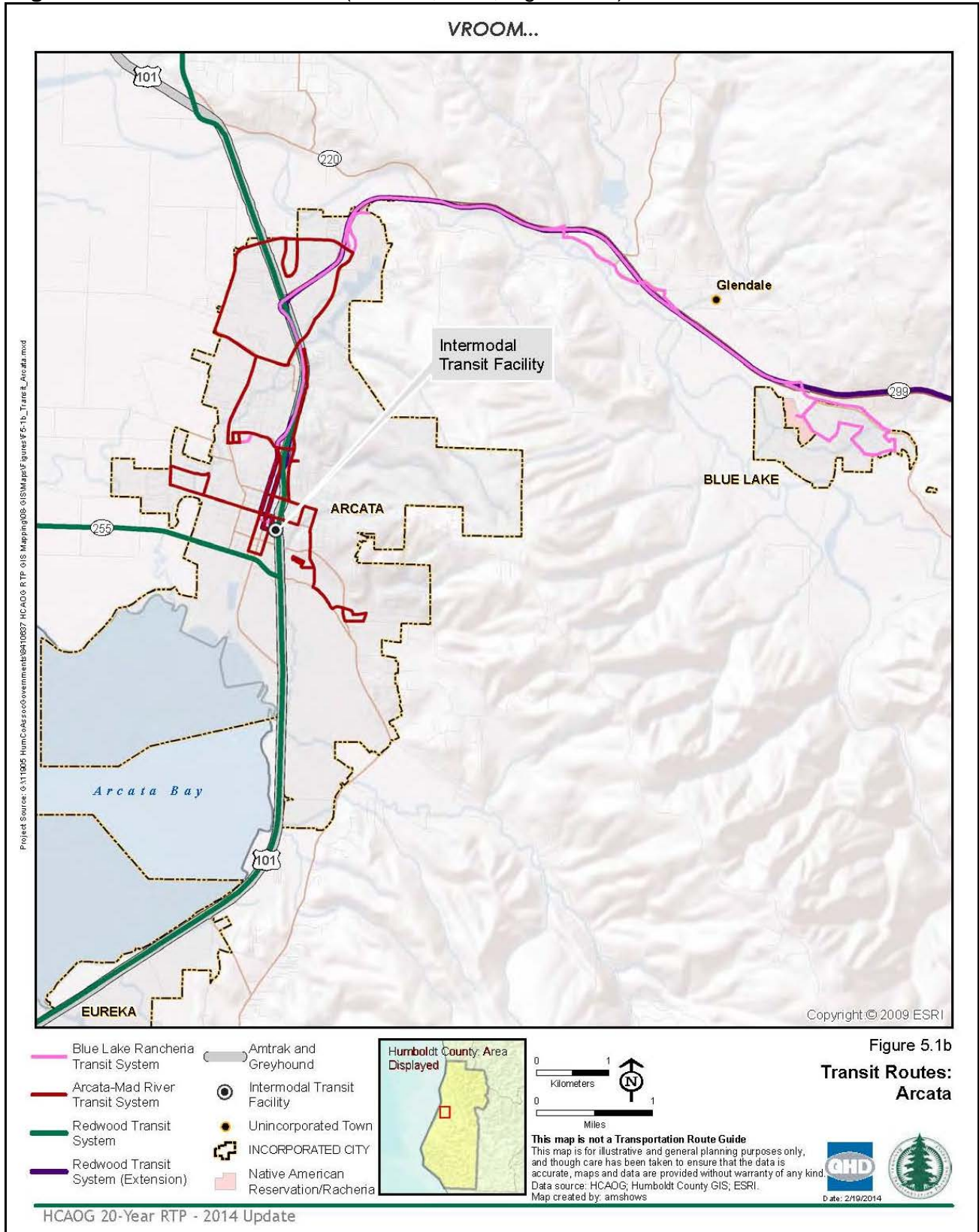
Dial-a-Ride, also known as paratransit, or curb-to-curb service, is available for those who are unable to independently use the transit system due to a physical or mental disability. Arcata Dial-A-Ride service is designed to serve the needs of individuals with disabilities within the City of Arcata and the greater City of Arcata area (Appendix T.1; Pg. 11).

The Blue Lake Rancheria Transit System (BLRTS) began operating in 2002; it is operated by the Blue Lake Rancheria, a federally recognized tribe in Humboldt County. The service is offered in partnership with the City of Blue Lake, which provides partial funding through its TDA fund allocation. The BLRTS has deviated fixed-route service, on weekdays, between Blue Lake/Glendale and the Arcata Intermodal Transit Facility. The fixed-route service provides over 1,300 trips per month. BLRTS also operates a Dial-a-Ride system three days per week and once a month on Saturday (HCAOG, 2014).

Air Traffic

The California Redwood Coast – Humboldt County Airport is located approximately 6 miles north of the project area and is the County’s regional airport offering commercial air service to a three county area including Humboldt, Del Norte, and Mendocino counties. Other smaller County airports near the City of Arcata include Murray Field which is approximately five miles to the south of the project area, and Samoa Field which is approximately nine miles southwest of the project area.

Figure 3C Arcata Transit Routes (HCAOG, 2014; Figure 5.1b)



Rail

The Northwestern Pacific (NWP) Railroad occurs approximately 1,200 feet to the east of the residential development site and the Simpson Mill spur tracks occur along the southern boundary of the residential development site (APN 505-161-011). The NWP track is under ownership of the North Coast Railroad Authority (NCRA). The Simpson Mill spur is abandoned and is privately owned by the Arcata Land Company. Both facilities are currently inactive. No future operations are anticipated for either facility at this time. Currently there are plans for developing a Class I trail along the NWP line in the City, which is referred to as the Arcata Rail with Trail project, that will provide access to the northern and southern parts of the City as well as to regional trails in the Humboldt Bay area including the Annie and Mary Trail and the Humboldt Bay Trail: Arcata to Eureka segment (HCAOG 2010, Pgs. 41-42). In addition, the Arcata Pedestrian & Bicycle Master Plan (2010, Pages 5-31 – 5-32) proposes development of the Simpson Mill spur tracks (APN 505-161-009) on the southern boundary of the residential development site as an extension of the Hammond Trail into Arcata. The section of the Arcata Rail with Trail from the north side of Samoa Blvd to Sunset Avenue has already been constructed. The section of the Humboldt Bay Trail from the south side of Samoa Blvd to Bracut was recently constructed.

REGULATORY FRAMEWORK

State of California

Caltrans

The California Department of Transportation (Caltrans) is responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as that portion of the Interstate Highway System within the state's boundaries. State Highways in the City of Arcata for which Caltrans has responsibility include Highways 101, 255, and 299. Caltrans authority includes programs for improved efficiencies, safety and intersection improvements, signalization, signage, and other transportation related actions.

County of Humboldt

Humboldt County Association of Governments (HCAOG)

The HCAOG is a joint powers authority comprising the County of Humboldt and the seven incorporated cities, each with a seat on the Board of Directors. Under its authority as the Regional Transportation Planning Agency (RTPA) for Humboldt County, HCAOG adopts and submits an updated Regional Transportation Plan to the California Transportation Commission and Caltrans every five years. The Regional Transportation Plan is a long-range (20-year)

transportation planning document for Humboldt County. The most recent updates of the HCAOG RTP were completed in 2014 and 2017 and are entitled “Variety in Rural Options of Mobility (VROOM).”

Department of Public Works

The management of County roads is provided by the County Department of Public Works. This includes all maintenance, repairs and construction activities on these public roads, as well as permits and encroachments onto the roadway. Private driveways or access roads that connect onto a County road, including reconstruction or improvements to the private roadway within the public right-of-way, require an encroachment permit. Private work on roadways may also be subject to engineering review by the Department of roadway encroachment plans prior to construction activities. This would apply to the section of Foster Avenue along the southern boundary of the residential development site (APN 505-161-011).

City of Arcata

Arcata General Plan

The City of Arcata General Plan contains guidelines for transportation and traffic within the Transportation Element. The General Plan has developed several specific Goals and related Policies that address transportation in the City. The Goals within the Element relate to items such as developing a safe and efficient transportation system, providing a balanced transportation system with a choice of travel modes, encouraging residents to use alternative forms of transportation, and using traffic-calming measures to reduce traffic in residential neighborhoods. Table 3-1 below contains a list of policies from the General Plan Transportation Element that are applicable to the proposed project.

Table 3-1 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|--|---|--------------------------------|
| T-2 Travel Demand Management | Reduce the percentage of automobiles and reduce the annual vehicle-miles of travel. | T-2a |
| T-3 Bus Transit Policy | Maintain a bus transit system which connects and serves major commercial and employment areas within Arcata, Humboldt State University, public schools, and higher density residential areas. Increase average citywide transit mode share of daily person trips to 5% from the 1998 level of 1%. | T-3g |
| T-4 Streets and Highways Plan and Policy | Plan an internal street system consistent with Arcata's small-town, non-metropolitan character. | T-4c and T-4d |
| T-5 Bicycle and Pedestrian Facilities | Create a complete, interconnected bicycle and pedestrian circulation system. Increase the percentage of person-trips via walking and bicycling. Provide a | T-5a, T-5b, and T-5e to T-5h |

| Policy | Objective | Applicable Sub-Policies |
|--------|---|-------------------------|
| | pedestrian and bicycle system which serves commuter as well as recreational travel. | |

Arcata Pedestrian and Bicycle Master Plan (April 2010):

This document provides an inventory of existing and proposed bicycle lanes (on-street) and shared use (off-street) trail alignments. The residential development site is located on Figure 5B (Proposed Bikeway Network – Downtown) of the Master Plan Update (see Figure 3B [Planned and Existing Pedestrian and Bicycle Facilities] above), which shows the existing and proposed pedestrian/bicycle pathways within the project area.

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact to transportation is considered to be significant if it meets any of the following criteria.

If the project would:

- 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;
- 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;
- 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;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access;
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Arcata General Plan

Table 3-2 Project Consistency with General Plan

| Policy | Consistency Analysis |
|---|---|
| T-2 Travel Demand Management (T-2a) | <p>T-2a. The proposed project is consistent with this policy in the following manner:</p> <ul style="list-style-type: none"> • The project integrates new housing near the Westwood neighborhood shopping center. • The project provides pedestrian-oriented land use and urban design, including pedestrian-scale block patterns, attractively landscaped streets and buffers, and pedestrian and bicycle improvements that will provide connectivity with the residential development site and surrounding neighborhoods and trail systems. |
| T-3 Bus Transit Policy (T-3g) | <p>T-3g. Project design shall conform to the recommendations of the City Engineer prior to project approval, regarding transit improvements and road designs. The Foster Avenue Connection and proposed trail to Alliance Road will provide a direct route for pedestrian and bicyclists to nearby bus stops.</p> |
| T-4 Streets and Highways Plan and Policy (T-4c and T4d) | <p>T-4c. The Foster Avenue Connection is to be designed according to collector street standards.</p> <p>T4d. The streets within the residential development site are to be designed to local street standards.</p> |
| T-5 Bicycle and Pedestrian Facilities (T-5a, T-5b, and T-5e through T-5h) | <p>T-5a. Consistent with this policy, the project proposes several bicycle and pedestrian pathways that will connect the residential development site to nearby bike lanes and trails.</p> <p>T-5b. Consistent with this policy, the project proposes several Class I bikeways that will connect the site to nearby bike lanes and trails.</p> <p>T-5e. Consistent with this policy, the project proposes to provide bicycle parking facilities in compliance with the requirements of the City’s Land Use Code.</p> <p>T-5f. Consistent with this policy, the project proposes sidewalks and pedestrian pathways that will connect the site to nearby sidewalks, trails, and bus stops.</p> <p>T-5g. Consistent with this policy, the project proposes several multi-use trails for the exclusive use of non-motorized transportation modes that will connect the site to nearby bike lanes and multi-use trails.</p> <p>T-5h. Consistent with this policy, the project proposes sidewalk within the site and pedestrian pathways that will provide connection to other sidewalks in the project area.</p> |

Proposed Project

Finding 3.1: 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, and Mass Transit.

Discussion:

The project would develop parcel 505-161-011 with 89 residential units and a 100-bed assisted living facility that would providing housing for approximately 269 residents. Access to the residential development site is provided from Foster Avenue. There are currently two gated access roads to the site off of Foster Avenue. The existing access in the southwest corner of the residential development site will be redesigned to provide a new entry off of Foster Avenue. This entry would cross the Simpson Mill Spur railbed and is proposed to be designed as a “T” type intersection.

Other access improvements proposed as part of the project include the following: 1) connection of Foster Avenue over Janes Creek that will include sidewalks and bike lanes; 2) a “T” type intersection at the intersection of Foster Avenue/Q Street; 3) public internal streets and sidewalks on the residential development site; 4) an all-weather emergency access to Stewart Avenue; and 5) a pedestrian and bicycle pathway connecting the eastern boundary of the residential development site to Alliance Road.

The City of Arcata commissioned W-Trans to conduct a comprehensive traffic study to address the cumulative impacts associated with the potential development of six sites located in central Arcata within three-quarter of a mile of one another (Appendix T.1). These projects, which include the Creek Side Homes project, are referred to by the City of Arcata as the Sunset Area housing projects, and are listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. The results of the traffic study are discussed in this section including estimated trip generation and distribution, changes in Level of Service (LOS), and potential impact on alternative modes of transportation from the proposed project.

At the time the W-Trans Traffic Study was completed, the Foster Avenue Connection was analyzed as an alternative access for the Creek Side Homes project in the study. However, since that time the Foster Avenue Connection has been included as part of the proposed project and the analysis in this chapter is written to reflect that change. Chapter 6 (Alternatives Analysis) of the EIR analyzes use of the existing street system (i.e. no Foster Avenue Connection) as an alternative.

During review of the Village Student Housing Project by the City of Arcata, comments were received from Griffin Cove Transportation Consulting, PLLC concerning the W-Trans Traffic

Study. W-Trans responded to these comments in a letter dated September 28, 2018, which is included as Appendix T.2 to the EIR.

Construction

Construction traffic for the proposed project would result in a short-term increase in construction-related vehicle trips on Foster Avenue, Alliance Road, and other local roadways and Highways in the City and County. Construction would result in vehicle trips by construction workers and haul-truck trips for delivery and disposal of construction materials and spoils to and from construction areas. Construction of utilities and traffic improvements to serve the proposed development would also require temporary encroachments within the County and City right-of-ways on Foster Avenue and other nearby roadways.

An encroachment permit would be required for any work completed within the County and City road right-of-ways. The encroachment permit applications for both Humboldt County and the City of Arcata require preparation of traffic control plans for work that would block the public right-of-way, and plans for re-routing of vehicles, bicycles, and pedestrians, as needed. Implementation of traffic controls would be required in accordance with County and City standards, and contractors would be required to comply with the general conditions of the encroachment permits, including restoration of any damage to right-of-way improvements. Through compliance with County and City requirements, construction activities would not result in substantial adverse effects or conflicts with the local roadway system.

Operation

The peak hour trip volumes for the proposed project are shown in Table 3-3 (Project Trip Generation). As shown below, the proposed project would be expected to have a combined total daily trip generation of 1,113 trips which includes 81 trips during the a.m. peak hour and 111 trips during the p.m. peak hour (Appendix T.1; Pg. 70).

Table 3-3 Project Trip Generation (Appendix T.1; Pg. 23)

| Land Use | Units | Daily | | AM Peak Hour | | | PM Peak Hour | | | | |
|-----------------|----------|-------|--------------|--------------|-----------|-----------|--------------|------|------------|-----------|-----------|
| | | Rate | Trips | Rate | Trip | In | Out | Rate | Trip | In | Out |
| Single-Family | 89 du | 9.52 | 847 | 0.75 | 67 | 17 | 50 | 1.00 | 89 | 56 | 33 |
| Assisted Living | 100 beds | 2.66 | 266 | 0.14 | 14 | 9 | 5 | 0.22 | 22 | 10 | 12 |
| TOTAL | | | 1,113 | | 81 | 26 | 55 | | 111 | 66 | 45 |

In the W-Trans Traffic Study, the pattern used to allocate new project trips to the street network was based on data from the 2000 Census for home-to-work or work-to-home trips as well as approach volumes at the various study intersections (Appendix T.1, Pg. 24). Data from the 2000 Census was used in the Traffic Study since commuting data was not obtained as part of the 2010 Census. The trip distribution assumptions used for the proposed project are shown in Table 3-4 (Project Trip Distribution for the Creek Side Homes Project). The expected daily trip generation by route is also shown in Table 3-4.

Table 3-4 Project Trip Distribution for the Creek Side Homes Project

| Routes | Land Use | | Trip Generation | |
|---------------------------|-----------------|---------------|-----------------|---------------|
| | Assisted Living | Single-Family | Assisted Living | Single-Family |
| To/from Humboldt State | - | 5% | - | 42 |
| To/from south on US 101 | 30% | 30% | 80 | 254 |
| To/from south on G-H | 15% | 10% | 40 | 85 |
| To/from south on Alliance | 20% | 20% | 53 | 169 |
| To/from north on US 101 | 10% | 10% | 27 | 85 |
| To/from north on Alliance | 25% | 20% | 66 | 169 |
| To/from east of US 101 | - | - | - | - |
| To/from neighborhood | - | - | - | - |
| To/from south on Janes | - | 5% | - | 42 |
| TOTAL | 100% | 100% | 266 | 846 |

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. The study intersections in the W-Trans Traffic Study were analyzed using methodologies published in the Highway Capacity Manual (HCM), Transportation Research Board, 2010. 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 (Appendix T.1; Pg. 12).

The Arcata General Plan Circulation Element does not establish a Peak Hour Level LOS that is defined as generally acceptable. The W-Trans Traffic Study assumed that the City of Arcata's operational standard is LOS C (Appendix T.1; Pg. 13). However, this is not an adopted standard by the City of Arcata. The Arcata General Plan Transportation Element (Policy T-1a) encourages investment in alternative modes of transportation (e.g., bikeways, etc.) as a priority over increasing vehicular capacities of streets. As such, the City of Arcata will accept lower LOS at intersections as long as it results in positive impacts/benefits for pedestrians and bicyclists.

As can be seen in Table 3-5 (Existing plus the Creek Side Homes Project Peak Hour Intersection LOS), upon the addition of the traffic related to the proposed project to existing traffic volumes (i.e., Existing plus Individual Project Conditions), the study intersections of Foster Avenue/Alliance Road would fall to LOS E and the study intersection of 11th Street/K Street would fall to LOS D. All other study intersections, with the exception of Sunset Avenue/LK Wood Boulevard, would continue to operate at LOS C or better (Appendix T.1; Pgs. 41-42). As noted in Table 3-5, design improvements are recommended to achieve LOS C or better at the intersection of Foster Ave/Alliance Rd.

Table 3-5 Existing plus the Creek Side Homes Project Peak Hour Intersection LOS

| Study Intersection Approach | AM Peak | | PM Peak | |
|--|---------|-----|-------------|----------|
| | Delay | LOS | Delay | LOS |
| 1. St. Louis Rd/US 101 Overpass | 3.4 | A | 5.4 | A |
| <i>Northbound St. Louis Rd Approach</i> | 9.8 | A | 9.6 | A |
| <i>Westbound Overpass Approach</i> | 9.0 | A | 9.2 | A |
| 2. LK Wood Blvd/US 101 Overpass | 3.2 | B | 2.5 | A |
| <i>Southbound LK Wood Approach</i> | 11.4 | B | 11.7 | B |
| 3. Sunset Ave/LK Wood Blvd | 13.3 | B | 36.1 | E |
| 4. Sunset Ave/US 101 N Ramps | 5.4 | A | 9.0 | A |
| <i>Northbound US 101 N Off-ramp Approach</i> | 25.2 | D | 28.0 | D |
| 5. Sunset Ave/US 101 S Ramps-G/H Streets | 14.3 | B | 11.4 | B |
| 6. Sunset Ave/Foster Ave-Jay St | 5.0 | A | 4.5 | A |
| 7. Foster Ave/Alliance Rd | 21.7 | C | 39.8 | E |
| Restripe Alliance Road Approaches* | 15.1 | C | 22.4 | C |
| 8. 17 th St/Q St | 7.7 | A | 7.3 | A |
| <i>Northbound Q St Approach</i> | 8.8 | A | 8.6 | A |
| 9. 17 th St/Alliance Rd | 1.9 | A | 0.9 | A |
| <i>Eastbound 17th St Approach</i> | 16.9 | C | 15.7 | C |
| 10. 11 th St/K St | 15.1 | C | 26.1 | D |
| 11. 11 th St/Janes Rd | 5.5 | A | 5.9 | A |
| <i>Eastbound 11th St Approach</i> | 11.4 | B | 10.3 | B |
| <i>Westbound 11th St Approach</i> | 11.0 | B | 10.0 | B |
| 12. Foster Ave/Janes Road | 7.2 | A | 6.2 | A |
| <i>Northbound Janes Rd Approach</i> | 8.7 | A | 8.7 | A |
| 13. Foster Ave/Creekside Project Entrance | 2.4 | A | 2.3 | A |
| <i>Northbound Q St Approach</i> | 9.6 | A | 9.3 | A |
| 14. Q St/Foster Ave | 0.2 | A | 0.1 | A |
| <i>Northbound Q St Approach</i> | 9.7 | A | 9.5 | A |

Bold text = operation below the desired threshold.

Shaded cells = conditions with recommended improvements

*The re-striping at the Alliance Road and Foster Avenue approaches was completed in Summer 2017

In the W-Trans Traffic Study, two access alternatives were analyzed for the proposed project. In addition to using the Foster Avenue Connection as previously discussed in this section, an alternative was evaluated that includes using the existing street system (Q Street and 17th Street) to access Alliance Road. The study concludes that without the proposed Foster Avenue Connection, and traffic related to the proposed project added to existing traffic volumes (i.e., Existing plus Individual Project Conditions), the study intersection of Foster Avenue/Alliance Road and 11th Street/K Street would still fall to LOS D (Appendix T.1, Pgs. 38-39). Without the Foster Avenue Connection, the intersection of Foster Avenue/Alliance Road would fall to an LOS D instead of LOS E. As noted in Table 3-6 (Existing without Foster Avenue Connection Peak Hour Intersection LOS), the same recommended improvements would be necessary with or without the connection of Foster Avenue.

Table 3-6 Existing without Foster Ave Connection Peak Hour Intersection LOS

| Study Intersection Approach | AM Peak | | PM Peak | |
|--|---------|-----|-------------|----------|
| | Delay | LOS | Delay | LOS |
| 1. St. Louis Rd/US 101 Overpass | 3.4 | A | 5.4 | A |
| <i>Northbound St. Louis Rd Approach</i> | 9.8 | A | 9.6 | A |
| <i>Westbound Overpass Approach</i> | 9.0 | A | 9.2 | A |
| 2. LK Wood Blvd/US 101 Overpass | 3.2 | B | 2.5 | A |
| <i>Southbound LK Wood Approach</i> | 11.4 | B | 11.7 | B |
| 3. Sunset Ave/LK Wood Blvd | 13.3 | B | 36.1 | E |
| 4. Sunset Ave/US 101 N Ramps | 5.4 | A | 9.0 | A |
| <i>Northbound US 101 N Off-ramp Approach</i> | 25.2 | D | 28.0 | D |
| 5. Sunset Ave/US 101 S Ramps-G/H Streets | 14.3 | B | 11.4 | B |
| 6. Sunset Ave/Foster Ave-Jay St | 5.0 | A | 4.5 | A |
| 7. Foster Ave/Alliance Rd | 19.1 | C | 27.2 | D |
| Restripe Alliance Road Approaches* | 14.0 | B | 18.0 | C |
| 8. 17 th St/Q St | 4.1 | B | 2.8 | A |
| <i>Northbound Q St Approach</i> | 9.5 | A | 9.1 | A |
| 9. 17 th St/Alliance Rd | 4.6 | A | 2.9 | A |
| <i>Eastbound 17th St Approach</i> | 21.6 | C | 18.0 | C |
| 10. 11 th St/K St | 15.1 | C | 26.1 | D |
| 11. 11 th St/Janes Rd | 5.5 | A | 5.9 | A |
| <i>Eastbound 11th St Approach</i> | 11.4 | B | 10.3 | B |
| <i>Westbound 11th St Approach</i> | 11.0 | B | 10.0 | B |
| 12. Foster Ave/Janes Road | 7.2 | A | 6.2 | A |
| <i>Northbound Janes Rd Approach</i> | 8.7 | A | 8.7 | A |
| 13. Foster Ave/Creekside Project Entrance | 2.4 | A | 3.8 | A |
| <i>Northbound Q St Approach</i> | 9.6 | A | 8.9 | A |

Bold text = operation below the desired threshold.

Shaded cells = conditions with recommended improvements

*The re-striping at the Alliance Road and Foster Avenue approaches was completed in Summer 2017

The W-Trans Traffic Study also analyzed several other scenarios for all six projects including the following:

- **Existing plus All Project Conditions:** This scenario analyzes the addition of all six projects included in this area-wide study with existing traffic volumes during the a.m. and peak p.m. periods (Appendix T.1, Pg. 14).
- **Future plus Individual Project Conditions:** This scenario analyzes the addition of each individual project included in this area-wide study with estimated future traffic volumes. The future traffic volumes were developed using an assumed conservative growth rate of 1.5 percent per year to a horizon of 2036, or 20 years out (Appendix T.1; Pg. 16).
- **Future plus All Project Conditions:** This scenario analyzes the addition of all six projects included in this area-wide study with estimated future traffic volumes. The future traffic volumes were developed using an assumed conservative growth rate of 1.5 percent per year to a horizon of 2036, or 20 years out (Appendix T.1; Pg. 16).

The results of the analysis for these additional scenarios are summarized below.

The **Existing Plus All Project Conditions** analysis determined that the study intersections would be expected to continue operating at LOS C or better with the exception of Sunset Avenue/LK Wood Boulevard, Foster Avenue/Alliance Road, and 11th Street/K Street. With these conditions, an additional improvement was recommended to achieve an LOS C at the Foster Avenue/Alliance Road intersection. As noted in Table 3-7 (Existing plus All Projects Peak Hour Intersection LOS), this includes restriping of the eastbound approach (Appendix T.1; Pgs. 44-46). Without the Foster Avenue Connection, the same improvements listed in Table 3-6 (Existing without Foster Avenue Connection Peak Hour Intersection LOS) are recommended to achieve an LOS C or better (Appendix T.1; Pgs. 42-44).

Table 3-7 Existing plus All Projects Peak Hour Intersection LOS

| Study Intersection Approach | AM Peak | | PM Peak | |
|--|-------------|----------|-------------|----------|
| | Delay | LOS | Delay | LOS |
| 1. St. Louis Rd/US 101 Overpass | 5.3 | B | 6.9 | A |
| <i>Northbound St. Louis Rd Approach</i> | 10.0 | B | 9.7 | A |
| <i>Westbound Overpass Approach</i> | 9.4 | A | 10.4 | B |
| 2. LK Wood Blvd/US 101 Overpass | 2.8 | A | 2.2 | A |
| <i>Southbound LK Wood Approach</i> | 12.5 | B | 13.1 | B |
| 3. Sunset Ave/LK Wood Blvd | 15.7 | C | 73.1 | F |
| 4. Sunset Ave/US 101 N Ramps | 8.0 | B | 21.1 | C |
| <i>Northbound US 101 N Off-ramp Approach</i> | 38.3 | E | 67.7 | F |
| 5. Sunset Ave/US 101 S Ramps-G/H Streets | 15.3 | C | 12.4 | B |
| 6. Sunset Ave/Foster Ave-Jay St | 5.6 | A | 5.3 | A |
| 7. Foster Ave/Alliance Rd | 29.1 | D | 58.6 | F |
| Restripe Alliance Road Approaches* | 16.5 | C | 27.0 | D |
| Additional: Restripe EB Approach | 15.5 | C | 24.2 | C |
| 8. 17 th St/Q St | 7.7 | A | 7.3 | A |
| <i>Northbound Q St Approach</i> | 8.8 | A | 8.6 | A |
| 9. 17 th St/Alliance Rd | 1.9 | A | 0.9 | A |
| <i>Eastbound 17th St Approach</i> | 19.4 | C | 17.1 | C |
| 10. 11 th St/K St | 17.0 | C | 39.0 | E |
| 11. 11 th St/Janes Rd | 5.5 | B | 5.9 | A |
| <i>Eastbound 11th St Approach</i> | 11.4 | B | 10.3 | B |
| <i>Westbound 11th St Approach</i> | 11.0 | B | 10.0 | B |
| 12. Foster Ave/Janes Road | 7.2 | A | 6.2 | A |
| <i>Northbound Janes Rd Approach</i> | 8.7 | A | 8.7 | A |
| 13. Foster Ave/Creekside Project Entrance | 2.4 | A | 2.3 | A |
| <i>Northbound Q St Approach</i> | 9.6 | A | 9.3 | A |
| 14. Q St/Foster Ave | 0.2 | A | 0.1 | A |
| <i>Northbound Q St Approach</i> | 9.7 | A | 9.5 | A |

Bold text = operation below the desired threshold.

Shaded cells = conditions with recommended improvements

*The re-striping at the Alliance Road and Foster Avenue approaches was completed in Summer 2017

The **Future plus Individual Project Conditions** analysis determined that with the proposed project added to future volumes, the study intersections would be expected to continue operating at LOS C or better with the exception of Sunset Avenue/LK Wood Boulevard, Foster Avenue/Alliance Road, and 11th Street/K Street. These intersections are expected to operate at LOS F. As noted in Table 3-8 (Future plus Creek Side Homes Peak Hour Intersection LOS), with these conditions the traffic study recommends the following improvements: 1) Roundabout at Intersection 3 (Sunset Ave/LK Wood Blvd); and 2) Roundabout at Intersection 7 (Foster Avenue/Alliance Road) (Appendix T.1, Pgs. 52-55). Without the Foster Avenue Connection, the same improvements listed in Table 3-8 were recommended to achieve an LOS C or better (Appendix T.1, Pgs. 50-52).

Table 3-8 Future plus Creek Side Homes Peak Hour Intersection LOS

| Study Intersection Approach | AM Peak | | PM Peak | |
|--|-------------|----------|-------------|----------|
| | Delay | LOS | Delay | LOS |
| 1. St. Louis Rd/US 101 Overpass | 3.5 | A | 5.6 | A |
| <i>Northbound St. Louis Rd Approach</i> | 10.1 | B | 9.9 | A |
| <i>Westbound Overpass Approach</i> | 9.1 | A | 9.4 | A |
| 2. LK Wood Blvd/US 101 Overpass | 3.5 | A | 2.8 | A |
| <i>Southbound LK Wood Approach</i> | 12.7 | B | 13.1 | B |
| 3. Sunset Ave/LK Wood Blvd | 17.2 | C | 89.1 | F |
| Roundabout – Intersections 3 and 4 | 10.7 | B | 20.1 | C |
| 4. Sunset Ave/US 101 N Ramps | 10.9 | B | 29.7 | D |
| <i>Northbound US 101 N Off-ramp Approach</i> | 54.8 | F | 99.0 | F |
| 5. Sunset Ave/US 101 S Ramps-G/H Streets | 20.4 | C | 13.1 | B |
| 6. Sunset Ave/Foster Ave-Jay St | 5.7 | A | 5.3 | A |
| 7. Foster Ave/Alliance Rd | 51.4 | F | 99.8 | F |
| Roundabout | 7.6 | A | 10.0 | B |
| 8. 17 th St/Q St | 7.7 | A | 7.3 | A |
| <i>Northbound Q St Approach</i> | 8.9 | A | 8.6 | A |
| 9. 17 th St/Alliance Rd | 2.5 | A | 1.1 | A |
| <i>Eastbound 17th St Approach</i> | 21.9 | C | 20.5 | C |
| 10. 11 th St/K St | 25.8 | D | 96.4 | F |
| 11. 11 th St/Janes Rd | 5.8 | A | 6.1 | B |
| <i>Eastbound 11th St Approach</i> | 12.3 | B | 10.7 | B |
| <i>Westbound 11th St Approach</i> | 11.9 | B | 10.5 | B |
| 12. Foster Ave/Janes Road | 7.3 | A | 6.2 | A |
| <i>Northbound Janes Rd Approach</i> | 8.7 | A | 8.8 | A |
| 13. Foster Ave/Creekside Project Entrance | 2.1 | A | 2.1 | A |
| <i>Northbound Q St Approach</i> | 9.9 | A | 9.5 | A |
| 14. Q St/Foster Ave | 0.3 | A | 0.2 | A |
| <i>Northbound Q St Approach</i> | 10.0 | A | 9.6 | A |

Bold text = operation below the desired threshold.

Shaded cells = conditions with recommended improvements

The **Future plus All Project Conditions** analysis determined that the study intersections would be expected to continue operating at LOS C or better with the exception of Sunset Avenue/LK Wood Boulevard, Foster Avenue/Alliance Road, and 11th Street/K Street. These intersections are expected to operate at LOS F. With these conditions, the traffic study recommends the same improvements as proposed for the Future plus Individual Project Conditions scenario which are noted in Table 3-9 (Future plus All Projects Peak Hour Intersection LOS) below (Appendix T.1; Pgs. 57-59). Without the Foster Avenue Connection, the same improvements listed in Table 3-9 were recommended (Appendix T.1; Pgs. 55-57).

Table 3-9 Future plus All Projects Peak Hour Intersection LOS

| Study Intersection Approach | AM Peak | | PM Peak | |
|--|-------------|----------|--------------|----------|
| | Delay | LOS | Delay | LOS |
| 1. St. Louis Rd/US 101 Overcrossing | 5.1 | A | 7.0 | A |
| <i>Northbound St. Louis Rd Approach</i> | 10.4 | B | 9.9 | A |
| <i>Westbound Overcrossing Approach</i> | 9.5 | A | 10.8 | B |
| 2. LK Wood Blvd/US 101 Overcrossing | 3.3 | A | 2.6 | A |
| <i>Southbound LK Wood Approach</i> | 14.4 | B | 14.9 | B |
| 3. Sunset Ave/LK Wood Blvd | 20.9 | C | ** | F |
| Roundabout – Intersections 3 and 4 | 13.9 | B | 39.9 | D |
| 4. Sunset Ave/US 101 N Ramps | 18.9 | C | 63.3 | F |
| <i>Northbound US 101 N Off-ramp Approach</i> | 96.56 | F | ** | F |
| 5. Sunset Ave/US 101 S Ramps-G/H Streets | 23.4 | C | 14.2 | B |
| 6. Sunset Ave/Foster Ave-Jay St | 6.4 | A | 6.2 | A |
| 7. Foster Ave/Alliance Rd | 66.4 | F | ** | F |
| Roundabout | 9.7 | A | 11.3 | B |
| 8. 17 th St/Q St | 7.7 | A | 7.3 | A |
| <i>Northbound Q St Approach</i> | 8.9 | A | 8.6 | A |
| 9. 17 th St/Alliance Rd | 2.6 | A | 1.2 | A |
| <i>Eastbound 17th St Approach</i> | 24.1 | C | 22.7 | C |
| 10. 11 th St/K St | 32.9 | D | 121.3 | F |
| 11. 11 th St/Janes Rd | 5.8 | A | 6.1 | A |
| <i>Eastbound 11th St Approach</i> | 12.3 | B | 10.7 | B |
| <i>Westbound 11th St Approach</i> | 11.9 | B | 10.5 | B |
| 12. Foster Ave/Janes Road | 7.3 | A | 6.2 | A |
| <i>Northbound Janes Rd Approach</i> | 8.7 | A | 8.8 | A |
| 13. Foster Ave/Creekside Project Entrance | 2.1 | A | 2.1 | A |
| <i>Northbound Q St Approach</i> | 9.9 | A | 9.5 | A |
| 14. Q St/Foster Ave | 0.3 | A | 0.2 | A |
| <i>Northbound Q St Approach</i> | 10.0 | A | 9.6 | A |

Bold text = operation below the desired threshold.

Shaded cells = conditions with recommended improvements

** = Delay greater than 120 seconds

The specific recommendations contained in the W-Trans Traffic Study (Appendix T.1; Pg. 73) take into consideration all of the scenarios analyzed in the Traffic Study for the proposed project in combination with the five other projects included in the study and identified in Chapter 7 (Cumulative Impact Analysis) of the EIR. To minimize the traffic impacts of the proposed project, Mitigation Measure 3.1a has been included, requiring the applicant to pay a fair share proportion of the following near-term and future improvements recommended in the W-Trans Traffic Study (Appendix T.1; Pg. 73) or as required by the City of Arcata:

- Sunset Avenue/LK Wood Boulevard Re-Striping (Near-term)
- Re-Stripe Alliance Road & Foster Avenue Approaches (Near-term)
- Roundabout at Sunset Avenue/LK Wood Boulevard Intersection (Future)
- Roundabout at Foster Avenue/Alliance Road Intersection (Future)

In order to fund these transportation improvement projects, a Traffic Impact Mitigation Fee Collection Program or equivalent will be established by the City of Arcata. The anticipated total cost of these improvements are listed below in Table 3-10 (Anticipated Transportation Improvements Project Costs), including the percent of the total cost of the improvements that will be funded by the traffic impact mitigation fees. As shown in Table 3-10, the six projects analyzed in the W-Trans Traffic Study will be responsible for \$911,900 of the cost of the transportation improvements. Of this amount, the Creek Side Homes project is estimated to be responsible for approximately 20.5%. Detailed information about the Traffic Impact Mitigation Fee Collection Program is included on Pgs. 67-69 and in Appendix E of the W-Trans Central Arcata Areawide Traffic Study (Appendix T.1).

Table 3-10 Anticipated Transportation Improvement Project Costs

| Transportation Improvement Projects | Cost | Percent of Project Cost included in Fee |
|--|--------------------|--|
| Near Term | | |
| Sunset Ave/LK Wood Blvd Re-Striping | \$98,900 | 100% |
| Alliance Rd/Sunset Ave Re-Stripe | \$8,800 | 100% |
| Future | | |
| Sunset Ave/LK Wood Blvd Roundabout | \$3,195,000 | 15% |
| Foster Ave/Alliance Rd Roundabout | \$325,000 | 100% |
| TOTAL | \$3,627,700 | \$911,900 |

Although, the re-striping of the Sunset Avenue/LK Wood Boulevard intersection is not listed as a recommended improvement in the W-Trans Traffic Study (see Tables 3-5 to 3-9), the City of Arcata has determined that this improvement is necessary to minimize traffic impacts to this intersection as an interim measure. The re-striping at the Alliance Road and Foster Avenue approaches was completed in Summer 2017.

The future transportation improvements listed above may not be constructed prior to the operation of the approved/planned projects listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. Some of the projects may be delayed in obtaining all necessary entitlements for several years. Nonetheless, there is the potential that significant and unavoidable traffic impacts may occur until these improvements are in place. Because the EIR identifies traffic as an impact that

cannot be reduced to a less than significant level until the future transportation improvements are constructed, a Statement of Overriding Considerations would need to be adopted for the Creek Side Homes project.

In conjunction with the LOS analysis conducted in the W-Trans Traffic Study, the City also had a Vehicle Miles Traveled analysis completed by W & S Solutions, LLC (Appendix U) for the housing projects proposed in the Sunset area. Vehicle Miles Travelled (VMT) is a relatively new methodology that is proposed to be implemented through the passage of Senate Bill (SB) 743 and will encourage infill development and, subsequently, reduce greenhouse gas emissions (GHG). However, OPR has not yet adopted CEQA Guidelines regarding this methodology and implementation of the methodology is not required at this time. Although not required, the City prepared a VMT analysis (Appendix U) in concert with the Central Arcata Areawide Traffic Impact Study (Appendix T.1) because staff recognized that this may be a direction that the City will need to go in the near term. The VMT analysis resulted in a finding of "No Impact" to any of the study intersections.

The Arcata General Plan contains several policies encouraging alternative modes of transportation including the following:

- **Policy T-2 (Travel Demand Management):** Reduce the percentage of automobiles and reduce the annual vehicle-miles of travel.
- **Policy T-3 (Bus Transit Policy):** Maintain a bus transit system which connects and serves major commercial and employment areas within Arcata, Humboldt State University, public schools, and higher density residential areas. Increase average citywide transit mode share of daily person-trips to 5% from the 1998 level of 1%.
- **Policy T-5 (Bicycle and Pedestrian Facilities):** Create a complete interconnected bicycle and pedestrian circulation system. Increase the percentage of person-trips via walking and bicycling. Provide a pedestrian and bicycle system which serves commuter as well as recreational travel.

In order to be consistent with the City's General Plan policies encouraging alternative modes of transportation, the Traffic Study completed by W-Trans evaluated the existing pedestrian, bicycle, and transit improvements for the proposed project. In addition, the analysis done for the Traffic Study considered impacts relative to access for pedestrians, bicyclists, and buses crossing the study intersections. The Traffic Study concluded that the existing pedestrian, bicycle, and transit improvements are inadequate to serve the proposed project and made the following recommendations for proposed improvements (Appendix T.1; Pgs. 64-65):

- A pedestrian connection should be provided between the residential development site and Heather Lane, regardless of whether Foster Avenue is connected or not. If extended, sidewalk should be provided along the length of the connection. Further, the trail connecting the site to Alliance Road should be constructed as part of the project if sufficient right-of-way is available.

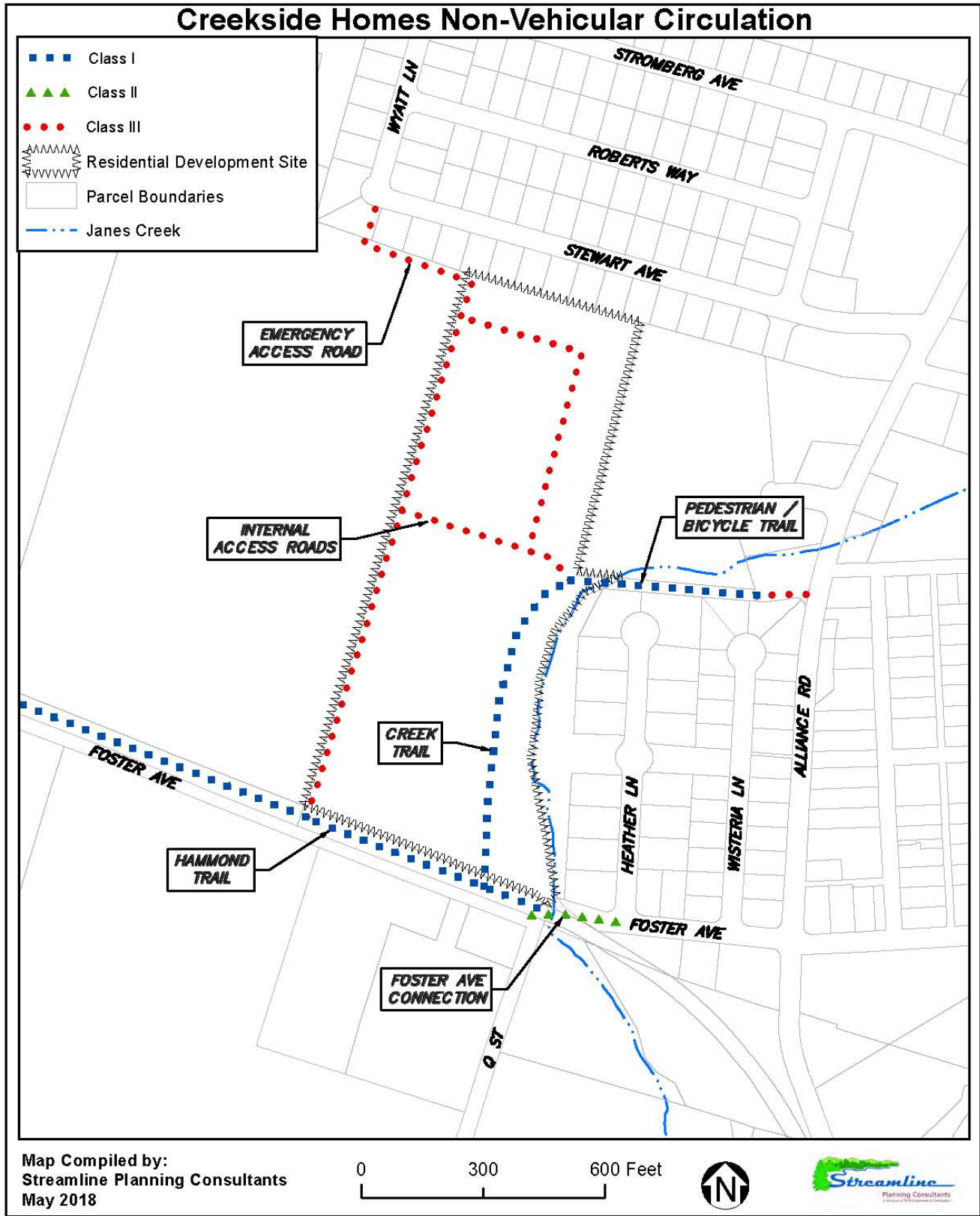
- In order to accommodate bicycle trips other than on the adjacent system of County roads, which are narrow and lack amenities, the trail connecting the site to Alliance Road should be constructed as part of the project if sufficient right-of-way is available. As recommended for pedestrian access, a connection should also be made across Janes Creek to connect the site to the easterly portion of Foster Avenue where bike lanes exist.

The City has not adopted a standard including LOS to measure transportation impacts, so no quantitative standard could be applied to the results of the analysis. However, the Traffic Study did make recommendations intended to increase the use of alternative modes of transportation. To comply with Policy T-5 (Bicycle and Pedestrian Facilities) of the Arcata General Plan Transportation Element, the Arcata Pedestrian & Bicycle Master Plan (2010), and the recommendations of the W-Trans Traffic Study (Appendix T.1), the proposed project will construct new pedestrian/bicycle improvements to serve the development including the following:

- A pedestrian/bicycle pathway through parcel 505-341-048 is proposed for access to Alliance Road that would include a crossing over Janes Creek. The proposed crossing would include the replacement of an existing overcrossing located mid-way along the eastern boundary of the residential development site. This pathway would connect the eastern edge of the residential development site to an existing paved access road that connects to Alliance Road adjacent to the Janes Creek Townhouses (South).
- A portion of the Hammond Trail is proposed to be constructed on parcel 505-161-009 along the southern boundary of the residential development site directly south of the proposed cottage units. This Class I shared-use pathway will be a minimum of 10 feet wide.
- A north-south pathway is proposed on the southeastern portion of the residential development site that will connect the Hammond Trail with the pedestrian/bicycle pathway to Alliance Road.
- Sidewalks and bike lanes will be developed within the Foster Avenue Connection to provide non-vehicular access from the residential development site to Alliance Road.
- The all-weather emergency access proposed to connect the residential development site (APN 505-161-011) with Stewart Avenue will also function as a pedestrian/bicycle pathway.

These improvements would connect the residential development site to Alliance Road to the east and Stewart Avenue to the north (see Figure 3D [Proposed Pedestrian and Bicycle Facilities]). In addition to the Hammond Trail section that will be developed by the applicant, the City of Arcata also proposes to construct a section of the Hammond Trail on parcel 505-151-005 (see Figure 1H [Parcels Proposed for Development] in Chapter 1 [Introduction] of the EIR).

Figure 3D Proposed Pedestrian and Bicycle Facilities



These improvements will provide connectivity to the existing trail systems in the project area, the bus stops along Alliance Road, and to regional trails in the Humboldt Bay area, including the Annie and Mary Trail and the Humboldt Bay Trail: Arcata to Eureka segment. It is anticipated that this increased connectivity will encourage residents to walk, bike, or use mass transit to educational, commercial, and employment centers instead of driving. The proposed pedestrian/bicycle improvements have been included as Mitigation Measure 3.1b for the proposed project.

As described in Chapter 1 (Introduction) of the EIR, it is proposed to develop park facilities on City owned parcels 505-151-009, 505-284-009, and 505-284-010 (Ennes Park Expansion) to provide the parkland necessary to serve the proposed project and the Westwood neighborhood. The applicant will be responsible for the payment of in-lieu fees for approximately 1.35 acres of this new parkland. Development of the proposed park area will generate additional traffic on Stewart Avenue and Wyatt Lane. Since the park will be constructed next to an existing residential neighborhood and the proposed residential development, it is anticipated that many residents will walk or bike to the park, which will reduce the amount of vehicle trips generated during long-term operation of the park. Moreover, the existing City Park located in this area (Ennes Park) is relatively undersized for the number of residents that it serves. The development of the proposed park will provide the recreational facilities necessary to adequately serve the existing and proposed residential population in this area of Arcata. As such, it is not anticipated that significant traffic impacts will result from development of the proposed park.

With the proposed mitigation measures, the proposed project will 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.

However, until construction of the future transportation improvements identified in Mitigation Measure 3.1a, there is the potential for significant traffic impacts to occur from the proposed project. The improvements set forth in Mitigation Measure 3.1a are identified in the Central Arcata Areawide Traffic Study, which was commissioned by the City to address the cumulative traffic impacts associated with potential development of six sites located within less than three-quarters of a mile of one another. In connection with the Central Arcata Areawide Traffic Study, the City identified improvement costs and fair-share fees for each contributing development project (See pgs. 67-69 and Appendix E of the W-Trans Traffic Study [Appendix T.1]). Fees will be imposed on individual development projects via conditions of approval or through development agreements. Here, the terms of the proposed development agreement provide for the City to accept the traffic fee and retain it in a segregated account to pay for the improvements identified in the EIR and Central Arcata Areawide Traffic Study. Any funds collected may be added to a future Traffic Mitigation Impact Fee Program and may be combined with other public and private funding sources to make the improvements. The proposed development agreement terms also provide for the City to work with Caltrans and HSU to fund, design, and install the improvements. Accordingly, the improvements are set forth in a plan that 1) specifies the total amount of the anticipated traffic improvement and the construction cost owed by the project

applicant; 2) specifies, if applicable, that the project applicant will also pay a percentage of the remaining reasonable costs of the improvement; and 3) makes the fees part of a reasonable enforceable plan or program that is sufficiently tied to the actual mitigation of the traffic impacts at issue. However, since the timing of implementation of improvements cannot be guaranteed, impacts from the proposed project would be significant and unavoidable.

Determination:

Potentially significant impact until construction of the future transportation improvements identified in Mitigation Measure 3.1a, but because the timing of implementation of improvements cannot be guaranteed, impacts from the proposed project would be significant and unavoidable.

Mitigation:

Implementation of the following mitigation measures would reduce potential impacts to a less than significant level, but because the timing of implementation of improvements cannot be guaranteed, impacts from the proposed project would remain significant and unavoidable.

Mitigation Measure 3.1a. To minimize the traffic impacts of the proposed project, the applicant will be responsible for paying a fair-share proportion for the following near-term and future transportation improvements to the City of Arcata:

- Sunset Avenue/LK Wood Boulevard Re-Striping (Near-term)
- Re-Stripe Alliance Road & Foster Avenue Approaches (Near-term)
- Roundabout at Sunset Avenue/LK Wood Boulevard Intersection (Future)
- Roundabout at Foster Avenue/Alliance Road Intersection (Future)

The “near-term” improvements were completed in Summer 2017. The “future” transportation improvements may not be constructed for a decade or longer since the design of some of these improvements need to be coordinated with Caltrans and/or Humboldt State University. In order to fund these transportation improvement projects, a Traffic Impact Mitigation Fee Collection Program or equivalent will be established by the City of Arcata. The anticipated total cost of these improvements will be approximately \$3,627,700. The amount of the total cost of the improvements that will be funded by the six projects analyzed in the W-Trans Traffic Study is \$911,900. Of this amount, the Creek Side Homes project is estimated to be responsible for approximately 20.5%. Detailed information about the Traffic Impact Mitigation Fee Collection Program is included on Pgs. 67-69 and in Appendix E of the W-Trans Central Arcata Areawide Traffic Study (Appendix T.1).

Mitigation Measure 3.1b. To comply with Policy T-5 (Bicycle and Pedestrian Facilities) of the Arcata General Plan Transportation Element, the Arcata Pedestrian & Bicycle Master Plan (2010), and the recommendations of the W-Trans Central Arcata Areawide Traffic Study (Appendix T.1), the proposed project will construct new pedestrian/bicycle improvements to serve the development. This includes the following pedestrian/bicycle trails:

- A pedestrian/bicycle pathway through parcel 505-341-048 is proposed for access to Alliance Road that would include a crossing over Janes Creek. The proposed crossing

would include the replacement of an existing overcrossing located mid-way along the eastern boundary of the residential development site. This pathway would connect the eastern edge of the residential development site to an existing paved access road that connects to Alliance Road adjacent to the Janes Creek Townhouses (South).

- A portion of the Hammond Trail is proposed to be constructed on parcel 505-161-009 along the southern boundary of the residential development site directly south of the proposed cottage units. This Class I shared-use pathway will be a minimum of 10 feet wide.
- A north-south pathway is proposed on the southeastern portion of the residential development site that will connect the Hammond Trail with the pedestrian/bicycle pathway to Alliance Road.
- Sidewalks and bike lanes will be developed within the Foster Avenue Connection to provide non-vehicular access from the residential development site to Alliance Road.
- The all-weather emergency access proposed to connect the residential development site (APN 505-161-011) with Stewart Avenue will also function as a pedestrian/bicycle pathway.

Finding 3.2: 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.

Discussion:

The Humboldt County Association of Governments (HCAOG) is the regional transportation planning agency for Humboldt County. However, Humboldt County is considered rural and does not have a Congestion Management Agency or an adopted Congestion Management Program.

The City of Arcata commissioned W-Trans to conduct a comprehensive traffic study to address the cumulative impacts associated with the potential development of six sites located in central Arcata within three-quarter of a mile of one another. These projects are referred to by the City of Arcata as the Sunset Area housing projects and are listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. The results of the Traffic Study are discussed in greater detail under Finding 3.1, including estimated trip generation and distribution, changes in Level of Service (LOS), and potential impact on alternative modes of transportation from the proposed project. As described under Finding 3.1, the specific recommendations contained in the W-Trans Traffic Study (Appendix T.1; Pg. 72), or as proposed by the City of Arcata, have been included as Mitigation Measures 3.1a and 3.1b for the proposed project.

Therefore, the proposed project will 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.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 3.3: 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.

Discussion:

The California Redwood Coast – Humboldt County Airport is located approximately six miles north of the project area and is the County’s regional airport offering commercial air service to a three county area including Humboldt, Del Norte, and Mendocino counties. Other smaller County airports near the City of Arcata include Murray Field which is approximately five miles to the south of the project area and Samoa Field which is approximately nine miles southwest of the project area.

Due to the project’s size (provide housing for approximately 269 residents), type of use (residential and assisted living), and location (five miles to the nearest airport), there is limited potential to impact air traffic patterns.

Therefore, the project will not 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.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 3.4: Substantially Increase Hazards Due to a Design Feature (e.g., Sharp Curves or Dangerous Intersections) or Incompatible Uses (e.g., Farm Equipment).

Discussion:

The project would develop parcel 505-161-011 with 89 residential units and a 100-bed assisted living facility that would providing housing for approximately 269 residents. Access to the residential development site (APN 505-161-011) is provided from Foster Avenue. There are currently two gated access roads to the site off of Foster Avenue. The existing access in the southwest corner of the residential development site will be redesigned to provide a new entry off of Foster Avenue. This entry would cross the Simpson Mill Spur railbed and is proposed to be designed as a “T” type intersection.

Other access improvements proposed as part of the project include the following: 1) connection of Foster Avenue over Janes Creek that will include sidewalks and bike lanes; 2) a “T” type intersection at the intersection of Foster Avenue/Q Street; 3) public internal streets and sidewalks on the residential development site; 4) an all-weather emergency access to Stewart Avenue; and 5) a pedestrian and bicycle pathway connecting the eastern boundary of the residential development site to Alliance Road.

The proposed access improvements will be reviewed by, and constructed to, the standards of the City Engineer and Public Works Department to ensure that no hazardous design features will be developed as part of the project. The City Engineer has reviewed the proposed transportation improvements for the project and determined that they will not present a safety hazard for the amount and type of traffic that will result from the proposed project.

On the route to the residential development site from Alliance Road there are two 90° turns near the intersection of Q St/17th St and where Q St intersects into Foster Ave. These turns function as traffic calming measures and as noted in the W-Trans Traffic Study (Appendix T.1; Pg. 8), collision rates at the Q St/17th St intersection are below the statewide average for similar facilities. With the proposed Foster Avenue Connection, a “T” type intersection will be developed at the intersection of Foster Avenue/Q Street which will remove one of the 90° turns along this road section. With this improvement proposed by the project, potential hazards due to this existing roadway design feature will be minimized.

The residential development site is located directly adjacent to existing neighborhoods on the west side of Arcata and is only approximately 0.4 miles driving distance from the nearest arterial street (Alliance Road). Agricultural uses occur to the west and south of the site, which generate traffic from trucks and farm equipment on Foster Avenue. The closest agricultural operation to the site is Tule Fog Farm which uses property to the south and west of the site and moves equipment back and forth between the properties. Traffic from agricultural operations in the project area occurs intermittently and the majority of it occurs to the west of the residential development site. As such, it is anticipated that there will be limited conflict between the traffic from nearby agricultural operations and the traffic that will be generated by the proposed project.

Therefore, the proposed project will not substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment).

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 3.5: Result in Inadequate Emergency Access.

Discussion:

The project would develop parcel 505-161-011 with 89 residential units and a 100-bed assisted living facility that would providing housing for approximately 269 residents.

Construction

Construction of utilities and traffic improvements to serve the proposed development would require temporary encroachments within the County and City right-of-way on Foster Avenue and other nearby roadways. An encroachment permit would be required for any work completed within the County and City road right-of-ways. The encroachment permit applications for both Humboldt County and the City of Arcata require preparation of traffic control plans for work that would block the public right-of-ways. Contractors would be required to adhere to approved traffic control plans, which would minimize conflicts related to emergency access and circulation. Contractors would be required to have ready at all times the means necessary to accommodate access by emergency vehicles, such as plating over excavations, and travel lane closures would be managed such as keeping one travel lane open at all times to allow alternating traffic flow in both directions along affected roadways. Through compliance with County and City requirements, construction activities would not result in inadequate emergency access.

Operation

Access to the residential development site is proposed to occur from a new entrance on Foster Avenue that is proposed to be designed as a “T” type intersection. The project also proposes the connection of Foster Avenue over Janes Creek to provide a direct route from the site to Alliance Road, which would include a “T” type intersection at the intersection of Foster Avenue/Q Street. In addition, an emergency access road is proposed to connect the residential development site with Stewart Avenue to the north.

Foster Avenue and the surrounding road network do not have any conditions that would restrict emergency vehicle access to the residential development site such as inadequate width of roadways or insufficient roadway surfaces that cannot support the weight of larger emergency vehicles.

The project’s ingress/egress, on-site circulation, and off-site transportation improvements are required to meet the requirements of the City Engineer, Arcata Fire District, and Arcata Police Department, which ensures that new development provides adequate access for emergency vehicles. The project has been reviewed by these City departments, and their requirements have been included in the proposed project design.

Therefore, the proposed project will not result in inadequate emergency access.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 3.6: Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities, or Otherwise Decrease the Performance or Safety of such Facilities.

Discussion:

The residential development site is currently a vacant mill site. The project would develop parcel 505-161-011 with 89 residential units and a 100-bed assisted living facility that would provide housing for approximately 269 residents. The project will create new demand for bicycle and pedestrian facilities, and public transit in the immediate vicinity and connecting into other areas of the City. Nearby roads such as Foster Avenue and Q Street currently do not provide any sidewalks or bikeways adjacent to the residential development site.

Sidewalks near the site exist on 17th Street, Alliance Road, and portions of Foster Avenue (east of Janes Creek). The railroad tracks paralleling Foster Avenue and crossing Janes Creek are also used as an informal foot path. Bike lanes near the residential development site include the following: 1) Alliance Road from Spear Avenue to 11th Street (Class II); and 2) Foster Avenue from Alliance Road to Sunset Avenue (Class II). There is also a new Class I multi-use trail that provides access along Foster Avenue from Shay Park to Sunset Avenue.

The primary transit service provider for the City of Arcata is the Arcata & Mad River Transit System (AMRTS) along the Red, Gold, and Orange routes. The Gold line provides access to points north, south to the downtown, and to Humboldt State University to the east.

The closest bus stop to the residential development site (~700 feet walking distance) is on the Gold and Orange Routes at the intersection of Foster Ave/Alliance Road. The next closest bus stops to the site include the following: 1) At the Westwood Shopping Center (~1,300 feet walking distance) on the Gold and Orange Routes; and 2) Intersection of Q Street/Zehndner Ave (~1,600 feet walking distance) on the Red and Orange Routes.

The Arcata General Plan contains several policies encouraging alternative modes of transportation including the following:

- **Policy T-2 (Travel Demand Management):** Reduce the percentage of automobiles and reduce the annual vehicle-miles of travel.
- **Policy T-3 (Bus Transit Policy):** Maintain a bus transit system which connects and serves major commercial and employment areas within Arcata, Humboldt State University, public schools, and higher density residential areas. Increase average citywide transit mode share of daily person-trips to 5% from the 1998 level of 1%.
- **Policy T-5 (Bicycle and Pedestrian Facilities):** Create a complete interconnected bicycle and pedestrian circulation system. Increase the percentage of person-trips via walking and bicycling. Provide a pedestrian and bicycle system which serves commuter as well as recreational travel.

In order to be consistent with the City's General Plan policies encouraging alternative modes of transportation, the Traffic Study completed by W-Trans evaluated the existing pedestrian,

bicycle, and transit improvements for the proposed project. In addition, the analysis done for the Traffic Study considered impacts relative to access for pedestrians, bicyclists, and buses crossing the study intersections. The study concluded that the existing pedestrian, bicycle, and transit improvements are inadequate to serve the proposed project, and made the following recommendations for proposed improvements (Appendix T.1; Pgs. 64-65):

- A pedestrian connection should be provided between the residential development site and Heather Lane, regardless of whether Foster Avenue is connected or not. If extended, sidewalk should be provided along the length of the connection. Further, the trail connecting the site to Alliance Road should be constructed as part of the project if sufficient right-of-way is available.
- In order to accommodate bicycle trips other than on the adjacent system of County roads, which are narrow and lack amenities, the trail connecting the site to Alliance Road should be constructed as part of the project if sufficient right-of-way is available. As recommended for pedestrian access, a connection should also be made across Janes Creek to connect the site to the easterly portion of Foster Avenue where bike lanes exist.

To comply with Policy T-5 (Bicycle and Pedestrian Facilities) of the Arcata General Plan Transportation Element, the Arcata Pedestrian & Bicycle Master Plan (2010), and the recommendations of the W-Trans Central Arcata Areawide Traffic Study (Appendix T.1), the proposed project will construct new on-site pedestrian/bicycle improvements throughout the development. This includes the following pedestrian/bicycle trails:

- A pedestrian/bicycle pathway through parcel 505-341-048 is proposed for access to Alliance Road that would include a crossing over Janes Creek. The proposed crossing would include the replacement of an existing overcrossing located mid-way along the eastern boundary of the residential development site. This pathway would connect the eastern edge of the residential development site to an existing paved access road that connects to Alliance Road adjacent to the Janes Creek Townhouses (South).
- A portion of the Hammond Trail is proposed to be constructed on parcel 505-161-009 along the southern boundary of the residential development site directly south of the proposed cottage units. This Class I shared-use pathway will be a minimum of 10 feet wide.
- A north-south pathway is proposed on the southeastern portion of the residential development site that will connect the Hammond Trail with the pedestrian/bicycle pathway to Alliance Road.
- Sidewalks and bike lanes will be developed within the Foster Avenue Connection to provide non-vehicular access from the residential development site to Alliance Road.
- The all-weather emergency access proposed to connect the residential development site (APN 505-161-011) with Stewart Avenue will also function as a pedestrian/bicycle pathway.

As described under Finding 3.1, these pedestrian/bicycle improvements have been included as Mitigation Measure 3.1b for the proposed project and will result in connecting the residential

development site to Alliance Road to the east and Stewart Avenue to the north (see Figure 3D [Proposed Pedestrian and Bicycle Facilities]). These improvements will provide connectivity to the existing trail systems in the project area, the bus stops along Alliance Road, and to regional trails in the Humboldt Bay area, including the Annie and Mary Trail and the Humboldt Bay Trail: Arcata to Eureka segment. It is anticipated that this increased connectivity will encourage residents to walk, bike, or use mass transit to educational, commercial, and employment centers instead of driving.

With the proposed mitigation measures, the project will 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.

Determination:

Less than significant with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures would reduce the potential impacts to a less than significant level.

Same as *Mitigation Measure 3.1b (Pedestrian/Bicycle Improvements)*.

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CHAPTER 4.

NATURAL ENVIRONMENT

The following Sections are included in this Chapter:

- Geology and Soils**
- Hydrology and Water Quality**
- Biological Resources**
- Agriculture and Forestry Resources**
- Mineral Resources**

Section 4.1

GEOLOGY AND SOILS

This section evaluates the potential impacts related to geology and soils. The Environmental Setting section describes the existing setting as it relates to geology and soils. The Regulatory Framework section describes the applicable regulations at the federal, State, and local level. The Impact Analysis section establishes the thresholds of significance, evaluates potential geological and soils impacts, and identifies the significance of impacts. Where appropriate, mitigation is presented to reduce impacts to a less than significant level.

ENVIRONMENTAL SETTING

Regional Geological Setting

The Humboldt Bay region occupies a complex geologic environment characterized by very high rates of active tectonic deformation and seismicity. The region lies just north of the Mendocino Triple Junction, the intersection of three crustal plates (the North American, Pacific, and Gorda plates). North of Cape Mendocino, the Gorda plate is being actively subducted beneath North America, forming what is commonly referred to as the Cascadia subduction zone. In the Humboldt Bay region, deformation along the continental margin occurs as a series of northwest-trending, northeast-dipping thrust faults, and intervening folds. The geomorphic landscape of the Humboldt Bay region is largely a manifestation of the active tectonic processes and a dynamic coastal environment setting.

Local Geologic Conditions

Arcata is located within the Coast Ranges Geomorphic Province of California, which is characterized by subparallel north- to northwest-trending mountain ranges and intermountain and coastal alluvial valleys and plains. Topography in the province is controlled by the predominant geological structural trends within the Coast Range that generally consist of northwest trending synclines, anticlines, and faulted blocks.

The project parcels are located on a broad, coastal alluvial plain at the northern end of Humboldt Bay. The alluvial plain is a result of fluvial deposition from the Mad River and a series of smaller creeks, including Janes Creek, which flows along the southeastern edge of the residential development site (APN 505-161-011). The coastal plain north of Humboldt Bay is commonly referred to as the “*Arcata Bottom*”, and is underlain by an unknown thickness of alluvial sediments. Borings conducted on the alluvial plain have typically encountered less than 100 feet

of recent alluvial sediment, but there may be structural or depositional complexities in the subsurface that could influence overall alluvial thickness beneath any particular site. The age of the alluvial plain sediments is not currently known. The deeper sediments are likely to be Pleistocene in age. The upper sediments are interpreted to be early to middle Holocene in age, reflecting the post-glacial rise in sea level during that period. The depth of the transition from Holocene to Pleistocene age sediments beneath the Arcata Bottom is not known. The specific nature of shallow earth materials underlying the site is discussed below.

Alluvial sediments that form the Arcata Bottom overlie early to middle Pleistocene age marine and continental deposits of the Falor Formation. As discussed above, this transition probably occurs at a depth of less than about 100 feet. The Falor formation consists of moderately consolidated sandstone, siltstone, and pebble conglomerates. Basement rock underlying the Falor Formation in the region north of Humboldt Bay is the Cretaceous age Central Belt of the Franciscan Complex (Clarke, 1992). The Central Belt Franciscan is a heterogeneous, tectonically sheared assemblage of isolated hard rock blocks of diverse origin, in a generally highly weathered, plastic siltstone or claystone matrix. This bedrock unit is commonly described as a melange due to its block-in-matrix textural character, its assemblage of disassociated rock types, and its pervasively sheared character.

Site Specific Subsurface Investigations

Extensive subsurface investigations were conducted by SHN at the residential development site (APN 505-161-011) as part of the environmental investigations following closure of the former mill site (see Appendices H & L). Four machine borings were drilled at the site, and numerous test pits were excavated throughout the site. These investigations indicate that the site is underlain by alluvial deposits, as discussed above. The alluvial deposits underlying the site consist of interbedded thin (one foot thick) to moderately thick (up to six-plus feet thick) layers of clayey silt, silty sand, sandy silt, and silty clay. There is no continuity of individual strata between boreholes, indicating the alluvial deposits are laterally discontinuous. Sediments are noted to contain plant fragments to as deep as 24 feet. Consistency of the alluvial materials ranges from loose or soft (for granular and fine grained materials, respectively) with low penetration resistance values (i.e. low blow counts) to moderately dense/stiff, typical of young, unconsolidated geologic materials. The deposits are described as dark yellowish brown with dark gray mottling.

Subsurface data also documents the presence of imported fill at the site. The site was previously a lumber mill, and part of the site history involves placement of between one and four feet of fill. The fill is primarily river run gravel, with much wood waste, and is estimated to cover as much as 80 percent of the site. The approximate volume of fill on the site was estimated at 47,000 cubic yards, based on the documented fill depths and areal extent of fill as observed in the field (SHN, 2000a). In addition, excavations associated with the removal of contaminated soils were back-filled with imported fill. These fills are discussed in detail in Section 2.10 (Hazards and Hazardous Materials) of the EIR. They are as much as nine feet deep locally at the site, and are concentrated in the southern half of the subject property.

Topography

Because the site is located on an alluvial plain (“*Arcata Bottom*”), it is associated with minimal topographic relief. The site is essentially flat to very gently southward sloping (<1% slope). It is bordered along its southeastern margin by Janes Creek, which flows in a relatively shallow channel (about six to eight feet deep). The site is about 1,300 feet northwest of the toe of Fickle Hill, the nearest upland area. Elevation at the site is approximately 22 to 28 feet above mean sea level, according to the Arcata North 7.5’ topographic quadrangle.

Site Soils

Soils on the alluvial plain in this area are tentatively mapped by the Natural Resource Conservation Service (NRCS) as the Jollygiant and Dungan series, which are typically considered prime farmland soils (Appendix V). Industrial use of the site in the past, however, has resulted in extensive modification of the site soils, including reworking of the upper soil mantle and placement of a significant amount of imported fill. LACO Associate’s (Appendix V) evaluation of test pits at the site suggested that the upper one to two feet of the soil profile were stripped off the site prior to the placement of fill. As described above, as much as 80 percent of the site is covered with fill from past industrial uses, which primarily consists of river run gravel and some wood waste.

As described above, extensive subsurface investigations were conducted by SHN at the residential development site as part of the environmental investigations following closure of the former mill site (see Appendices H & L). These investigations indicate that the site is underlain by alluvial deposits. The alluvial deposits underlying the site consist of interbedded thin (one foot thick) to moderately thick (up to six-plus feet thick) layers of clayey silt, silty sand, sandy silt, and silty clay.

Seismicity

Regional Seismic Setting

The project parcels are located in a complex, dynamic tectonic setting. Due to the dynamic crustal deformation associated with location near the Mendocino Triple Junction, there is a high level of seismicity in the region; the north coast region of California is the most seismically active region in the continental United States. Over sixty earthquakes have produced discernible damage in the region since the mid-1800s (Dengler et al., 1992). Historic seismicity and paleoseismic studies in the area suggest there are six distinct sources of damaging earthquakes in the Humboldt Bay region: 1) the Gorda Plate; 2) the Mendocino fault; 3) the Mendocino Triple Junction; 4) the northern end of the San Andreas fault; 5) faults within the North American Plate

(including the Mad River fault zone); and 6) the Cascadia Subduction Zone (Dengler et al., 1992).

Earthquakes originating within the Gorda Plate account for the majority of historic seismicity. These earthquakes occur primarily offshore along left-lateral faults, 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 5.0 to 7.5. The November 8, 1980, earthquake (magnitude 7.2) was generated 30 miles (48 km) off the coast of Trinidad, 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 strike-slip displacement. Significant historic Mendocino fault earthquakes have ranged in magnitude from 5.0 to 7.5. The September 1, 1994, magnitude 7.2 event originating west of Petrolia was generated along the Mendocino fault. Available data suggests the maximum magnitude earthquake for the Mendocino fault is magnitude 7.4 (CDMG/USGS, 1996).

The Mendocino Triple Junction was identified as a separate seismic source only after the magnitude 6.0 August 17, 1991 earthquake. Significant seismic events associated with the Triple Junction are shallow onshore earthquakes that appear to range from magnitude 5.0 to 6.0. Raised Holocene age marine terraces near Cape Mendocino suggest larger events are possible in this region.

Earthquakes originating on the northern San Andreas Fault are extremely rare, 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 1992 Petrolia earthquake (Dengler et. al., 1992).

Earthquakes originating within the North American plate can be anticipated from a number of intraplate sources, including the Mad River fault zone and Little Salmon fault. There has not been large magnitude earthquakes associated with faults within the North American plate, 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 in magnitude from 6.5 to 8.0.

The project parcels lie within the broad Mad River fault zone, which consists of a series of northwest-trending, northeast-dipping thrust faults that extend from Arcata to Trinidad. Within the Mad River fault zone, the fault nearest to the site is the Fickle Hill fault, which has an estimated maximum magnitude of 6.9 (CDMG/USGS, 1996).

The Little Salmon fault, located south of Eureka, appears to be the most active fault in the Humboldt Bay region, and is capable of generating very large earthquakes. The Little Salmon fault is a northwest-trending, southwest-vergent reverse fault. Paleoseismic studies of the Little Salmon fault indicate that the fault deforms late Holocene sediments at the southern end of

Humboldt Bay (Clarke and Carver, 1992). Estimates of the amount of fault slip for individual earthquakes along the fault range from 15 to 23 feet (4.5 to 7 meters). Radiocarbon dating suggests that earthquakes have occurred on the Little Salmon fault about 300, 800, and 1,600 years ago. Average slip rate for the Little Salmon fault for the past 6,000 years is between six and ten mm/yr. Based on currently available fault parameters, the maximum magnitude earthquake for the Little Salmon fault is thought to be between 7.0 (CDMG/USGS, 1996) and 7.3 (Geomatrix Consultants, 1994).

The Cascadia Subduction Zone (CSZ) represents the most significant potential earthquake source in the north coast region. A great subduction event may rupture along 200 km or more of the coast from Cape Mendocino to British Columbia, may be up to magnitude 9.5, and could result in extensive tsunami inundation in low-lying coastal areas (Clarke, 1992). 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. Paleoseismic studies along the subduction zone suggest that great earthquakes are generated along the zone every 300 to 500 years. Historic records from Japan describing a tsunami thought to have originated along the Cascadia Subduction Zone suggest the most recent event occurred on January 27, 1700. A great subduction earthquake would generate long duration, very strong ground shaking throughout the north coast region.

Geological Hazards

Surface Fault Rupture

The project parcels are located within the Mad River fault zone. The Mad River fault zone consists of a series of northwest-trending, northeast-dipping thrust faults, including (from south to north) the Fickle Hill, Mad River, McKinleyville, and Trinidad faults. Of these, the closest is the Fickle Hill fault, which traverses the southwestern flank of Fickle Hill and through the city of Arcata. The Fickle Hill fault projects toward, but is not expressed across the Mad River alluvial plain, presumably because the geomorphic evidence of the fault was erased during formation of the Holocene floodplain.

The State of California (per the Alquist-Priolo Earthquake Fault Zoning Act) has zoned the fault as “*active*” through Arcata, but the “*Earthquake Fault Zone*” terminates at the edge of the alluvial plain surface just southeast of the site. The residential development site is about 1,500 feet northwest of the terminus of the Fickle Hill fault shown on the State Earthquake Fault Zoning Map for the Arcata North quadrangle, and about 600 feet northwest of the nearest corner of the Alquist-Priolo Earthquake Fault Zone boundary that surrounds the mapped fault trace. If the Fickle Hill fault projects to the northwest in the subsurface beneath the alluvial plain, which is likely, it passes through or very near the subject property. Whether the fault passes through, or near, the residential development site depends on the fault projection; available geologic maps show slightly different projections. The State’s Alquist-Priolo Earthquake Fault Zone map shows the very northwestern end of the mapped fault trace bending slightly northward, such that the fault projection passes through, or just outside, the northeastern corner of the residential development site. Previous mapping by Carver, Stephens, and Young (1984), upon which much

of the Alquist-Priolo mapping is based, does not show a northward bend at the end of the mapped fault trace. On the Carver, Stephens, and Young (1984) mapping, the fault projection passes through the center of the residential development site.

Field investigation of the fault at the site would be complicated by the following: 1) the presence of fill material over much of the site; 2) previous excavations at the site that removed petroleum-contaminated soils; and 3) the unknown depth of Holocene age materials (State standards require evaluation of fault rupture potential through the Holocene, therefore, fault trench excavations would need to penetrate to Pleistocene age deposits to satisfy State criteria). Previous fault investigations along the Fickle Hill fault have not encountered discernible evidence of faulting in trench exposures; the fault appears to be “blind,” that is, it warps the overlying ground but does not extend to the ground surface. There is only a single known trenching investigation in the City of Arcata where a fault was identified in a trench. In that study, a secondary, “*antithetic*” fault was encountered well southeast of the residential development site (near intersection of Union and 7th Streets).

Strong Ground Shaking Hazard

As described above, the project parcels are located in a seismically active region with multiple nearby seismic sources. Therefore, the region is likely to experience strong seismic shaking during the project lifespan. The amount and strength of ground shaking depends on the magnitude of the earthquake, the distance to the hypocenter, type of earth materials at the site, and between the site and hypocenter. Due to the proximity of the Humboldt Bay region to the Mad River fault zone, Little Salmon fault, and the Cascadia subduction zone, the potential exists for long, sustained periods of intense ground shaking.

Local site conditions can profoundly influence the nature of seismically-induced strong ground motions. The geometry and strength properties of subsurface materials, and site topography, can influence the amplitude, frequency, and duration of ground shaking. Typically, young weakly consolidated alluvial deposits, like those underlying the residential development site, are capable of amplifying seismic ground motions, thus intensifying the damaging effects of strong earthquakes.

Liquefaction and Lateral Spreading Hazard

Liquefaction is defined as the sudden loss of soil shear strength due to a rapid increase of soil pore water pressures caused by cyclic loading from a seismic event. In simple terms, it means that a liquefied soil acts more like a fluid than a solid when shaken during an earthquake. In order for liquefaction to occur, the following are needed:

- granular soils lacking significant clay content (sand, silty sand, sandy silt, and some gravels);
- a high groundwater table; and
- a low density of the granular soils (usually associated with young geologic age).

The adverse effects of liquefaction include: local and regional ground settlement; ground cracking and expulsion of water and sand; the partial or complete loss of bearing and confining forces used to support loads; amplification of seismic shaking; and lateral spreading. Lateral spreading is defined as lateral earth movement of liquefied soils, or competent strata riding on a liquefied soil layer, downslope toward an unsupported slope face (such as a creek bank or an inclined slope face). In general, lateral spreading has been observed on low to moderate gradient slopes, but has been noted on slopes inclined as flat as one degree.

The residential development site is classified by the City of Arcata as an area with a “*moderate*” liquefaction hazard (General Plan Figure PS-a [*Hazards Map*]). Boring logs from the site indicate that subsurface materials include layers of loose, granular sediments below the water table. While much of the subsurface material underlying the site appears to contain enough clay to preclude liquefaction potential, there are significant amounts of loose, granular sediments that are subject to liquefaction under prolonged strong ground shaking. One on-site boring (see boring MW-2 in Appendix J; SHN, 1995) encountered a minimum of six feet of loose, saturated granular sediments that are associated with low to very low penetration resistance values. The water table was noted at four feet at the time of the subsurface investigation (June 1995), which suggests shallow groundwater through much of the year. Another boring at the site (MW-4 in Appendix J; SHN 1995) penetrated up to 13 feet of loose, wet, granular sediment that appears subject to liquefaction.

There is no historic documentation of liquefaction occurring in the Arcata Bottom, although there are accounts in the historic record of liquefaction events that occurred in similar environments around Humboldt Bay (Youd and Hoose, 1978). Recent paleoseismic studies of seismic sources in the region, however, indicate a potential for larger, longer duration earthquakes than those experienced through the period covered by the relatively short historic record. As such, we conclude that a liquefaction potential does exist at the site under relatively infrequent, very strong ground shaking conditions. Presumably the liquefaction potential will increase with the intensity and duration of strong ground shaking. Liquefaction potential at the site is most likely tied to the potential for future great earthquakes on the Cascadia Subduction Zone.

Slope Failure and Landslides

As described above, the residential development site is a flat alluvial plain with a less than 1 percent southward slope. As such, the site is not subject to landslide hazards. Slopes along Janes Creek may be subject to slumping or sliding, but this mass wasting will be localized along the creek, and has a negligible potential to extend beyond the City’s riparian management area and into the area proposed for development.

Unstable Geologic Units, Subsidence, or Collapse

Subsidence (e.g., settlement) is the depression of the bearing soil when a load, such as that of a building or new fill material, is placed upon it. Subsidence could occur if loose, saturated sands near the ground liquefy during severe ground shaking. Low-density sedimentary materials beneath the residential development site may be subject to consolidation and post-construction

settlement. This is not a site-specific condition, however, as it is present throughout the Arcata Bottom and has been successfully mitigated elsewhere through incorporation of basic soils engineering recommendations and adequate site preparation. Previous land use at the site (i.e., mill site, log deck, etc.) may have alleviated some of the risk associated with the consolidation hazard due to the use of heavy equipment at the site for many years and the placement of a veneer of fill over the site. Therefore, near-surface soils may have been somewhat compacted. The nature of fill soils in areas subject to contaminated soil removal are not known, and will not be known until project geotechnical engineering studies are completed. The previously documented fill veneer covering much of the site (one to four feet of river run gravel with abundant wood waste) will not be suitable for structural support.

Expansive Soils

Expansive soils 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. Structural damage may occur over a long period of time due to expansive soils, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils.

Industrial use of the site in the past has resulted in extensive modification of the site soils, including reworking of the upper soil mantle and placement of a significant amount of imported fill. LACO Associate’s (Appendix V) evaluation of test pits at the site suggested that the upper one to two feet of the soil profile were stripped off the site prior to the placement of fill. As described above, as much as 80 percent of the site is covered with fill from past industrial uses which primarily consists of river run gravel and some wood waste.

As described above, previous subsurface investigations indicate that the site is underlain by alluvial deposits. The alluvial deposits underlying the site consist of interbedded thin (one foot thick) to moderately thick (up to six-plus feet thick) layers of clayey silt, silty sand, sandy silt, and silty clay.

Soils investigations at other sites on the Arcata Bottom (e.g., SHN, 2000b; Geotechnical and Engineering Geologic Report prepared for Pacific Union School Addition) have indicated a negligible to very low risk of adverse effects associated with expansive soils.

Soil Erosion/Loss of Topsoil

Because the residential development site is flat, it is not subject to significant erosion hazards. In addition, the site’s past history as a mill facility and log deck resulted in reworking, removal, or covering of the native topsoil with up to four feet of imported fill materials. Therefore, there is a low risk of significant erosion or loss of topsoil over most of the site.

REGULATORY FRAMEWORK

State of California

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to 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 published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults. Because many active faults are complex and consist of more than one branch, each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace. Title 14 of the CCR, Section 3601(e), defines buildings intended for human occupancy as those that would be inhabited for more than 2,000 hours per year. According to Figure PS-a (*Hazards Map*) of Arcata General Plan, the residential development site (APN 505-161-011) is not located within an Alquist-Priolo Earthquake Fault Zone. Therefore, the provisions of the Act do not apply to the project.

Seismic Hazards Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690 to 2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong groundshaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act: the State is charged with identifying and mapping areas at risk of strong groundshaking, liquefaction, landslides, and other corollary hazards, with cities and counties required to regulate development within mapped Seismic Hazard Zones. Under the California Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within Seismic Hazard Zones until appropriate site-specific geologic and/or geotechnical investigations have been conducted and measures to reduce potential damage have been incorporated into the development plans. The California Geological Survey has not yet evaluated the project area under the Seismic Hazards Mapping Act.

California Building Code

The State of California provides minimum standards for building design through the California Building Code (CBC). Where no other building codes apply, CBC Chapter 29 regulates excavation, foundations, and retaining walls. The CBC applies to building design and construction in the State and is based on the federal Uniform Building Code (UBC) used widely throughout the country. The CBC has been modified for California conditions with numerous

more detailed and/or more stringent regulations. Specific minimum seismic safety and structural design requirements are set forth in CBC Chapter 16. The Code identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and Appendix Chapter A33 regulates grading activities, including drainage and erosion control, and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

City of Arcata

Arcata General Plan

The City of Arcata General Plan contains guidelines for geology and soils within the Resource Conservation and Management Element and the Public Safety Element. Table 4.1-1 contains a list of policies from the Arcata General Plan that are applicable to the proposed project.

Table 4.1-1 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|----------------------------------|---|-------------------------|
| RC-9 Soils and Mineral Resources | Conserve and manage soil and mineral resources. | RC-9a and RC-9b |
| PS-2 Seismic Hazards | Protect existing and new structures from seismic hazards. Identify and map seismic hazards and assure that any development within such hazard areas does not proceed until geologic and soils conditions are adequately investigated and appropriate geotechnical recommendations, if any, are incorporated into development plans. | PS-2a - PS-2d and PS-2g |
| PS-3 Other Geologic Hazards | Protect existing and new structures from non-seismic geologic hazards such as unstable slopes and soils. Require that all non-seismic geologic hazards be adequately addressed and mitigated. | PS-3a, PS-3b, and PS-3e |

Arcata Land Use Code

The City of Arcata Land Use Code addresses geologic hazards and grading activity within Chapters 9.62 (Geologic Hazard Review) and 9.64 (Grading, Erosion, and Sediment Control). Table 4.1-2 contains a list of requirements from the Arcata Land Use Code that are applicable to the proposed project.

Table 4.1-2 Applicable Land Use Code Requirements

| Policy | Objective | Applicable Sub-Policies |
|-----------------------------|---|-------------------------|
| 9.62 Geologic Hazard Review | Provide procedures for the filing, processing, and approval or disapproval of applications for Geologic Hazard Review, to protect the health, safety, and welfare of the residents of the City by minimizing the risk from carrying out | 9.62.010 - 9.62.050 |

| Policy | Objective | Applicable Sub-Policies |
|---|--|-------------------------|
| | development in areas subject to geologic and/or seismic hazards. | |
| 9.64 Grading, Erosion, and Sediment Control | Establishes minimum standards and regulations for grading activities as well as construction and post-construction runoff control criteria to prevent unreasonable or unnecessary erosion and sediment production and related degradation of the City's stormwater drainage systems. | 9.64.010 - 9.64.080 |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if it meets any of the following criteria.

If the project would:

- Expose people or structures to potential substantial adverse seismic effects, including the risk of loss, injury, or death involving: 1) 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; 2) strong seismic ground shaking; 3) seismic-related ground failure, including liquefaction; or 4) 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- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have 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.

Arcata General Plan

Table 4.1-3 Project Consistency with General Plan

| Policy | Consistency Analysis |
|---|--|
| RC-9 Soils and Mineral Resources (RC-9a, RC-9b) | <p>RC-9a. The project parcels are located on a low relief mostly flat alluvial floodplain that is not subject to land sliding hazard.</p> <p>RC-9b. The low relief nature of the project parcels significantly reduces the potential for erosion during construction of the proposed project. Most topsoil on the residential development site has been removed, reworked, or buried during previous mill operations. Areas of remaining prime agricultural soil are primarily outside the areas of development. The exceptions are the offsite improvements including the expansion of Ennes Park and emergency access road, which will require mitigation for the permanent conversion of prime agricultural soils.</p> |
| PS-2 Seismic Hazards (PS-2a-d, PS-2g) | <p>PS-2a. Consistent with this policy, the proposed project will be subject to the most current Uniform Building Code (UBC), which will reduce hazards associated with surface fault rupture and require that buildings are designed to withstand effects of seismic hazards.</p> <p>PS-2b. Consistent with this policy, the proposed project will be subject to the most current Uniform Building Code (UBC), which will reduce hazards associated with ground shaking hazards.</p> <p>PS-2c. The residential development site is not located within an Alquist-Priolo Special Study Zone and a geotechnical report will be required during the project design phase that shall contain recommendations for minimizing seismic hazards related to liquefaction.</p> <p>PS-2d. Consistent with this policy, a geotechnical report will be required during the project design phase that shall contain recommendations for minimizing seismic hazards.</p> <p>PS-2g. Consistent with this policy, the proposed project will incorporate current UBC standards to strengthen buildings and construct foundations and infrastructure to withstand earthquakes.</p> |
| PS-3 Other Geologic Hazards (PS-3a, b, e) | <p>PS-3a. Consistent with this policy, the project parcels are located on a low relief alluvial floodplain that is not subject to slope related stability hazards.</p> <p>PS-3b. Consistent with this policy, the low relief nature of the project parcels significantly reduces the potential for erosion during construction of the proposed project. Most topsoil on the residential development site has been removed, reworked, or buried during previous mill operations.</p> <p>PS-3e. Consistent with this policy, geotechnical reports shall be prepared during the project design phase.</p> |

Arcata Land Use Code

Table 4.1-4 Project Consistency with Land Use Code

| Policy | Consistency Analysis |
|--|--|
| 9.62 Geologic Hazard Review (Sections 9.62.010 through 9.62.050) | The proposed project will be subject to the City’s Geologic Hazard Review which will require the preparation of geologic and soils reports that will contain recommendations for minimizing geologic and seismic hazards for the proposed development. |
| 9.64 Grading, | Consistent with this chapter, the proposed project will be required to obtain |

| Policy | Consistency Analysis |
|--|---|
| Erosion, and Sediment Control (Sections 9.64.010 through 9.64.080) | grading permits and comply with the City's Grading, Erosion, and Sediment Control requirements which will ensure that the proposed grading meets minimum standards for public safety, will produce minimal erosion and sediment, will protect water quality and the City stormwater drainage systems, and will not degrade natural resources. |

Proposed Project

Finding 4.1.1: Expose People or Structures to Potential Substantial Adverse Seismic 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.

Discussion:

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. Surface rupture can damage or collapse buildings, cause severe damage to roads and pavement structures, and cause failure of overhead as well as underground utilities.

According to Figure PS-a (*Hazards Map*) of the Arcata General Plan, the project parcels are not located within an Alquist-Priolo Zone. The project parcels lie within the broad Mad River fault zone, which consists of a series of northwest-trending, northeast-dipping thrust faults that extend from Arcata to Trinidad. Within the Mad River fault zone, the fault nearest to the site is the Fickle Hill fault, which has an estimated maximum magnitude of 6.9 (CDMG/USGS, 1996).

The Fickle Hill fault is zoned as an active fault per criteria of the State's Alquist-Priolo Earthquake Fault Zone Act (A-P Act). The fault (with its associated Earthquake Fault Zone) is mapped as traversing the City of Arcata, but due to the absence of identifiable surface expression across the Arcata Bottom (presumably the fault is buried beneath the floodplain), its location is uncertain and the fault is not mapped onto the bottomlands. As such, the residential development site is not within an Alquist-Priolo Earthquake Fault Zone, and is not subject to the requirements of the A-P Act. Since the project area is not traversed by a known active fault and is not within 200 feet of an active fault trace, surface fault rupture is not considered to be a significant hazard for the development proposed on the project parcels.

Therefore, the proposed project will not expose people or structures to potential substantial adverse seismic effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.

Determination:

Less than significant impact.

Mitigation:
None required.

Finding 4.1.2: Expose People or Structures to Potential Substantial Adverse Seismic Effects, including the Risk of Loss, Injury, or Death Involving Strong Seismic Ground Shaking.

Discussion:

The project area is located within the northern Coast Ranges Geologic Province, which is a seismically active region in which large earthquakes may be expected to occur during the anticipated lifespan of any development on the residential development site (APN 505-161-011). Great, very large earthquakes are possible. Strong seismic shaking is a regional hazard, and is not specific to the site. Geologically young, relatively unconsolidated alluvial deposits underlying the site may amplify seismic ground motions relative to nearby upland areas.

According to Figure PS-a (*Hazards Map*) of the Arcata General Plan, the project parcels are not located within an Alquist-Priolo Zone. The project parcels lie within the broad Mad River fault zone, which consists of a series of northwest-trending, northeast-dipping thrust faults that extend from Arcata to Trinidad. Within the Mad River fault zone, the fault nearest to the residential development site is the Fickle Hill fault, which has an estimated maximum magnitude of 6.9 (CDMG/USGS, 1996).

The State of California provides minimum standards for building design through the California Building Code (CBC). Where no other building codes apply, CBC Chapter 29 regulates excavation, foundations, and retaining walls. The CBC applies to building design and construction in the State and is based on the federal Uniform Building Code (UBC) used widely throughout the country. The CBC has been modified for California conditions with numerous more detailed and/or more stringent regulations. Specific minimum seismic safety and structural design requirements are set forth in CBC Chapter 16. The Code identifies seismic factors that must be considered in structural design. Adherence to City and State seismic building standards will reduce impacts from strong seismic ground shaking to a less than significant level.

Therefore, the proposed project will not expose people or structures to substantial adverse effects involving strong seismic ground shaking.

Determination:
Less than significant impact.

Mitigation:
None required.

Finding 4.1.3: Expose People or Structures to Potential Substantial Adverse Seismic Effects, including the Risk of Loss, Injury, or Death Involving Seismic-Related Ground Failure, Including Liquefaction.

Discussion:

According to Figure PS-a (*Hazards Map*) of the Arcata General Plan, the project area is in a moderate liquefaction zone. Subsurface borings indicate that liquefiable sediments are present beneath the residential development site. Although there is no historic documentation of liquefaction events on the Arcata Bottom, there are accounts of liquefaction occurring in similar environments around Humboldt Bay. The liquefaction potential presumably will increase with the size and duration of the triggering earthquake. As such, liquefaction potential is highest for great earthquakes associated with the Cascadia Subduction Zone.

Liquefaction-related damage to structures can be mitigated through a variety of engineered solutions. These solutions focus on improvement of the structure's foundation, or on preparation of site soils to reduce the liquefaction potential. For this project, the fill veneer of river run gravel that covers much of the residential development site (APN 505-161-011) may need to be removed prior to grading and the development of residential structures. Mitigation of liquefaction potential through foundation engineering typically involves deep foundation elements (i.e., piers) that penetrate to non-liquefiable sediments, or reinforcement of shallow foundations through thickening and/or addition of reinforcing steel. The liquefaction potential of soils at the site can be reduced by various currently available deep compaction methods. Typical compaction techniques include vibratory compaction, dynamic compaction (i.e., repeated application of high intensity impacts at the ground surface), grouting, or temporary surcharge loading (i.e., placing temporary soil fill on the site).

To minimize potential damage to the proposed residential structures caused by liquefaction, all project construction will comply with the latest California Building Code (CBC) standards, as required by the City of Arcata General Plan and Land Use Code. In addition, City of Arcata General Plan Policy PS-2d (*Requirement for and review of "Geotechnical Reports"*) requires the preparation of geotechnical reports during the project design phase which will contain engineering recommendations to minimize the potential for liquefaction.

The presence of a low streambank along Janes Creek provides the opportunity for limited lateral spreading, but this impact is likely to be confined to riparian areas that are not included in the area proposed for residential development.

Therefore, in compliance with the latest CBC standards and the Arcata General Plan, the proposed project will not expose people or structures to substantial adverse seismic effects involving seismic-related ground failure, including liquefaction.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.1.4: Expose People or Structures to Potential Substantial Adverse Seismic Effects, including the Risk of Loss, Injury, or Death Involving Landslides.

Discussion:

The project parcels are located on a low relief alluvial floodplain that is not subject to slope related stability hazards. Ground surface elevations within the residential development site (excluding Janes Creek) range from 22 to 28 feet (NAVD). There are no significant natural hill slopes and no cut or fill slopes in the project area. The residential development site is essentially flat to very gently southward sloping (<1% slope). The project parcels are generally surrounded by relatively flat ground other than the Janes Creek channel.

Therefore, the proposed project will not expose people or structures to potential substantial adverse effect involving landslides.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.1.5: Result in Substantial Soil Erosion or the Loss of Topsoil.

Discussion:

The low relief nature of the project parcels significantly reduces the potential for erosion during construction and long-term operation of the proposed project. The residential development site (APN 505-161-011) was previously a lumber mill, and part of the site history involved the placement of between one and four feet of fill. The fill is primarily river run gravel, with much wood waste, and is estimated to cover as much as 80 percent of the site (SHN, 2000a). LACO Associate's (Appendix V) evaluation of test pits at the site suggested that the upper one to two feet of the soil profile were stripped off the site prior to the placement of fill.

Construction

As described in Section 4.2 (Hydrology and Water Quality) of the EIR, the project will be subject to the requirements of the State Water Resources Control Board (SWRCB) Construction General Permit (CGP) which requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). A program containing construction Best Management Practices (BMPs) would be prepared and implemented as part of the SWPPP. Since some of the proposed construction activities would not be restricted to the dry months of the year, erosion control BMPs would be implemented to confine sediment to the construction area and prevent transportation off-site or discharge into Janes Creek. The project will also be subject to the erosion and sediment control requirements contained in Section 9.64 (*Grading, Erosion, and Sediment Control*) of the Arcata Land Use Code.

Operation

Operation and maintenance of the proposed residential development is not expected to result in increased erosion. As required by the Construction General Permit and SWPPP, as well as Section 9.64 (*Grading, Erosion, and Sediment Control*) of the Arcata Land Use Code, disturbed areas at the residential development site must be left in a stabilized condition with adequate erosion control measures at the completion of construction. The stormwater system proposed for the development will be designed to comply with the Phase II Small MS4 General Permit requirements, which will control the volume and flow rate of run-off on-site and prevent substantial erosion or siltation during storm events. Vegetated areas (e.g. site landscaping and native plantings in the wetland mitigation area and stormwater features) would be maintained and irrigated as needed to ensure vegetation remains established. Operation of the proposed project is therefore not expected to increase erosion.

Areas of remaining prime agricultural soil are outside the parcel proposed for residential development (APN 505-161-011). However, the expansion of Ennes Park and emergency access road will be developed on prime agricultural soils, which will result in the loss of topsoil that could have otherwise been available for agricultural production. As discussed in Section 4.4 (Agriculture and Forestry Resources) of the EIR, this requires mitigation for the permanent conversion of prime agricultural land. Mitigation Measure 4.4.1a has been included for the proposed project requiring a conservation easement on parcel 505-151-001 that would ensure the permanent protection of over 22 acres of prime agricultural lands within the City's Sphere and Influence.

Therefore, in compliance with the requirements of the Arcata Land Use Code and with the proposed mitigation measures included in other sections of the EIR, the proposed project will not result in substantial soil erosion or the loss of topsoil.

Determination:

Less than significant impact with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures, included in other sections of the EIR as described above, would reduce the potential impacts to a less than significant level.

Same as *Mitigation Measure 4.4.1a (Conservation Easement)*.

Finding 4.1.6: 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.

Discussion:

As described above under Finding 4.1.4, the project parcels are located on a low relief alluvial floodplain that is not subject to slope related stability hazards. Ground surface elevations within the residential development site (excluding Janes Creek) range from 22 to 28 feet (NAVD). There are no significant natural hill slopes and no cut or fill slopes in the project area. The

residential development site is essentially flat to very gently southward sloping (<1% slope). The project parcels are generally surrounded by relatively flat ground other than the creek channel. As such, the proposed project has a limited potential to cause landslides on or offsite.

Lateral spreading is a phenomenon in which soils move laterally during seismic shaking and is often associated with liquefaction. The amount of movement depends on the soil strength, duration and intensity of seismic shaking, and free face geometry. The presence of a low streambank along Janes Creek provides the opportunity for limited lateral spreading, but this impact is likely to be confined to riparian areas that are not included in the area proposed for residential development. As such, the proposed project has a limited potential to cause lateral spreading on or offsite.

As described above under Finding 4.1.3, according to Figure PS-a (*Hazards Map*) of Arcata General Plan, the project area is in a moderate liquefaction zone. Subsurface borings indicate that liquefiable sediments are present beneath the residential development site (APN 505-161-011). The liquefaction potential presumably will increase with the size and duration of the triggering earthquake. As such, liquefaction potential is highest for great earthquakes associated with the Cascadia Subduction Zone. Liquefaction-related damage to structures can be mitigated through a variety of engineered solutions. These solutions focus on improvement of the structure's foundation, or on preparation of site soils to reduce the liquefaction potential. Consistent with City of Arcata General Plan Policy PS-2d (*Requirement for and review of "Geotechnical Reports"*), a geotechnical report will be required during the project design phase that shall contain engineering recommendations to minimize the potential for subsidence, liquefaction, or collapse.

Therefore, the proposed project will not 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.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.1.7: Be Located on Expansive Soil, as Defined in Table 18-1-B of the Uniform Building Code (1994), Creating Substantial Risks to Life or Property.

Discussion:

Expansive soils 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. Structural damage may occur over a long period of time due to expansive soils, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils.

As described above in the Environmental Setting, approximately 80% of the residential development site (APN 505-161-011) is covered with fill from past industrial uses, which primarily consists of river run gravel and some wood waste. The underlying soils are alluvial deposits which consist of interbedded thin (one-foot thick) to moderately thick (up to six-plus feet thick) layers of clayey silt, silty sand, sandy silt, and silty clay. Subsurface materials at the residential development site, and on the other parcels proposed for offsite improvements, are typically associated with a low risk of adverse effects associated with expansive soils. Soils investigations at other sites on the Arcata Bottom (e.g. SHN, 2000b; Geotechnical and Engineering Geologic Report prepared for Pacific Union School Addition) have indicated a negligible to very low risk of adverse effects associated with expansive soils.

Therefore, the proposed project will not create substantial risks to life or property associated with expansive soils.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.1.8: Have 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.

Discussion:

City of Arcata's wastewater sewage treatment is available for and will be used by the proposed project. No onsite waste disposal system will be required, and onsite wastewater treatment systems are not allowed within City limits per City ordinances.

Therefore, the project will not have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewer is not available for the disposal of waste water.

Determination:

No impact.

Mitigation:

None required.

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Section 4.2

HYDROLOGY AND WATER QUALITY

This section evaluates the potential impacts related to hydrology and water quality during construction and operation of the proposed project. To provide the basis for this evaluation, the Environmental Setting section describes the hydrological and water quality setting for the project area, including regional and local surface water and groundwater characteristics. Descriptions in this section are based on reviews of published information, reports, and plans regarding regional and local hydrology, climate, topography, and geology. The Regulatory Framework section defines the applicable regulations at the federal, State and local level. The Impact Analysis section establishes the thresholds of significance, evaluates potential hydrology and water quality impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce potential impacts to a less-than-significant level.

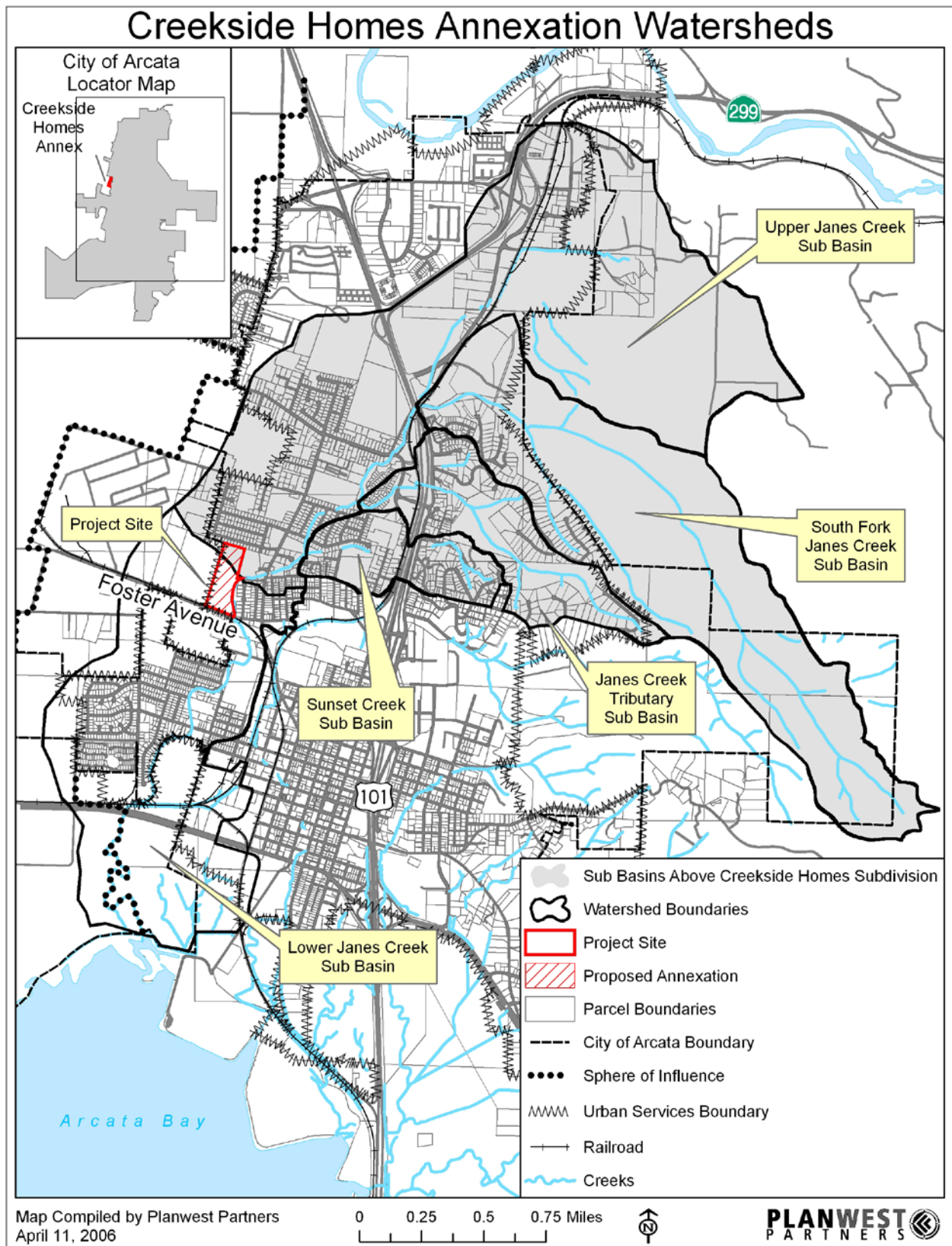
ENVIRONMENTAL SETTING

Hydrology

Hydrology in the project area is influenced by Pacific Ocean weather patterns, Humboldt Bay, and the Janes Creek watershed. Generally, air temperature averages about 52 degrees Fahrenheit, and ranges from the low 30s to around 80 degrees. Average annual rainfall is approximately 38 inches per year, based on historic records for 1961 through 2015. Storms generated by the Pacific Ocean contribute high amounts of annual rainfall between October and March. In some years, additional significant rainfall occurs through April. During the remainder of the year, coastal marine influences result in fog that at times is dense enough to generate moisture in the form of mist. Seasonal rainfall is often high in intensity and results in surface water runoff. Consequently, stream flows are typically high in the winter, and many of Arcata's small streams have little flow in late summer.

The Janes Creek watershed emanates from the coastal mountains northeast of the Arcata Bottom. The total watershed area (see Figure 4.2A [Watersheds]) is about 3.9 mi². Janes Creek drains approximately 2,500 acres through forest, an industrial complex, urban areas, and low elevation pasture before discharging into Arcata Bay. The upper watershed of Janes Creek above the City of Arcata is comprised of steep uplands with mature redwood forests and limited home site developments. The lower portion of the watershed winds through residential and commercial properties and has a low stream gradient, meanders widely, and has a streambed composed of very fine sediments. Pasturelands and urban development influence much of this portion of the waterway by way of point and nonpoint source pollution. In some of the lower portions of the creek bank, erosion is high, vegetation conditions are poor, and anaerobic conditions exist during low-flow periods characteristic of the "dry" season.

Figure 4.2A Watersheds



Channel clogging is a problem in the creek; it is caused by sedimentation, flat topography, and particular types of vegetation such as Reed canary grass. Janes Creek flows through numerous culverts within the City and ultimately into Arcata Bay.

Recent restoration work has removed invasive species along the lower reaches of the creek and has restored the Janes Creek estuary, including the removal of tide gates and planting of native species. According to the Resource Conservation and Management Element (Chapter 4) of the City of Arcata General Plan, Janes Creek is a Class 1 fish-bearing stream and protected watercourse. Janes Creek and on-site wetlands contribute to the project's surface water hydrology and are discussed below.

Surface Water Hydrology

Janes Creek

The southeast boundary of the residential development site (APN 505-161-011) contains an approximately 800 foot section of Janes Creek and associated riparian corridor. Janes Creek enters the site from the northeast, flows in a general southeast direction, and exits the site at Foster Avenue. The 100-year floodplain for Janes Creek covers a small portion of the site within the riparian corridor. The project area is situated at an elevation of approximately 20 to 25 feet above mean sea level, in the relatively flat alluvial plain of the Mad River referred to as the Arcata Bottom. The site is mostly level, with a gentle slope from the northeast to the southwest.

The residential development site's reach of Janes Creek occupies a channelized riparian corridor that is approximately three miles upstream of the creek's mouth at Arcata Bay. Janes Creek enters the site at an approximately 54-inch concrete box culvert located directly west of the Heather Lane cul-de-sac. The creek flows in a southern direction along the eastern boundary of the site, and maintains a fairly straight course. At approximately 200 feet from Foster Avenue the creek course bends east, then continues in a southern direction until reaching Foster Avenue, where it passes under the railroad track through an approximately 78-inch corrugated metal pipe (CMP) culvert at the southeast corner of the residential development site. Upstream from the site, Janes Creek passes through a reinforced concrete block (RCB) culvert at Alliance Road, just south of Westwood Court, and flows in a southwest direction. Downstream of the residential development site, Janes Creek flows in a southeast direction through residential, commercial, and light industrial properties, and passes through a 48-inch CMP culvert at 17th Street.

Generally, the reach of Janes Creek within the project area is fairly straight and has a V-shaped channel configuration. The creek's gradient within the project area is approximately two percent. The reach appears to have a reasonable flood containment capacity; however, culvert presence creates a partial constriction of flood flows. Willows provide riparian canopy over much of the project reach of Janes Creek, with willow trunks protruding into the low flow channel and thus contributing to local channel hydraulic diversity. Plantings along some areas of the west and east banks over 25 years ago appear to be in good condition, and are now providing shade and other ecological benefits to the stream.

Groundwater

Important groundwater resources in Arcata include several aquifers under the Mad River delta that is now the Arcata Bottom. Shallow aquifers in the low areas west and north of downtown Arcata supply numerous wells that are generally less than 100 feet deep. Exploration by the City of Arcata for a deep, confined aquifer that could serve as a municipal water source found inadequate flow at a test well on the south end of town. Explorations by the City in north Arcata, near Heindon Road, found a shallow aquifer at depths up to 50 feet, a second aquifer at depths of 130-140 feet, and a confined deep aquifer at depths of 150-190 feet.

SHN Consulting Engineers and Geologists, Inc. conducted a series of subsurface soil and groundwater investigations at the residential development site, which is a former mill site (see Appendices H & L). Soils work indicate the presence of a sequence of Holocene age stream deposits (Janes Creek alluvium) overlain by up to 4 feet of fill associated with previous industrial use of the former mill site. This fill mostly consists of river run gravel and wood waste (SHN, 2000).

In the area of the former mill site parcel (APN 505-161-011), shallow unconfined to semi-confined groundwater is present in the alluvial deposits. Confined groundwater is also present in deeper alluvial deposits, and is separated from the shallow groundwater by low permeability silty clay and very clayey silt (Appendix N; SHN, 1997). According to LACO Associates' (LACO) soils investigation of May 2002 (Appendix V), groundwater was generally encountered between 2.0 and 4.5 feet below ground surface (bags), predominantly flowing in a southeast direction at a very shallow gradient of less than one percent. When encountered, groundwater recharge into the soil test pits was relatively rapid (Appendix V). The speed of groundwater recharge is most likely due to a perched groundwater table that has a greater hydrologic connection with Janes Creek than other deeper aquifers.

Stormwater Drainage

Due to the inherent characteristics of the City's drainage system, Arcata is subject to relatively frequent and extensive high flows in several of its small creeks. Arcata creeks originate on the hillsides, so rainfall rapidly drains to creeks and flows down to the center of town. The center of town is also relatively flat, which causes creeks to slow down, deposit sediment, and widen in developed areas that are most susceptible to flood damage. The accumulation of sediment and debris reduces the ability of creeks to convey high flows. Urbanization causes higher runoff rates and reduces the wetland areas available for high flows to infiltrate into groundwater or be detained. Also, creeks and riparian areas have been extensively straightened and altered with the presence of culverts. Such modifications have reduced in-channel storage for floods, causing floodwaters to accumulate more quickly.

Generally, stormwater runoff from the residential development site flows overland in a southern direction on an approximately one percent slope and discharges directly into Janes Creek or into various drainage ditches found within and adjacent to the site; flow is then transported to Janes Creek. Stormwater from the residential properties north and east of the site is transported via a concrete pipe culvert to Janes Creek approximately 250 feet downstream from Alliance Road.

Stormwater from the neighborhoods immediately east of the site is transported via a 24-inch RCP culvert, which then connects to the 78-inch CMP culvert under Foster Avenue at the southeast corner of the site.

Most of the residential development site is currently surfaced with compacted river run gravel and some wood waste. There appears to be a concentration of fill on the northwest quadrant of the parcel given the heightened elevation of that area in contrast to the topographical trend of the site. This parcel generally slopes in a southern direction, at a one percent gradient, with elevations ranging from approximately 28 feet at the north end to 22 feet at the south end. The north end of the parcel appears to drain southeast, towards Janes Creek, into a ditch situated along the east corner of the property. The south end of the parcel drains towards the southern property boundary into drainage ditches along the railroad track, parallel to Foster Avenue. Culverts connect these ditches at each access point to the parcel so that runoff may flow east towards Janes Creek. However, flow in the drainage ditches appears constricted and/or restricted. After significant rainfall events, water appears perched on portions of the parcel. This is perhaps due to decreased infiltration from the compacted river run gravel fill and silty clay loam soil. The residential development site already has a high runoff coefficient in comparison to normal vacant ground due to the fill and compaction thereof.

Flooding

Janes Creek presents flooding problems because it flows through many urbanized areas, is channelized in several sections, and has sediment accumulation. The City's ability to relieve these problems is limited because little land is available for flood storage or other mitigating improvements. However, most of Arcata is not subject to extensive major floods because it is not near a major river and because high creek flows drain into Arcata Bay.

The Federal Emergency Management Agency (FEMA) has developed mapping of Special Flood Hazard Areas (SFHA) in the City of Arcata, which participates in the National Flood Insurance Program (NFIP). An SFHA is defined as an area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any give year. Special Flood Hazard Areas in the City of Arcata include the following:

- A small area between Giuntoli Road and the Mad River;
- Janes Road and much of the neighborhoods east of Janes Road near Mad River Hospital;
- A corridor of about one block on either side of Janes Creek from where West End Road crosses under U.S. 101 southwest through the city;
- The Larry Street neighborhood in the Arcata Bottom;
- Most of the land south of Samoa Boulevard except for most of the neighborhoods on E Street to I Street; and
- Most of the land between Old Arcata Road and Humboldt Bay, including U.S. 101.

The City of Arcata has recently developed a Long Term Drainage Maintenance Program, which covers over seventy sites in the City including portions of Janes Creek and its tributaries. Implementation of this program will allow the City to conduct annual maintenance activities including removing obstructions from drainage swales and culverts to restore capacity and reduce localized flooding. This program also includes improvements to existing drainage infrastructure such as widening and relocating drainage swales, culvert replacement, grading to alter drainage patterns and reduce seasonal flooding, and stream bank stabilization. The two closest maintenance sites on Janes Creek occur downstream of the residential development site. These sites are identified as #64A and #64B in the mapping (Sheet 5 of 10) for the City’s Long Term Drainage Maintenance Program (City of Arcata, 2016b).

Flooding does not occur on the residential development site either in response to major rainstorms or infrequent, extreme high ocean tides, or coincident with regular high Humboldt Bay tides. However, as shown on the Flood Insurance Rate Maps (Community Panel Numbers 06023C06090F and 06023C0689F; Revised Nov. 4, 2016), the southeastern boundary of the site along Janes Creek is in the FEMA 100-Year Floodplain. Figure 4.2B shows the FEMA National Flood Hazard Layer (2017) for the residential development site. The proposed residential structures will be developed outside of the 100-Year Floodplain.

Figure 4.2B FEMA National Flood Hazard Mapping (2017)



The Mad River poses a flood hazard for Arcata. The highest Mad River flood on record was in 1964, with an estimated flow of 81,000 cubic feet per second. This flood flowed across the Arcata Bottom into Arcata Bay and caused significant damage, although little damage was within the city limits (Flood Insurance Study, Federal Emergency Management Agency, 2015).

The worst-case flood of the Mad River would occur if there was a catastrophic failure of the Matthews Dam. Studies of how the resulting flood wave would travel down the river and onto the coastal flood plain in Arcata indicate that this event would result in temporary inundation of the Arcata Bottom and several neighborhoods on the west side of the City. The project parcels are mapped in Humboldt Bay Municipal Water District's (HBMWD) "Emergency Action Plan for R.W. Mathews Dam" as being within anticipated maximum reach of floodwaters resulting from catastrophic failure of the dam, in conjunction with winter floods the size of those occurring in 1964. The project is outside of the inundation area for the "*sunny day summer flow conditions with piping failure*" (HBMWD, 1999, Inundation Map – Sheet 13 of 13). In a seismic or flood event of a magnitude great enough to cause dam failure, persons present at the site would most likely leave the site before flooding occurred due to the adequate lead time of 7-15 hours before it is estimated flooding would reach this area (7 hours to reach the area and 15 hours to peak).

Storm tides pose another flood risk to parts of Arcata. The 100-year storm tide elevation in Arcata Bay has been estimated as 6.5 feet above normal elevations. The FEMA 100-year flood maps indicate that such coastal floods are expected to inundate only the immediate vicinity of tidal waters and none of Arcata's neighborhoods.

Water Quality

Municipal Water Supply

Arcata's municipal water supply is purchased from Humboldt Bay Municipal Water District (HBMWD) (see section 2.11 [Utilities and Service Systems] for a discussion of the municipal water supply system). The HBMWD treats the water with chlorine to kill disease organisms. Before distributing the water, the City of Arcata fluoridates it and boosts the chlorine concentration to prevent bacteria growth in distribution pipes. This water supply is of high quality, with all applicable drinking water standards being met consistently. During high flows in the Mad River, the turbidity of the water increases, which requires higher chlorination to guarantee complete disinfection; therefore, during wet weather Arcata tap water can be slightly cloudy and have more chlorine.

Wastewater Collection & Disposal

Currently, municipal wastewater treatment is not available to residents located in the unincorporated area along Foster Avenue. Domestic wastewater treatment is accomplished through private on-site septic systems. Upon annexation of the residential development site (APN 505-161-011), wastewater service would be available through the City of Arcata.

Arcata's wastewater collection system consists of pipes, manholes, and lift stations. The collection system drains via gravity, to eight lift stations. Wastewater is pumped from the lift stations to the wastewater treatment facility. There are numerous studies illustrating the degree

of infiltration and inflow into the City's collection system. Infiltration and inflow is water flowing into the collection system from an outside source such as groundwater or surface drainage. This condition is especially prevalent during the peak wet weather season.

Wastewater that would be generated by the project would flow to the western lift station before reaching the marsh treatment system. As described in Section 2.11 (Utilities and Service Systems) of the EIR, there is an existing sewer line along Foster Avenue adjacent to the residential development site. The north town sewer interceptor passes through the agricultural parcel west of the site and carries wastewater from the northern part of Arcata to the wastewater treatment plant.

Wastewater is treated by the City's wastewater treatment plant and marsh systems. The wastewater treatment plant facilities include headworks, primary clarifiers, oxidation ponds, treatment wetlands, enhancement wetlands, and chlorine disinfection. Solids removed in the primary clarifiers are treated in anaerobic digesters and solids drying beds (City of Arcata, 2016a). The treatment plant is designed for an average dry weather flow of 2.3 million gallons per day, and a peak wet weather flow of 5.0 million gallons per day. The City is currently at approximately 70 percent of dry weather design flow (City of Arcata, 2016c). The City regulates wastewater disposal, including industrial pretreatment standards, according to Chapter 2, Title VII of the Arcata Municipal Code. Wastewater treatment at the Arcata plant includes the following steps:

- Primary treatment using clarifiers (settling tanks) to remove solids and organic matter;
- Secondary treatment using oxidation ponds to remove additional organic matter;
- Additional organic matter and nutrient removal using treatment marshes;
- Mixing with outflow from the marshes at the Arcata Marsh and Wildlife Sanctuary; and
- Chlorination to kill disease organisms, followed by removal of the chlorine (which is toxic to aquatic life).

Under normal conditions, treated wastewater is discharged to Arcata Bay after flowing through the Arcata Marsh. About half of the Arcata Marsh outflow is returned to the treatment plant for mixing, and the rest discharged into Arcata Bay.

Arcata's wastewater treatment system must comply with regulatory requirements established by its National Pollutant Discharge Elimination System (NPDES) permit issued by the California Regional Water Quality Control Board. As described in the City's Wastewater Treatment Facility Improvements Project Report (2016a), effluent monitoring data shows that there have been ongoing exceedances of discharge limits on total suspended solids (TSS), biochemical oxygen demand (BOD, a measure of biodegradable organic matter), pH, dichlorobromomethane, chronic toxicity, chlorine, and fecal coliform since 2004.

In 2012, the City's wastewater treatment system began operating under a new NPDES permit that specifically addressed several long-term issues regarding disinfection, treatment units, and outfalls. The new permit enabled changes to be made to improve wastewater treatment, protect

beneficial uses, increase energy efficiency, reduce chemical usage, and reduce the potential for permit violations. Improvements to the City's wastewater treatment system that are required as part of the 2012 NPDES permit includes the following:

- 1) Conversion of the flow configuration to a single pass disinfection system and discharge through a new outfall of 5.9 mgd. Piping, screening, pumps, and pump station modifications will be required to switch to single pass flow through the system.
- 2) Construction of a new UV disinfection system for the disinfection of secondary effluent up to 5.9 mgd. The UV process will eliminate the disinfection by-product formation and permit violations that are occurring with the use of chlorine.

In response to the new permit requirements, the City initiated a Facility Plan and plant improvement project (2016a) to address several issues including:

- Ongoing NPDES permit violation and regulatory compliance.
- Need to repair or rehabilitate (R&R) aging infrastructure and address deferred maintenance.
- Providing reliable capacity and treatment for both wet and dry weather flows now and into the future.

The facility plan provides overall direction for current permit compliance as well as a future Capital Improvements Program (CIP) needed to maintain the treatment facility assets, repair, and rehabilitate existing assets, and modernize the facility to meet current levels of service. As part of the facility plan, the wastewater treatment plant facilities were evaluated for their overall condition. The findings from the assessment indicate that a majority of the mechanical equipment has exceeded its expected life, and that major structures are also starting to approach the end of their useful life. Based on the conditions assessment and capacity evaluations conducted as part of the Facility Plan, numerous facilities will need to be improved in the next ten years based on their expected useful life and current condition. Facilities that will be improved as part of this plan include the headworks, primary clarifiers, anaerobic digesters, and sludge heating/mixing systems. Other improvements to the wastewater treatment system that are proposed in the Facility Plan include the following:

- 1) Removal of solids and vegetation from the oxidations ponds and treatment wetlands to improve treatment and hydraulic capacity.
- 2) Construction of a new treatment wetland to increase the capacity of the treatment wetlands from 1.8 mgd to 2.3 mgd.
- 3) Vegetation removal and the installation of new baffles and new inlet/outlet structures in the enhancement wetlands to improve treatment and hydraulic efficiency and capacity.
- 4) Replacement of aging pump stations to increase capacity.
- 5) Augmentation of secondary treatment capacity to address BOD capacity shortfalls.

The proposed project, which includes the annexation of approximately 21 acres of land into the City of Arcata, will be required to pay standard sewer capital connection fees for residential development, as well as Wastewater Treatment Plant Offset Fee (\$160,000) negotiated through a Development Agreement with the City, which will be used to fund some of the proposed improvements to the City's wastewater treatment system.

Surface Water Quality

Surface water quality at the residential development site is influenced by: the Janes Creek watershed, tidal waters circulating from Humboldt Bay, local surface runoff and shallow groundwater seepage from adjacent land uses, and atmospheric deposition. The quality of Humboldt Bay tidal waters is in turn dependent on such significant hydrologic and biological parameters as watershed inputs, complex circulation patterns in the bay, wind-driven mixing and resuspension of fine-grained sediments, time-varying salinity gradients and water temperature, and nutrient loading.

Contaminants carried by runoff on- and off-site derive from point or non-point sources. Point sources include easily verifiable discharge points such as sewage treatment plants, industrial outfalls, and marinas. Non-point sources represent diffused contamination over wider areas, including cultivated and urbanized lands. Typical contaminants in such non-point source urban runoff include heavy metals (e.g. mercury, lead, zinc, copper, chromium, nickel), nutrients, pesticides and herbicides, PCBs and related compounds, sediments, and oil and grease.

Current potential sources of non-point source pollutants from the residential development site include erosion and residual pollutant runoff due to the site's prior use as an industrial lumber mill (see Section 2.10 [Hazards and Hazardous Materials] of the EIR for a discussion of hazardous materials contamination at the residential development site).

The City has, to a limited extent, investigated water quality in Arcata's creeks and storm drains, including City-funded studies conducted by Humboldt State University (HSU), and informal studies conducted by HSU engineering students. These studies indicate generally high water quality with exceptions such as the following:

- Fecal coliform bacteria counts are high at sometimes and locations. This is from wastewater being improperly discharged to storm drains, sewer leaks, use of riparian areas by domestic animals, or runoff from grazing lands.
- Dissolved oxygen concentrations are very low in the North Fork Janes Creek outflow from Aldergrove Marsh. This problem appears to be caused by biological activity in the marsh and low re-aeration in the creek due to its low velocity.
- Historic development/disturbances (logging, landslides, grazing activity, grading, etc.) near streams appear to be the major sediment sources in Arcata's streams. Increased flooding due to urbanization also contributes to creek bank damage and sedimentation.

All of Arcata's wastewater and most of its stormwater runoff are eventually discharged into Arcata Bay. Bay water quality concerns focus on aquaculture. The California Health Services

Department has the authority to stop the commercial oyster harvest if there is any evidence that oysters could be contaminated by pollution. Coliform bacteria are used as indicators of such contamination. Commercial oyster harvesting has been closed when pollutants have leaked into Arcata storm drains or creeks. To address this problem, the City has initiated studies of travel times and dilution in City creeks to give the State more information for determining whether pollution incidents are likely to affect oyster beds, and to avoid unnecessary harvest closures. The City is also working with the State to develop methods for sampling bay water quality more efficiently during pollution events in order to minimize the occurrence, duration, and cost of future shellfish harvest closures.

Groundwater Quality

Like most urban and industrial areas, Arcata has numerous small groundwater contamination sites. The Humboldt County Division of Environmental Health (HCDEH) and the North Coast Regional Water Quality Control Board (NCRWQCB) have identified approximately 60 sites of known groundwater contamination within Arcata, with most still under investigation or cleanup. Sites where gasoline and other petroleum products have been handled (e.g., industrial sites, school and government facilities, the Arcata Community Recycling Center, and most gas stations) and have had tank leaks and spills with resulting petroleum and heavy metals contamination. Contamination from wood preservatives (e.g., pentachlorophenol (PCP) and tetrachlorophenol (TCP)) occurs at some lumber mill sites. Business and industrial sites have contamination from solvents and heavy metals. Redevelopment of industrial areas is likely to uncover additional sites. Contamination at these sites in Arcata is generally local; no extensive groundwater contaminant plumes are known and the municipal water supply is not threatened.

A Phase I Environmental Site Assessment (Appendix G; SHN, 1993) and Phase II field investigations (Appendix H; SHN, Jan. 1995a) were conducted on the residential development site (APN 505-161-011) to test for potential soil and groundwater contamination that could affect property transfer and potential residential development (for additional discussion see Section 2.10 [Hazards and Hazardous Materials] of the EIR). In August of 1995 an initial groundwater investigation conducted on the site found three areas of concern in relation to soil and/or groundwater contamination with petroleum hydrocarbon substances. Potential petrochemical contamination of site groundwater associated with the former fuel tank area was detected (Appendix J; SHN, Aug. 1995b). According to the 1996 Subsurface Investigation that followed, petroleum hydrocarbon substances were detected in soil and groundwater at the debarker area, vehicle maintenance area, and fuel tank area of the property (Appendix L; SHN, 1996).

Based on the results of soil and groundwater investigations in 1994, 1995, and 1996, (see Appendices H, J, and L) a soil excavation program was planned for the three aforementioned areas of concern. Soil excavation activities took place in 1997 and samples were taken from the three areas of concern. Samples were analyzed for petroleum hydrocarbon constituents using established concentration guidelines to determine extent of contamination. Approximately 2,000 cubic yards (total, bank measure) of petroleum hydrocarbon-impacted soil was removed from the site. All source area contaminated soil was removed from the site, except the inaccessible petroleum hydrocarbon-impacted soil beneath the concrete slab of the debarker area. The

concrete slab creates a substantial impermeable barrier for infiltrating surface water (Appendix N; SHN, 1997).

After the soil removal occurred, groundwater monitoring at the site continued through 1998. The results of the groundwater monitoring were summarized in quarterly reports, which summarized groundwater levels, sampling data, and groundwater flow direction and gradient. No detectable petroleum hydrocarbons were noted during the groundwater monitoring in 1998, except for the detection of diesel range petroleum hydrocarbons at just above the detection limit noted in the final monitoring report in 1998 (see Appendix K; SHN 1996-1998). The residential development site (APN 505-161-011), was declared “*Completed - Case Closed*” in 2001 by the Humboldt County LOP (Local Oversight Committee) in contract with the State Water Resources Control Board (SWRCB).

As part of the review process for the previous development proposed on the residential development site (*Foster Avenue Annexation and Zoning Modification*), a project referral was sent by the City of Arcata to the North Coast Regional Water Quality Control Board (NCRWQCB) in 2007. In October 2007, a letter (dated 10/23/07) was received by the City of Arcata from the NCRWQCB indicating that previous investigations performed by the former property owner, Eel River Sawmills, were considered to be incomplete.

Based on the request for additional study of the residential development site by the NCRWQCB, an Additional Site Investigation report was completed by Freshwater Environmental Services (FES) in 2008 (Appendix P; FES, 2008a). The FES Additional Site Investigation examined the accuracy of previous reports and the potential for contaminants to exist beyond the scope of the previous study, in addition to investigating the success of the contaminate removal in 1997 (see Appendices G - N). As indicated in the report, there was no detections of any petroleum products or compounds, including diesel, motor oil, or gasoline. None of the gasoline components including benzene, toluene, ethylbenzene, or xylenes were detected; indicating the site cleanup done in 1997 addressed the petroleum pollutants introduced into the site by the previous use. The conclusion of the FES report (2008a) stated the following (Appendix P; FES, 2008a): “*Based on the results of this investigation, petroleum compounds including gasoline, diesel and motor oil, were not detected in the groundwater grab samples collected from the areas of concern. Dissolved metals including chromium, nickel, and zinc detected in the groundwater grab samples is likely due to the leaching of background concentrations of metals from onsite soils. One soil sample (SS-2) was found to have a Dioxin/furan TEQ exceeding applicable residential regulatory standards.*”

Based on review of the Additional Site Investigation (FES, 2008a) by the NCRWQCB, a letter (dated 03/25/08) was received requesting additional investigation in the area of the site where the sample was obtained containing dioxin/furan levels exceeding applicable residential regulatory standards. Based on the request for additional investigation by the NCRWQCB, Freshwater Environmental Services prepared a Dioxin Assessment Report (Appendix Q; FES, 2008b) that delineated the extent of the dioxin/furan contamination at the site and recommended excavation and disposal of the contaminated soils.

The Dioxin Assessment Report (Appendix Q; FES, 2008b) included soil and water samples from numerous bore sites in order to determine the presence and potential extent of dioxin/furan contamination. Dioxin/furan compounds were not detected within the groundwater samples and none of the soil samples analyzed within the investigation were found to exceed applicable residential regulatory standards. The area of soil impacted with dioxin/furan compounds exceeding applicable residential regulatory standards, as determined during the previous Additional Site Investigation, was delineated vertically and horizontally. This area was limited to 29 feet in diameter to a depth of 0.5 feet below ground level (bgl) which amounted to approximately 15 cubic yards of material to be removed. The recommendation for removal of the dioxin/furans in the Dioxin Assessment Report (Appendix Q; Pg. 11) stated the following:

“...It is recommended that soils within the defined area of impact be excavated to a depth of 0.5 feet bgl. Freshwater Environmental Services proposes that the excavated soil be placed in DOT-approved containers. All excavation equipment will be decontaminated by washing with a laboratory grade detergent/water solution followed by a tap water rinse and a final distilled water rinse. Equipment rinse water will also be placed in a DOT-approved container. The containers will be labeled, covered, sealed, and temporarily stored in a secure area at a nearby facility owned by the Site owner. The excavated soil and water will be disposed of following all applicable regulations. A brief letter report is proposed that will document excavation activities and disposal of soil and investigation derived wastes.”

On September 12, 2008, the dioxin-containing soils were removed from the site and transported to an approved disposal facility by NRC Environmental Services. Letters were sent to the NCRWQCB by FES in Oct. and Nov. 2008, describing the soil excavation and disposal activities and containing the disposal documentation (Appendix R; FES, 2008c and 2008d). In response to additional remediation activities conducted at the site, a letter (dated 03/10/09) was received from the NCRWQCB stating the “No Further Action” for the site is required.

REGULATORY FRAMEWORK

Federal

Clean Water Act

The federal Clean Water Act (CWA), enacted by Congress in 1972 and amended several times since, is the primary federal law regulating water quality in the U.S. and forms the basis for several State and local laws throughout the country. The CWA established the basic structure for regulating discharges of pollutants into the waters of the U.S. The CWA gave the U.S. Environmental Protection Agency (U.S. EPA) the authority to implement federal pollution control programs, such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint source pollution. At the federal level, the CWA is administered by the U.S. EPA and U.S. Army Corps of Engineers. At the State and regional levels in California, the Act is administered and enforced by the State Water Resources

Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs).

Section 303(d) of the CWA requires state governments to present the U.S. EPA with a list of “*impaired water bodies*,” defined as “those water bodies that do not meet water quality standards, even after point sources of pollution have been equipped with the minimum required levels of pollution control technology.”

Sections 404 and 401 of the CWA require permitting and State certification for construction and/or other work conducted in “waters of the United States.” Such work includes levee work, dredging, filling, grading, or any other temporary or permanent modification of wetlands, streams, or other water bodies.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps identifying which land areas are subject to flooding. The maps provide flood information and identify flood hazard zones in each community. The design standard for flood protection is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 annual exceedence probability (i.e. the 100-year flood event).

According to FEMA regulations, "*a revision of floodplain delineation based on fill must demonstrate that such fill has not resulted in a floodway encroachment*" (44 CFR 65.5 (a) (7)). The State of California model ordinance defines encroachment as "*the advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain which may impede or alter the flow capacity of a floodplain.*" The Floodplain Management and Protection of Wetlands section of the Federal Code of Regulations (44 CFR Section 9.2) states that it is FEMA’s environmental review policy to:

1. Avoid long- and short-term adverse impacts associated with the occupancy and modification of floodplains and the destruction and modification of wetlands;
2. Avoid direct and indirect support of floodplain development and new construction in wetlands wherever there is a practicable alternative;
3. Reduce the risk of flood loss;
4. Promote the use of nonstructural flood protection methods to reduce the risk of flood loss;
5. Minimize the impact of floods on human health, safety, and welfare;
6. Minimize the destruction, loss, or degradation of wetlands;
7. Restore and preserve the natural and beneficial values served by floodplains;
8. Preserve and enhance the natural values of wetlands.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate industrial and municipal discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges including point source municipal waste discharges and nonpoint source stormwater runoff. A NPDES permit is required when proposing to, or discharging of, waste into any surface water of the State. For discharges to surface waters, these requirements become a federal NPDES Permit from the RWQCB covering the project area.

Federal Antidegradation Policy

The federal Antidegradation Policy set forth in 40 CFR §131.12. SWRCB Order No. 68-16 incorporates the federal Antidegradation Policy into the state policy for water quality control and ensures consistency with federal CWA requirements. This federal regulation establishes a three-part test for determining when increases in pollutant loadings or other adverse changes in surface water quality may be permitted:

- Existing instream water use and level of water quality necessary to protect the existing uses shall be maintained and protected.
- Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife, and recreation in and on the water, that quality shall be maintained and protected unless the State finds after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved, the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.
- Where high quality waters constitute an outstanding National resource, such as waters of National and State Parks, wildlife refuges, and waters of exceptional recreational or ecological significance, water quality shall be maintained and protected.

The federal Antidegradation Policy serves as a catch-all water quality standard to be applied where other water quality standards are not specific enough for a particular waterbody or where other water quality standards do not address a particular pollutant.

State of California

California State Water Resources Control Board

As of July 1, 2015, all construction projects over one acre within a designated small Phase II municipal separate storm sewer system (MS4) must comply with both the state Construction General Permit and Phase II Small MS4 General Permits, as outlined below:

- NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES ORDER NO. 2009-0009-DWQ NPDES NO. CAS000002 (Construction General Permit or CGP)

Post-Construction Permit runoff standards do not need to be met where a project is subject to MS4 Permit Post-Construction Standards. In the event MS4 Requirements are not used, the CGP calls for replicating the pre-project water balance for the 85th percentile, 24-hour runoff event. Regardless of the MS4 requirements, a CGP must be obtained and a construction Storm Water Pollution Prevention Plan (SWPPP) must be prepared and submitted to the State Water Board, via SMARTS, with the appropriate Permit Registration Documents, Notice of Intent and appropriate fee. Appropriate best management practices (BMPs) and site monitoring must be outlined in the SWPPP and implemented onsite.

- WATER QUALITY ORDER NO. 2013 – 0001 – DWQ NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT NO. CAS000004 WASTE DISCHARGE REQUIREMENTS (WDRs) FOR STORM WATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4 Permit)

Projects that create or replace 5,000 ft² or more impervious surface are considered Regulated Projects under this Permit. Regulated Projects must use Site Design Measures, as defined in the Permit, to capture the maximum amount of the 85th percentile, 24-hour storm runoff event. Any runoff that cannot be captured by Site Design Measures must then be routed to an appropriate bioretention facility. Additionally, for projects creating or replacing over one acre of impervious surface, the MS4 Hydromodification Standards must be met. For this geomorphic province, the post-project runoff shall not exceed the estimated pre-project runoff for the 2-year, 24-hour storm event.

In order to help guide its communities to meet these MS4 low impact development (LID) requirements, Humboldt County developed the Humboldt County Low Impact Development Stormwater Manual (HLIDSMS). The Stormwater Management Assessment Report prepared by SHN Consulting Engineers & Geologists, Inc. (Appendix X) details the Site Design Measures that will be incorporated into the proposed project to manage stormwater runoff at the site in compliance with the MS4 requirements.

North Coast Regional Water Quality Control Board, Basin Plan

The Porter-Cologne Water Quality Control Act of 1967, Water Code section 13000 et seq., requires the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) to adopt water quality criteria to protect State waters. These

criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria for the project area are contained in the Basin Plan. The Basin Plan, adopted by the California Regional Water Quality Control Board, North Coast Region, and amended in 2012, establishes a number of policies regarding discharges of wastewater. The Basin Plan also includes a Water Quality Control Plan for the Enclosed Bays and Estuaries of California, and a specific Action Plan for Humboldt Bay (Water Quality Control Plan for the North Coast, 2011). The Action Plan for Humboldt Bay requires surveillance and monitoring, review and assessment of land use activities, and Regional Board coordination with other state and local agencies with regard to protecting water quality in Humboldt Bay. In order to assure protection of waters in Humboldt Bay, the Regional Board closely monitors construction and industrial activities that could potentially impact water quality.

California Department of Fish & Wildlife

Section 1601 of the California Fish and Game Code requires an agreement between the Department of Fish and Wildlife and a public agency proposing to substantially divert or obstruct the natural flow or effect changes to the bed, channel, or bank of any river, stream, or lake. The agreement is designed to protect the fish and wildlife values of a river, stream, or lake.

County of Humboldt

Humboldt County General Plan

The Humboldt County General Plan (amended and adopted October 2017) identifies goals, objectives, and policies that provide guidance for development within the County. Table 4.2-1 below outlines applicable General Plan policies in relation to hydrology and water quality.

Table 4.2-1 Applicable County General Plan Policies

| Document Section | Policy Number | Policy |
|-------------------------|---------------|---|
| Water Resources Element | WR-G4 | Watershed Planning Framework. Land use decision making that makes use of watersheds as a planning, management, and coordinating framework to cooperatively manage water and natural resources with local communities, neighboring counties, and State and federal agencies. |
| Water Resources Element | WR-G5 | Watershed Management. A system of water resource management that recognizes watersheds as natural systems producing multiple economic, social, and environmental benefits that can be sustained in perpetuity and optimized with education, sound data, cooperative public processes, adaptive management, and science-based leadership. |
| Water Resources Element | WR-G10 | Storm Drainage. Storm drainage utilizing onsite infiltration and natural drainage channels and watercourses, while minimizing erosion, peak runoff, and interference with surface and groundwater flows and stormwater pollution. |

| Document Section | Policy Number | Policy |
|-------------------------|---------------|--|
| Water Resources Element | WR-P6 | Subdivision Water Supply. Any subdivision of land shall be conditioned to require evidence of sufficient water supply during normal and drought conditions to meet the projected demand associated with the proposed subdivision. Sufficient water supply shall include the requirements of the proposed subdivision and existing and planned future uses. Written service letters from a public water system written in conformance with this policy is sufficient evidence. Subdivisions to be served through onsite water supplies or private water systems must provide evidence of sufficient water supply to the County Department of Environmental Health. |
| Water Resources Element | WR-P10 | Erosion and Sediment Discharge. Ministerial and discretionary projects requiring a grading permit shall comply with performance standards adopted by ordinance and/or conditioned to minimize erosion and discharge of sediments into surface runoff, drainage systems, and water bodies consistent with best management practices, adopted Total Maximum Daily Loads (TMDLs), and non-point source regulatory standards. |
| Water Resources Element | WR-12 | Project Design. Development should be designed to compliment and not detract from the function of rivers, streams, ponds, wetlands, and their setback areas. |
| Water Resources Element | WR-P35 | Implementation of NPDES Permit. Implement and comply with the National Pollutant Discharge Elimination Systems (NPDES) Permit issued by the State Water Resources Control Board to the designated portions of the County. |
| Water Resources Element | WR-P36 | Natural Stormwater Drainage Courses. Natural drainage courses, including ephemeral streams, shall be retained and protected from development impacts which would alter the natural drainage courses, increase erosion or sedimentation, or have a significant adverse effect on flow rates or water quality. Natural vegetation within riparian and wetland protection zones shall be maintained to preserve natural drainage characteristics consistent with the Biological Resource policies. Stormwater discharges from outfalls, culverts, gutters, and other drainage control facilities that discharge into natural drainage courses shall be dissipated so that they make no significant contribution to additional erosion and, where feasible, are filtered and cleaned of pollutants. |
| Water Resources Element | WR-P38 | New Drainage Facilities. Where it is necessary to develop additional drainage facilities, they shall be designed to be as natural in appearance and function as is feasible. All drainage facilities shall be designed to maintain maximum natural habitat of streams and their streamside management areas and buffers. Detention/retention facilities shall be managed in such a manner as to avoid reducing streamflows during critical low-flow periods. |
| Water Resources Element | WR-P42 | Erosion and Sediment Control Measures. Incorporate appropriate erosion and sediment control measures into |

| Document Section | Policy Number | Policy |
|--------------------------------|---------------|---|
| | | development design and improvements. |
| Water Resources Element | WR-P45 | Reduce Toxic Runoff. Minimize chemical pollutants in stormwater runoff such as pesticides, fertilizers, household hazardous wastes, and road oil by supporting education programs, household hazardous waste and used oil collection, street and parking lot cleaning and maintenance, use of bioswales and other stormwater best management practices described in the California Stormwater Best Management Practices Handbooks or their equivalent. |

City of Arcata

Arcata General Plan

The City of Arcata General Plan contains guidelines for hydrology and water quality within the Resource Conservation and Management Element, Public Facilities & Infrastructure Element, and Public Safety Element. Table 4.2-2 below contains a list of policies from the Arcata General Plan that are applicable to the proposed project.

Table 4.2-2 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|---|--|-----------------------------------|
| RC-2 Stream Conservation and Management | Enhance and maintain the biological integrity of entire streamcourses (headwaters to mouth), and their associated riparian habitats, as natural features in the City's landscape. | RC-2g |
| RC-7 Water Resources Management | Manage Arcata's water resources from a watershed perspective, to maintain surface and subsurface water quality and quantity. Runoff will be managed for the benefit of aquatic habitats. | RC-7a to RC-7c |
| PF-3 Stormwater Management | Implement the City's drainage master plan to utilize natural drainage systems; minimize increases in stormwater runoff, flooding, and erosion; maintain the integrity of stream hydrology; reduce pollutant loads; and acquire easements and properties for effective drainage management. | PF-3a to PF-3c |
| PS-2 Seismic Hazards | Protect existing and new structures from seismic hazards. Identify and map seismic hazards and assure that any development within such hazard areas does not proceed until geologic and soils conditions are adequately investigated and appropriate mitigation measures, if any, are incorporated into development plans. | PS-2f |
| PS-4 Flood Hazards | Protect current and future populations and property from flood hazards. Assure that new development within floodplains does not proceed until appropriate mitigation measures are incorporated into development plans. | PS-4b to PS-4d and PS-4f to PS-4h |

Arcata Land Use Code

The City of Arcata Land Use Code (LUC) addresses hydrology and water quality within Chapters 9.64 (Grading, Erosion, and Sediment Control) and 9.66 (Urban Runoff Pollution Control). Table 4.2-3 below contains a list of requirements from the Arcata Land Use Code that are applicable to the proposed project.

Table 4.2-3 Applicable Land Use Code Requirements

| Policy | Objective | Applicable Sub-Policies |
|---|--|--------------------------------|
| 9.64 (Grading, Erosion, and Sediment Control) | Establishes minimum standards and regulations for grading activities as well as construction and post-construction runoff control criteria to prevent unreasonable or unnecessary erosion and sediment production and related degradation of the City's stormwater drainage systems. | 9.64.010 - 9.64.080 |
| 9.66 (Urban Runoff Pollution Control) | Establishes provisions to ensure that activities within Arcata add no new pollutants to waterways and reduce present pollutant levels and sediments which are carried to our area and regional waterways through stormwater runoff. | 9.66.010 - 9.66.070 |

Arcata Municipal Code

The City of Arcata Municipal Code addresses hydrology and water quality within Title VIII (Building Regulations). Table 4.2-4 contains a list of requirements from the Arcata Municipal Code that are applicable to the proposed project.

Table 4.2-4 Applicable Building Regulations

| Policy | Objective | Applicable Sub-Policies |
|---|---|--------------------------------|
| Chapter 4 (Flood Hazard Mitigation Standards) | Establishes provisions intended to protect public health, safety, and general welfare, and to minimize public and private losses due to flood conditions. | 8405(A)(3) and 8405(F) |

Drainage Master Plan

The City prepared a Drainage Master Plan (1997) to guide stormwater management which includes a hydrological analysis, drainage management alternatives, operational plan, needs assessment, and capital improvement program. At the time that the Drainage Master Plan was completed, there were 900 acres of impervious surface citywide (buildings and paved area), 40 percent of which is the public street system. The Master Plan projected that, at general plan buildout, there would be 1,582 acres of impervious surface Citywide.

Long Term Drainage Maintenance Program

As described in the Environmental Setting, the City of Arcata has developed a Long Term Drainage Maintenance Program, which covers over seventy sites in the City including portions of Janes Creek and its tributaries. Implementation of this program will allow the City to conduct as needed maintenance activities including removing obstructions from drainage swales and culverts to restore capacity and reduce localized flooding. This program also includes improvements to existing drainage infrastructure such as widening and relocating drainage swales, culvert replacement, grading to alter drainage patterns and reduce seasonal flooding, and stream bank stabilization (City of Arcata, 2016b).

Storm Water Management Program

The City of Arcata prepared a Storm Water Management Program (SWMP) in response to State Water Resources Control Board (SWRCB) Water Quality Draft Order No. 2003 – 0005 – DWQ1 (GENERAL PERMIT NO. CAS000004) for National Pollutant Discharge Elimination System (NPDES) Phase II. The program covers the eleven square-mile area of the City of Arcata. Although none of the small urban streams in or near the City have been identified as “impaired” by the 303(d) list, the Mad River is listed as impaired due to temperature, sediment, turbidity, and siltation. Humboldt Bay, which receives Arcata runoff, is listed as “impaired” by the State of California for PCB’s.

The City’s stormwater quality program was derived from ongoing City programs that have been enhanced to meet the requirements of the SWRCB. The goal of the SWMP is to protect the health of the recreational public and the environment, meet Clean Water Act mandates through compliance with Phase II NPDES Permit requirements and applicable regulations, and foster heightened public involvement and awareness. Water quality monitoring has identified bacteria, nutrients, and sediment as pollutants of concern. Storm drains typically flow into creeks that have already passed through a variety of land uses, including natural, agricultural, urban, and industrial, and in some cases, through more than one permit jurisdiction. The City is faced with the challenge of requiring and implementing controls to reduce the discharge of pollutants in stormwater runoff to the technology-based standard of “*Maximum Extent Practicable*” (MEP) as required by § 402(p)(3)(B)(iii) of the Clean Water Act, 33 U.S.C. § 1342(p)(3)(B)(iii).

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if it meets any of the following criteria.

If the project would:

- Violate any water quality standards or waste discharge requirements;
- 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 (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-site or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate of surface water runoff in a manner that would result in flooding on-site or off-site;
- Create or contribute runoff that would exceed the capacity of the existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map, or other flood hazard delineation map.
- Place within the 100-year flood hazard area structures that would impede or redirect flood flows.
- 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.
- Inundation by seiche, tsunami, or mudflow.

Arcata General Plan

Table 4.2-5 Project Consistency with General Plan

| Policy | Consistency Analysis |
|---|--|
| RC-2 Streams Conservation & Management (RC-2g) | RC-2g. To protect water quality and minimize erosion, sedimentation, and flood impacts to Janes Creek, stormwater management facilities will be constructed at the site in compliance with this policy as well as the requirements of the SWRCB Construction General Permit and MS4 Permit. |
| RC-7 Water Resources Management (RC-7a) | RC-7a. To protect Janes Creek from point and nonpoint pollution sources from the proposed project, the area of the residential development site within 100 feet of Janes Creek will be designated as a Wetland and Stream |

| Policy | Consistency Analysis |
|--|--|
| to RC-7c) | <p>Combining (:WSP) Protection Zone and stormwater management facilities will be constructed in compliance with the requirements of the SWRCB Construction General Permit and MS4 Permit.</p> <p>RC-7b. Consistent with this policy the project proposes to be served by the City’s wastewater treatment system and does not propose the use of on-site wastewater disposal systems. As described in the Environmental Setting, contamination of groundwater from past lumber mill uses on parcel 505-161-011 has been investigated and remediated to the satisfaction of regulatory agencies.</p> <p>RC-7c. The proposed project would incorporate several features consistent with this policy which include construction of a wetland mitigation area, compliance with SWRCB stormwater management requirements, and the replacement of two undersized culverts on Janes Creek. These features will contribute to the management of Janes Creek on a watershed basis.</p> |
| PF-3 Stormwater Management (PF-3a through PF-3c) | <p>PF-3a. The proposed project incorporates features that will enhance wetland habitat, improve stormwater management, and increase flood capacity and fish passage on Janes Creek. These features will ensure that the basic natural functions of the creek will not be degraded.</p> <p>PF-3b. The project proposes on-site detention in compliance with the requirements of the SWRCB Construction General Permit and MS4 Permit that will help control stormwater runoff, flooding, and erosion consistent with the objectives of the Drainage Master Plan.</p> <p>PF-3c. Consistent with this policy, the proposed project will incorporate low impact development (LID) site design measures such as permeable pavement, natural infiltration areas, bioswales, and rain gardens.</p> |
| PS-2 Seismic Hazards (PS-2f) | <p>PS -2f. In compliance with this policy, a site specific early warning system and evacuation plan will be created and implemented for the proposed development and approved by the City prior to issuance of the Certificate of Occupancy for the first phase of the project. This will be included as a condition of approval by the City of Arcata for the proposed project.</p> |
| PS-4 Flood Hazards (PS-4b through PS-4d andPS-4f through PS-4h) | <p>PS -4b to PS-4d. Consistent with this policy, the proposed residential structures will not be constructed within Flood Zone A and improvements to Janes Creek and other drainage facilities are designed to increase flood flow and flood detention capacity.</p> <p>PS -4f. Consistent with this policy, design and improvement of drainage and detention areas shall not impact the carrying capacity of the floodway.</p> <p>PS -4g. Consistent with this policy, improvements and maintenance of Janes Creek shall be done in accordance with the City’s Drainage Master Plan.</p> <p>PS -4h. Consistent with this policy, the proposed project shall meet current State stormwater requirements and City drainage standards including paying all applicable fees.</p> |

Arcata Land Use Code

Table 4.2-6 Project Consistency with Land Use Code

| Policy | Consistency Analysis |
|--|---|
| Chapter 9.64 Grading, Erosion, and Sediment Control (Sections 9.64.010 through 9.64.080) | Consistent with this chapter, the proposed project will be required to obtain grading permits and comply with the the City’s Grading, Erosion, and Sediment Control requirements which will ensure that the proposed grading meets minimum standards for public safety, will produce minimal erosion and sediment, will protect water quality and the City stormwater drainage systems, and will not degrade natural resources. |
| Chapter 9.66 Urban Runoff Pollution Control (Sections 9.66.010 through 9.66.070) | Consistent with this chapter, stormwater management facilities will be constructed at the site in compliance with this policy as well as the requirements of the SWRCB Construction General Permit and MS4 Permit. The proposed project will incorporate low impact development (LID) site design measures such as permeable pavement, natural infiltration areas, bioswales, and rain gardens. The design of the stormwater system will ensure pre-treatment of stormwater runoff prior to discharge to Janes Creek. |

Table 4.2-7 Project Consistency with Building Regulations

| Policy | Consistency Analysis |
|---|---|
| Chapter 4 Flood Hazard Mitigation Standards (Sections 8405[A][3] and 8405[F]) | <p>8405.A.3. Consistent with this standard, the proposed residential structures shall be located outside of the 100-year flood hazard area and a minimum of one (1) above the base flood elevation.</p> <p>8405.F. Consistent with this standard, the proposed residential structures shall be located outside of the 100-year flood hazard area.</p> |

Proposed Project

Finding 4.2.1: Violate any Water Quality Standards or Waste Discharge Requirements.

Discussion:

The surface water features on the residential development site (APN 505-161-011) include Janes Creek on the southeastern boundary and small isolated wetlands scattered throughout the site. Water quality in the Janes Creek watershed is influenced by stormwater runoff from a variety of land uses. It is reasonable to assume that the water quality in the project area is typical of the water quality in other residential, industrial, and agricultural areas.

Construction Impacts

Construction of the proposed project at the site will require clearing, grading, paving, utility installation, building construction, and the installation of landscaping, which would result in the generation of potential water quality pollutants such as silt, debris, chemicals, paints, and other solvents with the potential to adversely affect water quality. In addition, stormwater discharge may include debris, particulate, and petroleum hydrocarbons as a result of improper storage of construction materials, improper disposal of construction wastes, discharges resulting from construction dewatering activities, and spilled petroleum products. As such, short-term water quality impacts have the potential to occur during construction of the proposed project in the absence of any protective or avoidance measures.

Pursuant to the requirements of the State Water Resources Control Board (SWRCB) and the City of Arcata, a Construction General Permit (CGP) will be required to be obtained for the proposed project. A CGP is required for all projects that include construction activities and/or excavation that would disturb at least one acre of total land area. The SWRCB CGP will require the preparation of a Stormwater Pollution Prevention Plan (SWPPP) which documents the stormwater dynamics at the site, the best management practices (BMPs) and water quality protection measures that are used, and the frequency of inspections. BMPs are activities or measures determined to be practicable, acceptable to the public, and cost effective in preventing water pollution or reducing the amount of pollution generated by non-point sources. Implementation of the SWPPP will ensure that water quality is protected during construction activities.

The SWPPP for the proposed project includes, but is not limited to, the following BMPs: 1) silt fences will be installed and maintained along the eastern and southern edges of the residential development site to ensure stormwater runoff and sediment does not enter Janes Creek and the ditches along the railbed that lead to Janes Creek; 2) potential erosion in concentrated flow paths will be controlled by applying erosion control blankets, check dams, erosion control seeding, or alternate methods; 3) seeding and mulching will provide immediate protection to exposed soils where construction will cease for more than 14 days and over the winter months; and 4) existing stormdrain inlets on Foster Avenue (east of Janes Creek) and Heather Lane will be protected from sediment by installing and maintaining catch basin inserts.

Within the proposed wetland mitigation area there is an area where subsurface hydrocarbon contamination from previous lumber mill activities remains. The contaminated soil is under the debarker slab, which is a concrete "cap" that will need to be removed in order to construct the proposed mitigation wetland (see Figure 2.10C [Location with Potential Hazardous Materials Impacts] and Figure 2.10D [Debarker Slab from former Lumber Mill] in Section 2.10 [Hazard and Hazardous Materials]). A monitoring well, directly down gradient of the former contamination source at the slab area, found petroleum hydrocarbons and volatile organic compounds to be below method reporting limits, except for the detection of diesel range petroleum hydrocarbons at just above the detection limit noted in the final monitoring report in 1998 (Appendix K). The removal of the concrete cap and the contaminated soil could potentially release hydrocarbon contamination from construction activity, as well as the remaining exposed contaminated soil.

To mitigate the potential impacts of the release of hazardous materials, prior to receiving a grading permit the applicant shall submit a plan for soil removal and cleanup to the Humboldt County Division of Environmental Health (HCDEH) and the North Coast Regional Water Quality Control Board (NCRWQCB) for review and approval. Ultimately, the HCDEH and NCRWQCB must certify the site cleanup prior to the completion of construction and occupation of the site for residential uses. This has been included as Mitigation Measure 2.10.2a for the proposed project in Section 2.10 (Hazard and Hazardous Materials) of the EIR.

Operational Impacts

For the purpose of estimating types and concentrations of pollutants that may come in contact with stormwater, the proposed project would be classified as a residential development. Stormwater that comes into contact with driveways, parking lots, and roadways is the primary pollutant source in runoff. Gasoline, grease, oil, and their constituents such as benzene and toluene, are commonly released through auto emissions, spills, leaks, gasoline tanks, oil pans, and crankcases. Lead, zinc, pyrene and other metals and hydrocarbons are components of asphalt and tires, which degrade over time and release their constituents to stormwater. Brake linings and clutch facings may wear, releasing copper and possibly asbestos. Landscaped areas may contribute hydrocarbons and pesticides, such as herbicides, insecticides, and fungicides, to stormwater runoff. Landscaping fertilizer contains nutrients, particularly nitrogen, potassium, and phosphorous. The unpaved, landscaped areas may also be a source of sediment and organic debris in stormwater. The use of native plantings can reduce potential impacts from landscaping areas since they require significantly less fertilizer and pesticide treatment. Weathering of buildings over time releases building material constituents. Heavy metals, particularly copper, lead, zinc, and chromium are released from flashings, shingles, gutters and downspouts, galvanized pipes, and metal plating. Paints and other wood preservatives may also contain hydrocarbons.

The proposed residential development will be connected to the City's wastewater system and does not involve the use of on-site waste water treatment systems. The City is required to adhere to the discharge requirements of the North Coast Regional Water Quality Board (NCRWQCB) for its wastewater treatment plant. In 2012, the City's wastewater treatment system began operating under a new NPDES permit that specifically addressed several long-term issues regarding disinfection, treatment units, and outfalls. The new permit enabled changes to be made to improve wastewater treatment, protect beneficial uses, increase energy efficiency, reduce chemical usage, and reduce the potential for permit violations. As described in Section 2.11 (Utilities and Service Systems) of the EIR, the City initiated a Facility Plan and plant improvement project (2016a) which proposes a variety of improvements to the wastewater treatment system to increase treatment capacity and prevent the exceedance of discharge limitations. The City of Arcata also conducted an analysis of wastewater treatment capacity (Appendix S) which determined there is sufficient capacity for the current potential and approved/planned residential development projects in the City. However, as described in the Environmental Setting, the facilities must be improved to meet the demand of both current and future population. The proposed project, which includes the annexation of approximately 21 acres of land into the City of Arcata, will be required to pay standard sewer capital connection fees for residential development, as well as a Wastewater Treatment Plant Offset Fee (\$160,000)

negotiated through a Development Agreement with the City, which will be used to fund some of the proposed improvements to the City's wastewater treatment system.

In addition, discharge/pre-treatment requirements for development projects are regulated by the City of Arcata subject to information submitted on the City's wastewater survey/questionnaire. This will be required as part of the review of the proposed residential development to describe pre-treatment/discharge equipment and system design so that discharges will not impact the City's wastewater system and result in violations of waste discharge standards.

The increase in development and impervious surfaces as a result of the proposed project and the associated increase in stormwater runoff has the potential to increase the presence of sediment and urban pollutants in stormwater runoff. The proposed residential development will not be connected to the City's municipal stormwater system. Stormwater drainage facilities for the development are required to be designed to meet both State and local stormwater regulations which are focused on maintaining or improving a site's pre-development runoff characteristics. In order to help guide its communities to meet the MS4 low impact development (LID) requirements, Humboldt County developed the Humboldt Low Impact Development Stormwater Manual (HLIDSM). Since the proposed project will create and replace more than one acre of impervious area, it is subject to the hydro-modification requirement of the HLIDSM.

As described in the Stormwater Management Assessment prepared by SHN Consulting Engineers & Geologists, Inc. (Appendix X), compliance with State and local stormwater regulations will be achieved by the onsite management of stormwater through low impact development (LID) site design measures including soil quality improvement and maintenance, tree planting and preservation, vegetated swales, permeable asphalt, stream setbacks and buffers, and rain gardens. The proposed stormwater improvements will reduce the volume and rate of runoff and provide for greater infiltration, evaporation, and runoff quality treatment without violating any water quality standards or waste discharge requirements (see additional discussion under Findings 4.2.3 to 4.2.5).

With the proposed mitigation measures contained in the other sections of the EIR referenced above, the proposed project will not violate any water quality standards or waste discharge requirements.

Determination:

Less than significant impact with implementation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures would reduce the potential impacts to a less than significant level.

Same as *Mitigation Measures 2.10.2a (Hazardous Materials Remediation)*.

Finding 4.2.2: 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 (e.g. the Production Rate of Pre-Existing Nearby Wells would Drop to a Level which would Not Support Existing Land Uses or Planned Uses for which Permits have been Granted).

Discussion:

Domestic water would be provided to the residential development site (APN 505-161-011) by the City of Arcata. The majority of the City's water supply is purchased from the Humboldt Bay Municipal Water District (HBMWD) with a secondary source from the City-owned Heindon Well. The City of Arcata has an Urban Water Management Plan (as required by the California Water Code) that defines the current and future capacity of the system. The City has currently 1.37 billion gallons of water available annually and by 2040, the City projects that water use will increase to 880 million gallons per year. As such, the City of Arcata, with its present mix of water sources, possesses a significant surplus of capacity (see further discussion in Section 2.11 [Utilities and Service Systems] of the EIR).

Due to the previous use of the residential development site as a lumber mill and log deck, the site is composed mostly of soils of low permeability. Some of the proposed project features, including the stormwater improvements, landscaping areas, and wetland mitigation area, will result in more permeable soils due to the removal of compacted topsoil and soil treatment during site preparation and construction. However, the proposed project is not expected to result in any significant increase or decrease in volume of groundwater in the vicinity of the project area.

Therefore, the proposed project will not 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 (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.2.3: Substantially Alter the Existing Drainage Pattern of the Site or Area, including Through the Alteration of the Course of a Stream or River, in a Manner that would Result in Substantial Erosion or Siltation On-Site or Off-Site.

Discussion:

The surface water features on the residential development site (APN 505-161-011) include Janes Creek on the southeastern boundary and small isolated wetlands scattered throughout the site.

Development of the residential development site will create new impervious surfaces and has the potential to increase the amount of surface runoff, which if not managed properly, could cause erosion and siltation along Janes Creek. The proposed project will require City approval of an erosion and sediment control plan, and grading, drainage, and erosion control will be per City standards consistent with Section 9.64 (Grading, Erosion, and Sediment Control) of the Arcata Land Use Code and the City's Drainage Master Plan.

Stormwater drainage facilities for the development are required to be designed to meet both State and local stormwater regulations which are focused on maintaining or improving a site's pre-development runoff characteristics. In order to help guide its communities to meet the MS4 low impact development (LID) requirements, Humboldt County developed the Humboldt Low Impact Development Stormwater Manual (HLIDSM).

As described in the Stormwater Management Assessment completed by SHN Consulting Engineers & Geologists, Inc. (Appendix X), the stormwater system is designed to manage 14,758 ft³ of runoff from the 85th percentile storm event (0.65 inches). This will occur on the residential development site through a suite of best management practices including soil quality improvement and maintenance, tree planting and preservation, vegetated swales, permeable asphalt, stream setbacks and buffers, and rain gardens.

Since the proposed project will create and replace more than one acre of impervious area, it is subject to the hydro-modification requirement of the HLIDSM. The HLIDSM requires that the post-project runoff rate shall not exceed the estimated pre-project flow rate for the 2-year, 24-hour storm. During peak storm events, stormwater runoff from the residential development site will be directed to a pretreatment bioswale (5,700 ft³ of storage capacity) and ultimately the wetland mitigation area (53,762 ft³ of storage capacity), to meet the hydro-modification requirement of the MS4 Permit (Appendix X).

Based on an overall pre-construction versus post-construction condition calculation, 23,792 ft³ of the current stormwater runoff volume (runoff produced by the pre-project conditions) will be infiltrated and treated (rather than produced) by the improved surface conditions inherent to the proposed residential development. These surface conditions are not considered in the Regulated Projects calculation for managing the 85th percentile storm event, which gives credits based on inferred runoff reduction from square footage of site design measures such as vegetated swales, soil quality improvement, and infiltration trenches. This Regulated Project methodology overlooks the site engineering runoff coefficients used in the hydro-modification calculations, which consider site characteristics such as overall site flow lengths, evaporative surfaces, soil hydrological types, and surface cover types. Examples of the development features and site characteristics that will improve infiltration and reduce runoff include: 1) the transformation of compacted, rocky ground to lawn and landscape; 2) differences in surface cover types and their associated improvements in surface runoff reduction and infiltration (such as the difference between plant type, plant species, and mulch type); and 3) difference in cover percentages.

To ensure the desired factor of safety for flood control and watershed protection is built into the project, a conservative calculation was performed by disregarding the improved stormwater conditions predicted in the pre- versus post-construction calculations. This precautionary

calculation ignores the reduced post-construction runoff volume and uses the 2-year, 24-hour storm event of 2.93 inches for the post-construction hydromodification requirement. This calculation is based on an urban area runoff curve number of 80 for pre-project conditions (the worst case scenario for this site), taken from the Texas DOT Hydraulic Design Manual (Texas, 2009 and Attachment C), and entered into the Solution of Runoff Equation (NRCS, 2011) to arrive at the runoff depth of 1.19 inches. This depth was multiplied by the residential development area of 15.94 acres to get 68,856 ft³ of runoff volume. By subtracting the 14,758 ft³ removed by the Regulated Project requirement LID measures, this leaves a total site runoff value (as opposed to the difference between pre and post conditions) of 54,098 ft³ of runoff to treat onsite for the 2-year event, 24-hour storm event. Since the proposed wetland mitigation area will hold an approximate 53,762 ft³ of runoff volume, along with an additional 5,700 ft³ contained in the adjacent pretreatment bioswale, this site will comply with the hydro-modification requirement and protect the surrounding watershed with a total runoff capture of 59,462 ft³. (Appendix X).

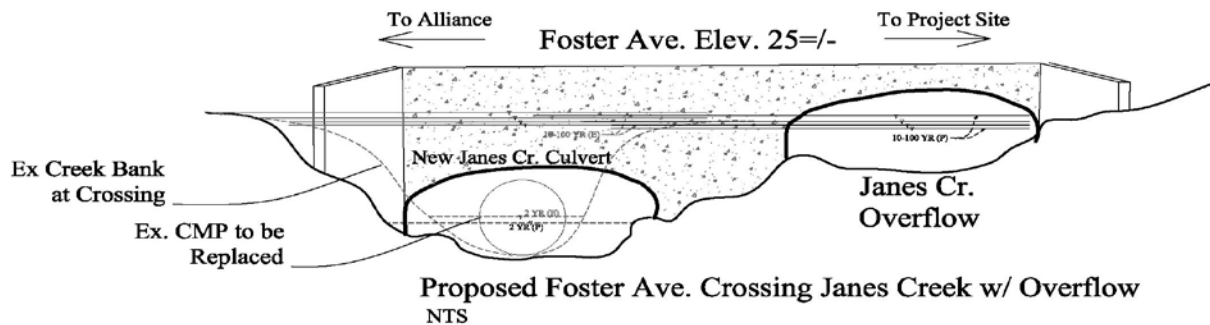
The stormwater system is designed to control the volume and flow rate of run-off to not exceed the pre-development condition so the drainage pattern of the project area will not be substantially altered and cause erosion or siltation. In addition, the proposed stormwater facilities are required to comply with the requirements of the Phase II Small MS4 General Permit and Construction General Permit to control erosion and siltation.

As described in Chapter 1 (Introduction) of the EIR, the project proposes to replace two culverts in Janes Creek. One of the culvert replacements is proposed at what is referred to as the Foster Avenue crossing, which is located in the southeastern corner of the residential development site. As shown below in Figure 4.2C (Proposed Janes Creek Culvert Replacement at Foster Avenue), the replacement of the culvert at this location will coincide with the construction of the Foster Avenue road connection. The other culvert replacement is proposed at the pathway crossing which is located mid-way along the eastern boundary of the residential development site. The replacement of the culvert at this location will coincide with the construction of the pedestrian/bicycle pathway to Alliance Road. Each culvert replacement is described below.

Foster Avenue Crossing: The existing crossing at Foster Avenue contains a six-foot diameter corrugated metal pipe (CMP) culvert. This stream crossing currently overtops during major flood events. Under the proposed project, this stream crossing is proposed to be replaced with two CMP arch culverts in order to increase flood capacity while minimizing the effects on overall floodplain elevations (see Figure 4.2C [Proposed Janes Creek Culvert Replacement at Foster Ave]). This crossing will be raised, placing the road at an elevation of 25 feet, thereby removing it from the 100-year floodplain.

Pathway Crossing to Alliance Road: The existing crossing at this location consists of a seven-foot wide by four-foot high box culvert. This stream crossing currently overtops during major flood events. This crossing will be replaced with a corrugated metal pipe (CMP) arch culvert with a span of ten feet and a rise of five feet in order to increase flood capacity while minimizing the effects on overall floodplain elevations. This crossing will be constructed to provide pedestrian/bicycle access from the eastern edge of the residential development site to an existing paved access road that connects to Alliance Road adjacent to the Janes Creek Townhouses (South).

Figure 4.2C Proposed Janes Creek Culvert Replacement at Foster Ave (CEC, 2006)



The proposed culvert configuration for the Janes Creek stream crossings will decrease the upstream surface water elevation at the 100-year flow. The post-development decrease in water surface elevation at the 100-year flow occurs in the direct vicinity of each crossing and is approximately 0.02 feet lower at Foster Avenue Crossing and 0.15 feet at the Pathway Crossing to Alliance Road (Appendix W). Volumes are based on pre- and post-development HEC-2 model results. HEC-2 modeling also shows no change in velocity and flood elevations for the project area for the 100-year, 24-hour storm event. The proposed culvert replacements will provide greater flood capacity along Janes Creek in the project area and will reduce erosion and siltation caused by the overtopping of existing undersized culverts during flood events.

Therefore, the proposed project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.2.4: Substantially Alter the Existing Drainage Pattern of the Site or Area, including Through the Alteration of the Course of a Stream or River, or Substantially Increase the Rate of Surface Water Runoff in a Manner that would Result in Flooding On-Site or Off-Site.

Discussion:

The surface water features on the residential development site (APN 505-161-011) include Janes Creek on the southeastern boundary and small isolated wetlands scattered throughout the site. Development of the residential development site will create new impervious surfaces and increase the amount of surface runoff.

Generally, stormwater runoff from the residential development site flows overland in a southern direction on an approximately one percent slope and discharges directly into Janes Creek or into various drainage ditches found within and adjacent to the site; flow is then transported to Janes Creek. Stormwater from the residential properties north and east of the site is transported via a concrete pipe culvert to Janes Creek approximately 250 feet downstream from Alliance Road. Stormwater from the neighborhoods immediately east of the site is transported via a 24-inch RCP culvert, which then connects to the 78-inch CMP culvert under Foster Avenue at the southeast corner of the site.

Increased volume and speed of runoff from the proposed development could cause runoff to reach downstream areas sooner and coincide more closely with the peak of runoff from lower areas; the effect, along with that of higher runoff, could be increased flood flows. Any increase in impervious surfaces and soil compaction has the potential to decrease infiltration and increase runoff volumes for the site. While the volumes may be increased, the actual flow rate can be modified so that there is no increase in peak flow rate off-site.

Stormwater drainage facilities for the development are required to be designed to meet both State and local stormwater regulations which are focused on maintaining or improving a site's pre-development runoff characteristics. In order to help guide its communities to meet the MS4 low impact development (LID) requirements, Humboldt County developed the Humboldt County Low Impact Development Stormwater Manual (HLIDSMS).

As described in the Stormwater Management Assessment completed by SHN Consulting Engineers & Geologists, Inc. (Appendix X), the stormwater system is designed to manage 14,785 ft³ of runoff from the 85th percentile storm event (0.65 inches). This will occur on the residential development site through a suite of best management practices including soil quality improvement and maintenance, tree planting and preservation, vegetated swales, permeable asphalt, stream setbacks and buffers, and rain gardens.

Since the proposed project will create and replace more than one acre of impervious area, it is subject to the hydro-modification requirement of the HLIDSMS. The HLIDSMS requires that the post-project runoff rate shall not exceed the estimated pre-project flow rate for the 2-year, 24-hour storm. During peak storm events, stormwater runoff from the residential development site will be directed to a pretreatment bioswale (5,700 ft³ of storage capacity) and ultimately the wetland mitigation area (53,762 ft³ of storage capacity), to meet the hydro-modification requirement of the MS4 Permit (Appendix X).

Based on an overall pre-construction versus post-construction condition calculation, 23,792 ft³ of the current stormwater runoff volume (runoff produced by the pre-project conditions) will be infiltrated and treated (rather than produced) by the improved surface conditions inherent to the proposed residential development. These surface conditions are not considered in the Regulated Projects calculation for managing the 85th percentile storm event, which gives credits based on inferred runoff reduction from square footage of site design measures such as vegetated swales, soil quality improvement, and infiltration trenches. This Regulated Project methodology overlooks the site engineering runoff coefficients used in the hydro-modification calculations, which consider site characteristics such as overall site flow lengths, evaporative surfaces, soil

hydrological types, and surface cover types. Examples of the development features and site characteristics that will improve infiltration and reduce runoff include: 1) the transformation of compacted, rocky ground to lawn and landscape; 2) differences in surface cover types and their associated improvements in surface runoff reduction and infiltration (such as the difference between plant type, plant species, and mulch type); and 3) difference in cover percentages.

To ensure the desired factor of safety for flood control and watershed protection is built into the project, a conservative calculation was performed by disregarding the improved stormwater conditions predicted in the pre- versus post-construction calculations. This precautionary calculation ignores the reduced post-construction runoff volume and uses the 2-year, 24-hour storm event of 2.93 inches for the post-construction hydromodification requirement. This calculation is based on an urban area runoff curve number of 80 for pre-project conditions (the worst case scenario for this site), taken from the Texas DOT Hydraulic Design Manual (Texas, 2009 and Attachment C), and entered into the Solution of Runoff Equation (NRCS, 2011) to arrive at the runoff depth of 1.19 inches. This depth was multiplied by the residential development area of 15.94 acres to get 68,856 ft³ of runoff volume. By subtracting the 14,758 ft³ removed by the Regulated Project requirement LID measures, this leaves a total site runoff value (as opposed to the difference between pre and post conditions) of 54,098 ft³ of runoff to treat onsite for the 2-year event, 24-hour storm event. Since the proposed wetland mitigation area will hold an approximate 53,762 ft³ of runoff volume, along with an additional 5,700 ft³ contained in the adjacent pretreatment bioswale, this site will comply with the hydro-modification requirement and protect the surrounding watershed with a total runoff capture of 59,462 ft³. (Appendix X).

The stormwater system is designed to control the volume and flow rate of run-off so to not exceed the pre-development conditions so the drainage pattern of the project area will not substantially contribute to flooding on or off-site.

The project area is situated at an elevation of approximately 20 to 25 feet above mean sea level. As shown on the Flood Insurance Rate Map (Community Panel Number 060061 0002 E; Revised Nov. 5, 1997), the southeastern boundary of the residential development site along Janes Creek is in the FEMA 100-Year Floodplain (see Figure 4.2B [FEMA National Flood Hazard Mapping]).

As described in Chapter 1 (Introduction) of the EIR, the project proposes to replace two culverts in Janes Creek. One of the culvert replacements is proposed at what is referred to as the Foster Avenue crossing which is located in the southeastern corner of the residential development site. As shown below in Figure 4.2C (Proposed Janes Creek Culvert Replacement at Foster Avenue), the replacement of the culvert at this location will coincide with the construction of the Foster Avenue road connection. The other culvert replacement is proposed at the pathway crossing which is located mid-way along the eastern boundary of the residential development site. The replacement of the culvert at this location will coincide with the construction of the pedestrian/bicycle pathway to Alliance Road. Each culvert replacement is described below.

Foster Avenue Crossing: The existing crossing at Foster Avenue contains a six-foot diameter corrugated metal pipe (CMP) culvert. This stream crossing currently overtops during major flood

events. Under the proposed project, this stream crossing is proposed to be replaced with two CMP arch culverts in order to increase flood capacity while minimizing the effects on overall floodplain elevations (see Figure 4.2C [Proposed Janes Creek Culvert Replacement at Foster Ave]). This crossing will be raised, placing the road at an elevation of 25 feet, thereby removing it from the 100-year floodplain.

Pathway Crossing to Alliance Road: The existing crossing at this location consists of a seven-foot wide by four-foot high box culvert. This stream crossing currently overtops during major flood events. This crossing will be replaced with a corrugated metal pipe (CMP) arch culvert with a span of ten feet and a rise of five feet in order to increase flood capacity while minimizing the effects on overall floodplain elevations. This crossing will be constructed to provide pedestrian/bicycle access from the eastern edge of the residential development site to an existing paved access road that connects to Alliance Road adjacent to the Janes Creek Townhouses (South).

The report “Updated Hydraulic Analysis of Janes Creek” prepared by Domenichelli & Associates (Appendix W), states that the proposed culverts would: “...result in minimal changes to the FEMA floodplain elevations. Any changes in water surface elevation would occur only in the direct vicinity and upstream of the crossings. Any changes made at either the Lumberyard Road [sic] or the Foster Avenue crossing would have no affect on the 17th Street crossing.” According to the Hydraulic Analysis, the proposed culverts will decrease the surface water elevation at the 100-year flow by approximately 0.02 feet lower at the Foster Avenue Crossing and 0.15 feet at the Pathway Crossing to Alliance Road (Appendix W). Volumes are based on pre- and post-development HEC-2 model results. HEC-2 modeling also shows no change in velocity and flood elevations for the project area for the 100-year, 24-hour storm event. The proposed culvert replacements will provide greater flood flow capacity along Janes Creek in the project area and will reduce potential flooding on- and off-site.

As described in Section 4.3 (Biological Resources) of the EIR, to mitigate for directly impacting 20,285 ft² (0.47 acres) of wetlands on the residential development site (APN 505-161-011), the project proposes to create a three-parameter (wetland hydrology and hydrophytic vegetation) mitigation wetland on the site that will be 37,026 ft² (0.85 acres) in size. The proposed wetland mitigation area will require excavation and removal of a significant amount of fill from the area adjacent to the creek, providing additional off-channel storage at the 100-year storm event. This additional off-channel storage has the potential to minimize flooding downstream of the residential development site during peak storm events.

Therefore, the proposed project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate of surface water runoff in a manner that would result in flooding on-site or off-site.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.2.5: Create or Contribute Runoff that would Exceed the Capacity of the Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff.

Discussion:

The surface water features on the residential development site (APN 505-161-011) include Janes Creek on the southeastern boundary and small isolated wetlands scattered throughout the site. The site is an industrial property with drainage characteristics associated with former site uses. Currently the site contains less than one acre of impervious surfaces, made up of a concrete slab associated with the former mill site. Much of the former mill site is covered in 2-4 feet of consolidated gravel fill, much of which is of moderate to low permeability.

Currently, the majority of the residential development site is covered in compacted gravel fill, which exhibits slow to moderate infiltration. Development of the site will create new impervious surfaces (e.g., buildings, pavements, etc.), which has the potential to increase the amount of surface runoff. Approximately 12 acres will be developed throughout the entire 16-acre residential development site. Of the developed area, approximately 6.28 acres will be impervious surfaces consisting of residential structures, roads, parking areas, and sidewalks (Appendix X).

Generally, stormwater runoff from the residential development site flows overland in a southern direction on an approximately one percent slope and discharges directly into Janes Creek or into various drainage ditches found within and adjacent to the site; flow is then transported to Janes Creek. Stormwater from the residential properties north and east of the site is transported via a concrete pipe culvert to Janes Creek approximately 250 feet downstream from Alliance Road. Stormwater from the neighborhoods immediately east of the site is transported via a 24-inch RCP culvert, which then connects to the 78-inch CMP culvert under Foster Avenue at the southeast corner of the site.

The residential development site is not proposed to be connected to the City of Arcata stormwater system and will therefore not exceed the capacity of the system. All stormwater runoff as a result of the development and increased impervious surfaces is proposed to be managed within the 16-acre site. Stormwater drainage facilities for the development are required to be designed to meet both State and local stormwater regulations which are focused on maintaining or improving a site's pre-development runoff characteristics. In order to help guide its communities to meet the MS4 low impact development (LID) requirements, Humboldt County developed the Humboldt Low Impact Development Stormwater Manual (HLIDSM).

As described in the Stormwater Management Assessment completed by SHN Consulting Engineers & Geologists, Inc. (Appendix X), the stormwater system is designed to manage 14,785 ft³ of runoff from the 85th percentile storm event (0.65 inches). This will occur on the residential development site through a suite of best management practices including soil quality improvement and maintenance, tree planting and preservation, vegetated swales, permeable asphalt, stream setbacks and buffers, and rain gardens.

Since the proposed project will create and replace more than one acre of impervious area, it is subject to the hydro-modification requirement of the HLIDSM. The HLIDSM requires that the post-project runoff rate shall not exceed the estimated pre-project flow rate for the 2-year, 24-hour storm. During peak storm events, stormwater runoff from the residential development site will be directed to a pretreatment bioswale (5,700 ft³ of storage capacity) and ultimately the wetland mitigation area (53,762 ft³ of storage capacity), to meet the hydro-modification requirement of the MS4 Permit (Appendix X).

Based on an overall pre-construction versus post-construction condition calculation, 23,792 ft³ of the current stormwater runoff volume (runoff produced by the pre-project conditions) will be infiltrated and treated (rather than produced) by the improved surface conditions inherent to the proposed residential development. These surface conditions are not considered in the Regulated Projects calculation for managing the 85th percentile storm event, which gives credits based on inferred runoff reduction from square footage of site design measures such as vegetated swales, soil quality improvement, and infiltration trenches. This Regulated Project methodology overlooks the site engineering runoff coefficients used in the hydro-modification calculations, which consider site characteristics such as overall site flow lengths, evaporative surfaces, soil hydrological types, and surface cover types. Examples of the development features and site characteristics that will improve infiltration and reduce runoff include: 1) the transformation of compacted, rocky ground to lawn and landscape; 2) differences in surface cover types and their associated improvements in surface runoff reduction and infiltration (such as the difference between plant type, plant species, and mulch type); and 3) difference in cover percentages.

To ensure the desired factor of safety for flood control and watershed protection is built into the project, a conservative calculation was performed by disregarding the improved stormwater conditions predicted in the pre- versus post-construction calculations. This precautionary calculation ignores the reduced post-construction runoff volume and uses the 2-year, 24-hour storm event of 2.93 inches for the post-construction hydromodification requirement. This calculation is based on an urban area runoff curve number of 80 for pre-project conditions (the worst case scenario for this site), taken from the Texas DOT Hydraulic Design Manual (Texas, 2009 and Attachment C), and entered into the Solution of Runoff Equation (NRCS, 2011) to arrive at the runoff depth of 1.19 inches. This depth was multiplied by the residential development area of 15.94 acres to get 68,856 ft³ of runoff volume. By subtracting the 14,758 ft³ removed by the Regulated Project requirement LID measures, this leaves a total site runoff value (as opposed to the difference between pre and post conditions) of 54,098 ft³ of runoff to treat onsite for the 2-year event, 24-hour storm event. Since the proposed wetland mitigation area will hold an approximate 53,762 ft³ of runoff volume, along with an additional 5,700 ft³ contained in the adjacent pretreatment bioswale, this site will comply with the hydro-modification requirement and protect the surrounding watershed with a total runoff capture of 59,462 ft³. (Appendix X). The proposed onsite stormwater system is designed to control the volume and flow rate of runoff so that it does not exceed pre-development runoff volumes.

Additionally, with required adherence to Section 9.64 (Grading, Erosion, and Sediment Control) of the Arcata Land Use Code (Pgs. 6-23 - 6-30), the City's Drainage Master Plan, the Construction General Permit, and the Phase II Small MS4 General Permit, the project would not

provide substantial additional sources of polluted runoff. This response incorporates the responses for Findings 4.2.1, 4.2.3, and 4.2.4 which adequately addressed the potential for the proposed project to provide substantial sources of polluted runoff.

Therefore, the proposed project will not create or contribute runoff that would exceed the capacity of the existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.2.6: Otherwise Substantially Degrade Water Quality.

Discussion:

There are no conditions associated with the proposed project that could result in the substantial degradation of water quality beyond what is described above in the responses to Findings 4.2.1, 4.2.3, and 4.2.5, which adequately answer the question.

Therefore, the proposed project will not otherwise substantially degrade water quality.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.2.7: Place Housing within a 100-Year Flood Hazard Area as Mapped on a Federal Flood Hazard Boundary, Flood Insurance Rate Map, or Other Flood Hazard Delineation Map.

Discussion:

As shown on the Flood Insurance Rate Maps (Community Panel Numbers 06023C06090F and 06023C0689F; Revised Nov. 4, 2016), the southeastern boundary of the residential development site, along Janes Creek, is in the FEMA 100-Year Floodplain. Figure 4.2B (FEMA National Flood Hazard Mapping), in the Environmental Setting, shows the FEMA National Flood Hazard Layer for the residential development site. As noted previously in this section, a 100-foot setback from Janes Creek is proposed to be designated as a Wetland and Creek Protection Zone, which will contain the entire extent of the 100-year flood hazard area on the site. As shown on

the Site Plan (Figure 1G in Chapter 1 [Introduction] of the EIR), the proposed residential structures will be located outside of the Wetland and Creek Protection Zone and therefore the 100-year flood hazard area.

Therefore, the proposed project will not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map, or other flood hazard delineation map.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.2.8: Place within the 100-Year Flood Hazard Area Structures that would Impede or Redirect Flood Flows.

Discussion:

As shown on the Flood Insurance Rate Maps (Community Panel Numbers 06023C06090F and 06023C0689F; Revised Nov. 4, 2016), the southeastern boundary of the residential development site along Janes Creek is in the FEMA 100-Year Floodplain. Figure 4.2B (FEMA National Flood Hazard Mapping), in the Environmental Setting, shows the FEMA National Flood Hazard Layer for the residential development site. As noted previously in this section, a 100-foot setback from Janes Creek is proposed to be designated as a Wetland and Creek Protection Zone which will contain the entire extent of the 100-year flood hazard area on the site.

As shown on the Site Plan (Figure 1G in Chapter 1 [Introduction] of the EIR), the proposed residential structures will be located outside of the Wetland and Creek Protection Zone and therefore the 100-year flood hazard area. As noted under Findings 4.2.3 and 4.2.4, two culverts in Janes Creek are proposed to be replaced as part of the project to increase flood conveyance capacity. The proposed culvert configuration for these stream crossings will be designed to convey the 100-year flood flow. As discussed above, the Foster Avenue crossing will be raised to remove it from the 100-year floodplain. No other structures are proposed by the project that have the potential to impede or redirect flood flows.

Therefore, the proposed project will not place structures within a 100-year flood hazard area that would impede or redirect flood flows.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.2.9: 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.

Discussion:

As discussed under Findings 4.2.7 and 4.2.8, the 100-year flood hazard area for Janes Creek is located on the southeastern edge of the residential development site (APN 505-161-011). As noted previously in this section, a 100-foot setback from Janes Creek is proposed to be designated as a Wetland and Creek Protection Zone which will contain the entire extent of the 100-year flood hazard area on the site. As shown on the Site Plan (Figure 1G in Chapter 1 [Introduction] of the EIR), the proposed residential structures will be located outside of the Wetland and Creek Protection Zone and therefore the 100-year flood hazard area.

The project parcels are mapped in Humboldt Bay Municipal Water District's (HBMWD) "Emergency Action Plan for R.W. Mathews Dam" as being within anticipated maximum reach of floodwaters resulting from catastrophic failure of the dam, in conjunction with winter floods the size of those occurring in 1964. The project is outside of the inundation area for the "*sunny day summer flow conditions with piping failure*" (HBMWD, 1999, Inundation Map – Sheet 13 of 13). In a seismic or flood event of a magnitude great enough to cause dam failure, persons present at the site would most likely leave the site before flooding occurred due to the adequate lead time of 7-15 hours before it is estimated flooding would reach this area (7 hours to reach the area and 15 hours to peak).

The HBMWD Emergency Action Plan for the dam includes plans for notification of the affected areas. Humboldt County has a Contingency Plan/Dam Failure Evacuation Plan. The County is responsible for determining the approximate flood inundation area and notifying the City of Arcata. The City is responsible for manning roadblocks to isolate the inundation area. The City is currently working toward a more detailed emergency plan that considers the worst-case inundation scenario described above. The City's plan will clearly delineate responsibilities and mechanisms for notification, evacuation, and isolation of the affected areas.

Arcata General Plan Policy PS-2f (*Failure of Matthews Dam*) (Pgs. 6-7) requires development of an early warning system and evacuation plan for all new buildings designed for human occupancy that are located in the area of potential inundation resulting from a catastrophic failure of Matthews Dam. The Arcata General Plan PEIR notes that compliance with General Plan Policy PS-2f will ensure no significant adverse impacts will result.

In compliance with Policy PS-2f, a site-specific early warning system and evacuation plan will be created and implemented for the proposed development and approved by the City prior to issuance of the Certificate of Occupancy for the first phase of the project. This will be required as a condition of approval by the City of Arcata for the proposed project.

The proposed project, as designed and conditioned, will not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure or a levee or dam.

Determination:

Less than significant impact.

Mitigation:

None required

Finding 4.2.10: Inundation by Seiche, Tsunami, or Mudflow.

Discussion:

There is no potential for impacts from a mudflow in the project area, based on surrounding geology and topography. Due to the known seismic activity in the Pacific Rim, a tsunami or seiche could impact Humboldt Bay. The last significant known tsunami to occur in Humboldt Bay was in 1964 as result of the Gulf of Alaska earthquake. It had a recorded maximum height of twelve feet on the inside of the north spit, with lower heights occurring along the waterfront areas. The March 11, 2011 Tsunami from the Japan earthquake had minimal effects in both North Humboldt Bay and the Mad River.

It is expected that the impact of a tsunami on Humboldt Bay would primarily occur along the north and south spits and the King Salmon and Fields Landing areas, which are located directly across from the opening to Humboldt Bay. There are some areas of the City of Arcata, immediately adjacent to the bay, that are within a seiche or tsunami run-up zone as identified in the *Planning Scenario in Humboldt and Del Norte Counties, California for a Great Earthquake on the Cascadia Subduction Zone* (CGS, 1995). These areas have been designated Natural Resource [NRP] by the City of Arcata, which does not allow residential, commercial or industrial development, and are located over one mile from the project parcels. As such, the project parcels are located outside of the NRP designated areas.

Therefore, the proposed project will not result in impacts due to inundation by seiche, tsunami, or mudflow.

Determination:

Less than significant impact.

Mitigation:

None required.

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Section 4.3

BIOLOGICAL RESOURCES

This section evaluates the potential impacts related to biological resources during construction and operation of the project. The Environmental Setting section describes the existing environmental conditions for biological resources. The Regulatory Framework section defines the applicable regulations at the federal, State, and local level. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to biological resources, and identifies the significance of impacts. Where appropriate, mitigation is presented to reduce impacts to less-than-significant levels.

ENVIRONMENTAL SETTING

Biological Reports, including field surveys, were completed for the project parcels by Mad River Biologists (Appendix Y; MRB, 2000) and Streamline Planning Consultants (Appendix Z; SPC, 2016b). These reports addressed the environmentally sensitive resources that occur on the project parcels. Additionally, a Wetland Delineation (Appendix AA; SPC, 2016a) and Wetland Assessment (Appendix BB; SPC, 2017a) were completed by Streamline Planning Consultants which identified the different types of wetlands and vegetation occurring on the project parcels. The results of these reports are discussed below.

Residential Development Site

The residential development site (APN 505-161-011) is a 16-acre parcel that was historically used for lumber milling activities and is currently vacant (see Figure 4.3B [Aerial Photo of the Residential Development Site]). Vegetation across the majority of the residential development site is characteristic of degraded upland, with a dominance of non-native annual and perennial grasses, herbs, and shrubs. The most commonly observed species during the botanical surveys conducted by Mad River Biologists (Appendix Y; MRB, 2000) and Streamline Planning Consultants (Appendix Z; SPC, 2016b) included Himalayan blackberry (*Rubus armeniacus*), California blackberry (*R. ursinus*), sweet vernal grass (*Anthoxanthum odoratum*), soft chess (*Bromus hordeaceus*), annual fescue (*Vulpia* spp.), rose-flowered lotus (*Lotus micranthus*), bird's-foot trefoil (*L. corniculatus*), hairy cat's-ear (*Hypochaeris radicata*), English plantain (*Plantago lanceolata*), poison hemlock (*Conium maculatum*), riverbank lupine (*Lupinus rivularis*), wild radish (*Raphanus* spp.), bluegrass (*Poa* spp.), wild rye (*Lolium* spp.), and wild teasel (*Dipsacus fullonum*) (see biological appendices for plant species list). The vegetation of the scattered "isolated wetland pockets" on the site consists primarily of pennyroyal (*Mentha pulegium*) and water foxtail (*Alopecurus geniculatus*). Other topographic low spots on the parcel are dominated by blackberries (*Rubus* spp.), curly dock (*Rumex crispus*), creeping buttercup (*Ranunculus repens*), giant horsetail (*Equisetum telmateia*), and northern willow herb (*Epilobium ciliatum*). A strip of riparian vegetation surrounds Janes Creek, and common plants in this area include red alder (*Alnus rubra*), willows (*Salix* spp.), Himalayan blackberry, reed canary grass

(*Phalaris arundinacea*), goose grass (*Galium aparine*), creeping buttercup, lady fern (*Athyrium filix-femina*), water parsley (*Oenanthe sarmentosa*), small-flowered bulrush (*Scirpus microcarpus*), and others. Many of the native trees and shrubs in the riparian corridor were planted by Redwood Community Action Agency (Eureka, CA) and City of Arcata during 1995 creek restoration efforts (Appendix Y; MRB, 2000).

Based on the Soils Report prepared by LACO Associates (Appendix V) for the residential development site (505-161-011) and the soils analysis from the Wetland Delineation prepared by Streamline Planning Consultants (Appendix AA; SPC, 2016a), the soils (in the upper A-horizon) are dark (10YR 2/1-10YR 3/1) in Munsell Color, 2000) and have a gravelly loam texture. The upper A-horizon was primarily only a few inches thick and was underlain by imported river-run gravel.

Park Site

The proposed park site (Ennes Park Expansion), which totals approximately 4.69 acres, would be located on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (see Figure 4.3A [Parcels Proposed for Development]). Parcel 505-151-009 is currently located in the County and parcels 505-284-009 and 505-284-010 are located within City limits. The majority of the proposed park site is currently vacant but was used historically for agriculture and contains prime agricultural soils. The park site currently contains a graveled driveway access that is used for an adjacent community supported agriculture (CSA) operation on parcel 505-151-008.

Parcel 505-151-009 (4.22 acres) has been planned to be developed as an expansion of Ennes Park by the City of Arcata for several decades. This parcel was re-designated as Public Facility (PF) as part of the Humboldt County General Plan update in Fall 2017 based on the City's expressed desire to develop the property as parkland (see Section 2.1 [Land Use and Planning] for further information). Parcel 505-284-009 (0.26 acres) is currently developed with a gravel driveway access. Parcel 505-284-010 (0.21 acres) is currently developed with a small park (Ennes Park). Ennes Park serves the single-family residential neighborhood to the north of the residential development site and was recently redeveloped by the City to contain a jungle gym, wiggly board, spinner pod, a see-saw type structure, and a corn hole court.

Vegetation found on the park site primarily consists of non-native species such as Sweet Vernal Grass (*Anthoxanthum odoratum*), Orchard grass (*Dactylis glomerata*), Italian Wildrye (*Festuca perennis*), Soft Chess (*Bromus hordeaceus*), and Wild Radish (*Raphanis sativum*). As indicated in the Wetland Delineation, Wetland Assessment, and Biological Report prepared by Streamline Planning Consultants (Appendices Z, AA, and BB), the parcels proposed to be developed for the park do not contain any riparian corridors, wetlands, or other sensitive habitat.

Emergency Access Road Site

The emergency access road site is located on parcel 505-151-001 (26.16 acres) (see Figure 4.3A [Parcels Proposed for Development]) and will cover approximately 0.34 acres of the parcel. Although the emergency access road will access Stewart Avenue through an approximately 0.11 acres portion of parcel 505-284-010, it will not convert this portion of parcel 505-284-010 into an emergency access road (see Chapter 1 [Introduction] for further discussion).

Parcel 505-151-001 was historically used for agricultural purposes and contains prime agricultural soils. Currently the parcel is used as grazing land by Tule Fog Farm. Parcel 505-151-001 is currently zoned by Humboldt County for agricultural (AG), industrial (ML), and residential (R-1) uses. Vegetation on this parcel primarily consists of non-native species such as Sweet Vernal Grass and Orchard grass.

Parcel 505-284-010 was also historically used for agricultural purposes and is currently developed as Ennes Park, which serves the single-family residential neighborhood to the north of the residential development site. As noted above, Ennes Park was recently redeveloped by the City to contain a jungle gym, wobble board, spinner pod, a see-saw type structure, and a corn hole court. This parcel is currently zoned Public Facility (PF) by the City of Arcata.

As indicated in the Wetland Delineation (Appendix AA), Wetland Assessment (Appendix BB), and Biological Report (Appendix Z) prepared by Streamline Planning Consultants, the areas proposed to be developed for the emergency access road do not contain any riparian corridors, wetlands, or other sensitive habitat.

Hammond Trail Sections Site

The proposed Hammond Trail section that will be developed by the applicant will be located on parcel 505-161-009 (No address assigned) which totals approximately 0.94 acres. This parcel is located along the southern boundary of the residential development site (see Figure 4.3A [Parcels Proposed for Development]). This parcel historically contained the Simpson Mill spur tracks which have been inactive for several decades. The property is privately owned and is planned to be developed as a section of the Hammond Trail in the Arcata Pedestrian and Bicycle Master Plan (2010). This parcel contains drainage ditches on either side of the railbed which were identified as three-parameter wetlands in the Wetland Delineation (Appendix AA) completed by Streamline Planning Consultants.

In addition to the Hammond Trail section that will be developed by the applicant, the City of Arcata also proposes to construct a section of the Hammond Trail on parcel 505-151-005. This parcel occurs directly west of parcel 505-161-009 and also historically contained the Simpson Mill spur tracks. Parcel 505-151-005 also contains drainage ditches on either side of the railbed which were identified as two- and three-parameter wetlands in the Wetland Assessment (Appendix CC) completed by SHN Consulting Engineers & Geologists, Inc.

Pedestrian/Bicycle Pathway Site to Alliance Road

A proposed pedestrian/bicycle pathway will be located on parcel 505-341-048 (2201 Alliance Road), which totals 0.68 acres. There is currently an unimproved pedestrian trail along this proposed pathway that provides access from the eastern boundary of the residential development site to the existing paved access that connects to Alliance Road adjacent to the Janes Creek Townhouses (South). This access contains an existing overcrossing over Janes Creek along the eastern boundary of the residential development site (see Figure 4.3A [Parcels Proposed for Development]). There is an existing private access easement through parcel 505-341-048 for the benefit of the residential development site (APN 505-161-011). Parcel 505-341-048 is zoned Residential High Density (RH) with the Planned Development (:PD) Combining Zone by the

City of Arcata. The proposed pathway will improve approximately 0.09 acres of parcel 505-341-048.

Foster Avenue Connection Site

The proposed Foster Avenue connection will be located within the City of Arcata public right-of-way and on parcels 505-161-009, -030, and 505-162-010. The Foster Avenue connection will cover an approximately 0.21-acre portion of these parcels and the existing road right-of-way (180 feet long by 50 feet wide). The majority of the Foster Avenue connection will occur on parcel 505-161-009 and in the Foster Avenue public right-of-way. The area proposed for this road connection contains an existing railbed crossing over Janes Creek with an undersized culvert that is in disrepair. The Janes Creek riparian corridor is approximately 160 feet wide in the area proposed for the road connection (see Figure 4.3A [Parcels Proposed for Development]).

Wetland Mitigation Area Site

The area along Janes Creek proposed for the wetland mitigation area totals 0.85 acres and is part of the larger 16-acre parcel (APN 505-161-011), which was historically used for lumber milling operations. As such this area is primarily dominated by non-native disturbance-oriented vegetation. Major dominant species within the proposed wetland mitigation area include Poison hemlock, English ivy (*Hedera helix*), Himalayan blackberry, teasel, California blackberry, and Pacific willow (*Salix lasiandra* var. *lasiandra*). Dense Himalayan blackberry thickets dominate the vast majority of the proposed wetland mitigation area. The native California blackberry is a lesser dominant within these thickets. The dense growth of Himalayan blackberry prevents other plant species from growing and leads to mono-dominant stands with little to no wetland habitat value. The area dominated by the Pacific willow represents a small portion of the wetland mitigation area where several large pacific willows blew over and re-rooted creating a willow thicket. Although the tree stratum is dominated by native willow, the area has been used as a homeless encampment in the past and has been cleared out and disturbed. The disturbed nature of the willow thicket is reflected by the dominance of non-native disturbance-oriented vegetation such as poison hemlock and Himalayan blackberry.

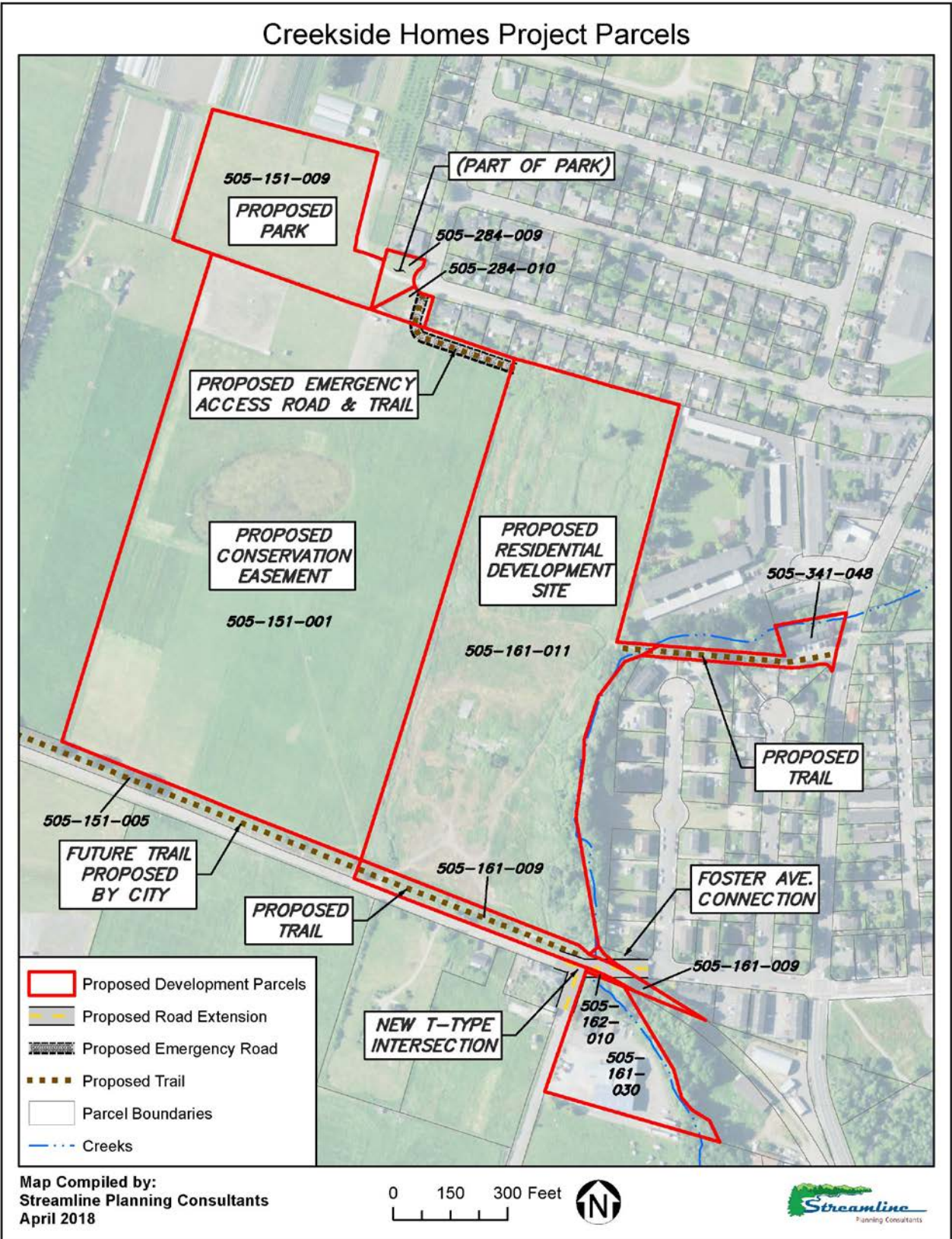
Biological Habitats & Community Types

Wetlands & Riparian Areas

Definitions

Currently, there is not a single state or federal definition of “wetland.” The regulatory jurisdiction over wetlands on the residential development site may fall under a number of different agencies. Wetland habitats in this analysis take into consideration the definitions and classification schemes of the following, each of which may be relevant to wetlands located on the site:

Figure 4.3A Parcels Proposed for Development



The COE (Federal Register, 1982) and the EPA (Federal Register, 1980) jointly define wetlands 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. Wetlands generally include swamps, marshes, bogs, and similar areas.

The U.S. Fish and Wildlife Service (Cowardin, 1979) defines wetlands as follows:

WETLANDS are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For the purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (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.

The City of Arcata defines wetlands in the Arcata General Plan (Chapter 4, Policy RC-3, Wetlands Management) as the following:

Wetlands shall include coastal zone lands where one or more of the following three characteristics are present or non-coastal zoned lands where two or more of the following three characteristics are present:

- a) source of water (surface or subsurface) which is present for sufficient periods to promote hydric soils formation or growth of hydrophytic plant species;*
- b) hydric soils; or*
- c) hydrophytic plants.*

The State Water Resources Control Board (SWRCB), the agency that regulates the discharge of waste to land and groundwater that could affect the quality of the “waters of the state” (under the California Porter-Cologne Water Quality Control Act and Section 401 of the federal Clean Water Act), recognizes one- and two-parameter wetlands (see SWRCB, 2003). The same is true of the California Department of Fish and Wildlife (CDFW), which provides guidance on identifying and protecting wetland and riparian resources in the North Coast region for compliance with the California Environmental Quality Act (CEQA) (see CDFW, 1994 & 2014).

The U.S. Army Corps of Engineers (ACOE), the agency that regulates the discharge of dredged and fill material into wetlands (per Section 404 of the Clean Water Act), identifies a “jurisdictional wetland” based on the presence of indicators of three wetland parameters: hydrophytic vegetation (plants adapted to anaerobic conditions resulting from a prolonged inundation with water), hydric soils (reduced soils resulting from a prolonged inundation with water), and wetland hydrology. The ACOE may no longer consider “isolated wetlands” to be jurisdictional (since the 2001 U.S. Supreme Court decision in Solid Waste Agency of Northern

Cook County v. U.S. Army Corps of Engineers, or “SWANCC”); however, certain isolated wetlands may fall under the regulatory jurisdiction of the SWRCB (2003).

Results

A wetland delineation of the residential development site was conducted by Streamline Planning Consultants (SPC) in the summer and fall of 2015 and the winter of 2016 (Appendix AA; SPC, 2016a). This delineation included an assessment of the area proposed for the emergency access road as well, which did not identify any wetlands in this area. Additional wetland assessments were also conducted on the park site parcels (APNs 505-151-009, 505-284-009, and 505-284-010) in winter 2017 (Appendix BB) and on a parcel that is proposed to be developed by the City as a section of the Hammond Trail (APN 505-151-005) in winter 2018 (Appendix CC). No wetlands were identified on the park site parcels. Three-parameter wetlands were identified on both sides of the railbed on parcel 505-151-005. Table 4.3 below contains a list of the wetland types and areas identified on the residential development site (APN 505-161-011) in the wetland delineations conducted by SPC:

Table 4.3-1 Wetland Coverage Area by Type

| Wetland Type | Coverage Area |
|-----------------------|--|
| 1-Parameter | 21,283 ft ² |
| 2-Parameter | 4,000 ft ² |
| 3-Parameter | 12,707 ft ² |
| Ditches (3 Parameter) | 13,284 ft ² |
| TOTAL | 51,274 ft² (1.18 ac) |

Areas meeting one-, two-, and three-wetland parameters were studied and delineated on the residential development site that will be directly impacted by future development of the property (see Figures 4.3C [Biological Resources on the Residential Development Site] and 4.3D [Wetlands on the Residential Development Site]). All of the wetlands delineated have some wetland value and functionality. Even a heavily impacted human-induced wetland area can have habitat value as being a breeding location for amphibians, habitat for aquatic invertebrates and hydrophytic vegetation. In addition, these wet areas do serve to retain storm water, aid in groundwater recharge, filter potential introduced pollutants, as well as many other wetland functions. That being said, the wetlands found on site varied in the quality of habitat and wetland function, and many of the areas delineated as wetlands are of very low habitat quality and wetland functionality. Wetland quality on site was influenced by a number of different factors, mainly connectivity to other wetland or natural areas, dominance by native or non-native vegetation, structure and diversity of the wetland for wildlife habitat, presence of a buffer, and the size of the wetland (Appendix AA; SPC, 2016a).

One-Parameter (human-induced, seasonal, isolated)

Areas meeting one wetland parameter were delineated on the residential development site and consisted of approximately 21,283 ft². However these areas are not defined as wetlands per Arcata Land Use Code Section 9.59.040(E) which states, “The City’s definition of wetlands utilizes a two-parameter protocol; a wetland includes those lands where two or more of the following characteristics are present, where one is a source of water (surface or subsurface) that

is present for sufficient periods, and the second is to promote either the formation of hydric soils or growth of hydrophytic plant species.” Habitat quality within the one-parameter areas was generally fairly poor, with no standing water, non-native species dominance, and no connectivity to other wet habitats. In all cases, areas meeting one wetland parameter did not have hydric soils present. One-parameter wetland sites were primarily dominated by the non-native hydrophytic Pennyroyal (*Mentha Pulegium*), Italian Wild rye (*Festuca perennis*), and Poison Hemlock (*Conium maculatum*), native hydrophytic Arroyo Willow (*Salix lasiolepis*) and the non-native facultative upland (FACU) species hairy cat’s-ear (*Hypochaeris radicata*). Other species present included non-native English plantain (*Plantago lanceolata*), Velvet grass (*Holcus lanatus*) and Canary Reed Grass (*Phalaris arundinacea*) (Appendix AA; SPC, 2016a).

Two-Parameter (human-induced, seasonal, isolated)

The two-parameter wetlands found on site varied in size and quality of habitat present. Approximately 4,000 ft² of two-parameter isolated wet areas were delineated on-site. These sites existed within topographic low spots that were created as a result of uneven compaction of fill. The two-parameter delineated wet-pockets were characterized by hydric soils and wetland hydrology, but did not support hydrophytic dominant plant communities. All had positive dipyrindil tests indicating the presence of reduced iron, a hydric soil indicator. In addition they all existed within a depressed region in which stormwater could pool. Most of these sites were underlain by compacted gravel left over from the past industrial use of the site, which limited the percolation of water into the soil. Vegetation within these two-parameter wet areas consisted primarily of non-native species such as Himalayan blackberry (*Rubus armeniacus*) and California blackberry (*Rubus ursinus*). Both blackberry species have been determined to be Facultative Upland (FACU) indicator species, making these sites dominated by upland species. Other species present included Pennyroyal, Creeping buttercup (*Ranunculus repens*), Teasel (*Dipsacus fullonum*), and Curly dock (*Rumex crispus*). Many of these species are Facultative (FAC), or Obligate (OBL) wetland species; however they did not display dominance, precluding these sites from displaying dominance by hydrophytic species (Appendix AA; SPC, 2016a).

Three-Parameter (human-induced, seasonal, isolated)

Isolated three-parameter wet pockets were delineated throughout the mid to lower portion of parcel 505-161-011. Three-parameter isolated wetlands found on site varied in size and quality of habitat present. Approximately 12,707 ft² of three-parameter isolated wet areas were delineated on-site. These are the result of past heavy equipment use on site and the uneven compaction of fill; therefore these are considered atypical human-induced wet-areas. These areas displayed hydric soils, wetland hydrology, and the presence of strongly hydrophytic vegetation. The isolated three-parameter wetlands were found to occur primarily on top of a super compacted gravel layer, or in depressions between two compacted areas. Both types displayed different vegetation dominance and soil characteristics. Wetlands on top of a super compacted gravel layer were dominated by the non-native Pennyroyal, Teasel, hairy cat’s-ear (*Hypochaeris radicata*), and Sweet vernal grass (*Anthoxanthum odoratum*) and the native Common Rush (*Juncus effuses*) and Meadow Barley (*Hordeum brachyantherum*). Lesser dominant species included Three cornered sedge (*Cyperus eragrostis*) (native), California blackberry (native), Kentucky Blue Grass (*Poa pratensis*) (non-native), and the Birds-foot Trefoil (*Lotus corniculatus*) (non-native). Soil samples typically displayed a thin top soil layer with a chroma value of 10YR 2/1, gradating from a peat at the surface into a loam and quickly

into gravel and cobble. The dipyrindil test revealed reduced iron, an indicator of hydric soils within each pit. Below this thin soil layer (less than 9 inches at each soil pit) existed a super compacted gravel layer composed of gravelly sand and river run. All of these sites displayed primary and secondary wetland hydrology indicators including a shallow concave depression in which water collects, saturation, sparsely vegetated concave surface and an algal mat (Appendix AA; SPC, 2016a).

Ditches (human-induced, seasonal)

Two pronounced man-made ditches (approximately 3-5 ft deep) run the length of the southern border of parcel 505-161-011 covering a total of 13,284 ft². The southern ditch runs between Foster Avenue and the railroad tracks and presumably drains both Foster Avenue and the railroad right-of-way (see Figures 4.3B [Aerial Photo of the Residential Development Site], 4.3C [Biological Resources on the Residential Development Site], and 4.3E [Ditches along the Railbed North of Foster Avenue]). This ditch continues west past the study parcel. The northern ditch runs between the railroad tracks and the southern border of parcel 505-161-011 and presumably drains the southern portion of parcel 505-161-011 based on the general slope of the site toward the south. The northern ditch does not extend west beyond the western border of parcel 505-161-011. Both ditches were found to meet three wetland parameters from the bottom of the ditch to the top of bank. Both ditches displayed a dominance of hydrophytic vegetation throughout their entire lengths, except in the culverted sections where old mill access driveways crossed the ditches. Dominant species within the ditches included the wetland indicator species Arroyo Willow (native), Lady Fern (*Athyrium filix-femina*) (native), and Giant Horsetail (*Equisetum telmateia*) (native). Lesser dominants included the non-native Himalaya blackberry and the native California blackberry, Common Rush, Three cornered sedge, and Sword Fern (*Polystichum munitum*). Hydric soils were present as evidenced by a redox dark surface within both ditches, extending up the side of the ditches to the top of the bank. Wetland hydrology was observed, with the primary indicator being flowing water during storm events. Additionally, drainage patterns were observed, and the depth and position of the ditches ensures that they collect runoff from parcel 505-161-011, the railroad right-of-way, and Foster Avenue. It is unclear as to whether the ditches ultimately run to Janes Creek. The slope was not obvious and drainage patterns seemed to indicate that water sat in the ditches for prolonged periods of time, rather than flowing through and draining out. It is likely that the ditches were originally designed to drain to Janes Creek (Appendix AA; SPC, 2016a).

Invasive Species

The majority of the residential development site, including the proposed wetland mitigation area, is dominated by invasive or non-native plant species. An invasive plant is technically defined as being both non-native to the ecosystem under consideration and potentially causing economic or environmental harm, or harm to human health (USDA, 2010). California Invasive Plant Council (Cal-IPC) similarly defines invasive plants as plants that are 1) non-native to an environment, yet can spread into wildland ecosystems, and 2) displace native species, hybridize with native species, alter biological communities, or alter ecosystem processes (Cal-IPC, 2018). Cal-IPC also rates species as to its potential to invade and impact wildlands within California. Invasive species are listed as watch, low, moderate, and high, with species listed as high having the highest potential for invasion and impact (Cal-IPC, 2018). Invasive species occurring on the residential development site, and their Cal-IPC rating, include English ivy [High], Himalayan

blackberry [High], poison hemlock [Moderate], teasel [Moderate], English holly (*Ilex aquifolium*) [Moderate], Cotoneaster (*Cotoneaster lacteus*) [Moderate], Canary reedgrass [Not listed], and mayten tree (*Maytenus boaria*) [Not listed, high risk of becoming invasive]. All of these species meet the technical definition of an invasive species and have the potential to cause economic harm (compromising mitigation success) and environmental harm (invading riparian and wetland ecosystems and displacing native vegetation). Likewise, the non-native species Canary reedgrass and the mayten tree are considered invasive in the technical sense for their aggressive tendency to invade natural areas and displace native vegetation although they are not formally listed by Cal-IPC.

As described in Chapter 1 (Introduction) of the EIR, it is proposed as part of this project to conduct invasive species removal, as these species could compromise the success of the mitigation plan and other proposed landscaping plans by inhibiting establishment of native plantings.

Janes Creek and Riparian Area

Janes Creek, which borders the eastern boundary of the residential development site, is a small, third order stream that is classified by the U.S. Fish and Wildlife Service (Cowardin et al., 1979) as a Riverine, Lower Perennial wetland (see Figures 4.3B [Aerial Photo of the Residential Development Site], 4.3C [Biological Resources on the Residential Development Site], and 4.3F [Western Edge of the Janes Creek Riparian Corridor]). This type of system is defined as having a channel, a low gradient, perennially-flowing water of slow velocity, no tidal influence, a substrate consisting primarily of sand and mud, and a well-developed floodplain (Cowardin et al., 1979). The riverine wetland includes the creek bottom to the top of the banks. The riparian area surrounding Janes Creek could also be classified as a Palustrine, Scrub-Shrub wetland (Cowardin et al., 1979). This type of system is dominated by woody vegetation less than six meters (20 feet) tall, including shrubs and young trees. It may represent a successional stage leading to Forested Wetland (Cowardin et al., 1979).

The City of Arcata General Plan classifies Janes Creek as an environmentally sensitive habitat area (ESHA). The riparian area around Janes Creek lies within a City-designated Streamside Protection Area (SPA). The width of the riparian vegetation ranges between five and 25 feet out from the center of the creek on the west bank, but is as great as 100 feet at the southeast corner of the parcel where several large willows dominate (Appendix Y; MRB, 2000). The interior of this area was not delineated during the wetland delineation completed by Streamline Planning Consultants (Appendix Z; SPC, 2016a); however the riparian area was traversed and vegetation was recorded as well as hydrology.

Plant species associated with the Janes Creek riparian area on the parcel site include red alder, willows, Himalayan blackberry, reed canary grass, goose grass, creeping buttercup, lady fern, water parsley, small-flowered bulrush, giant horsetail, shore pine, western red cedar, Sitka spruce, redwood, and others. Wildlife species that potentially may use this habitat for breeding and/or foraging include Marsh Wren, Chestnut-backed Chickadee, Black-capped Chickadee,

Figure 4.3B Aerial Photo of the Residential Development Site (Google Earth, 2017)



Figure 4.3C Biological Resources on the Residential Development Site

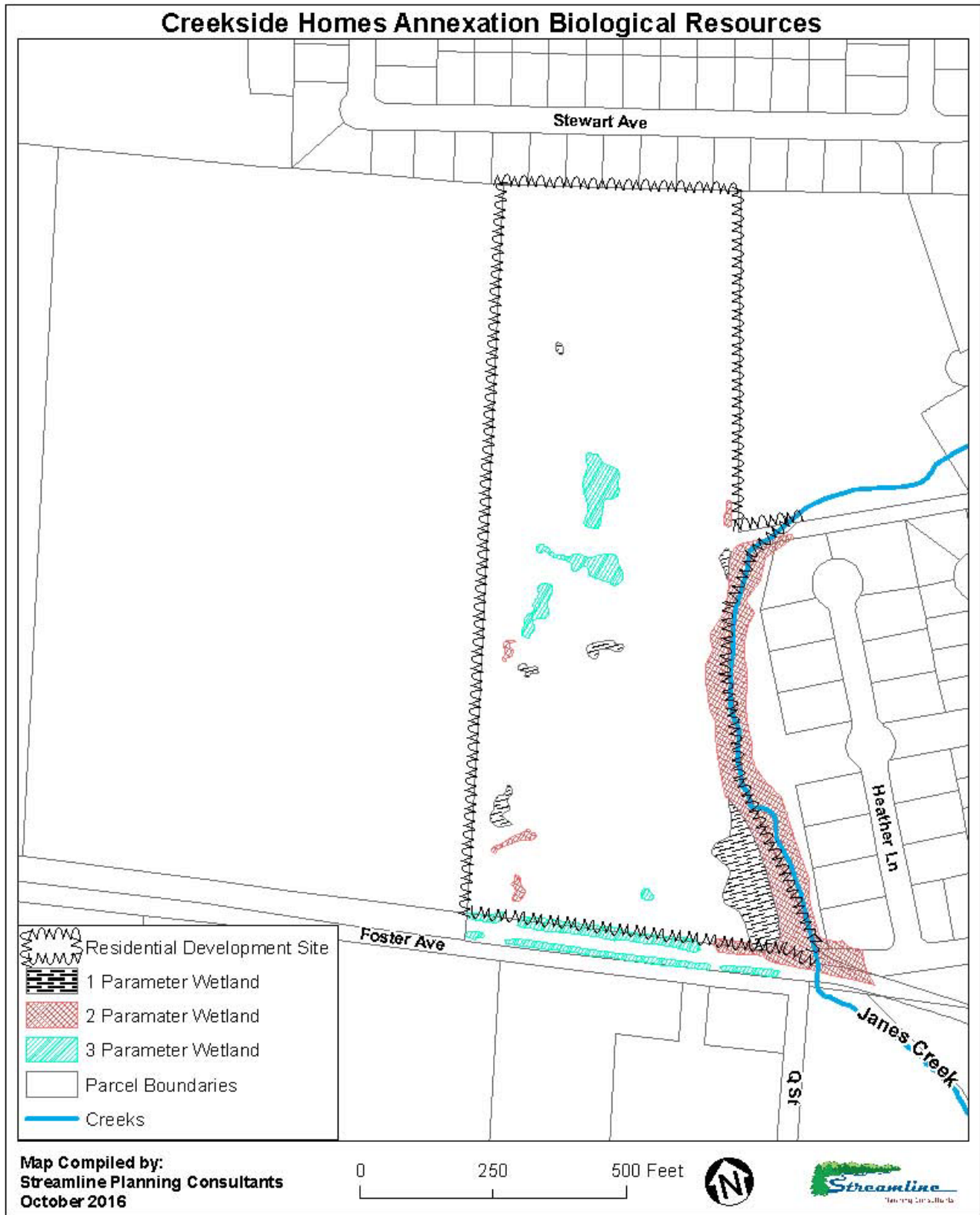


Figure 4.3D Wetlands on the Residential Development Site



Figure 4.3E Ditches along the Railbed North of Foster Avenue



Figure 4.3F Western Edge of the Janes Creek Riparian Corridor



Song Sparrow, California Yellow Warbler, Yellow-breasted Chat, Northern Red-legged Frog, Slender Salamander, Long-eared Myotis, Townsend's Big-eared Bat, and various other birds, amphibians, mammals, and insects (Appendix Y; MRB, 2000).

Although many of the native trees and shrubs in the riparian area were planted by Redwood Community Action Agency and the City of Arcata during 1995 restoration efforts, maintenance of this vegetation was not performed after the project ended due to lack of funding, and many of the non-native, invasive species (primarily Himalayan blackberry, Poison Hemlock and reed canary grass) have returned and are in competition with the native trees and shrubs (Appendix Y; MRB, 2000). Himalayan blackberry and reed canary grass compromise species diversity and aesthetic value in the creek zone.

Special-Status Plant & Wildlife Species

Biological Assessment Methods

A Biological Assessment (BA) was completed by Mad River Biologists (MRB) for the proposed residential development site, which addressed the environmentally sensitive resources that occur on and adjacent to the site (Appendix Y; MRB, 2000). The BA on-site investigation (conducted May 18, 2000) included a seasonally-appropriate survey for rare plant species, a list of plant and wildlife species observed on site, a list of special-status species with the potential for occurrence on site, and an evaluation of the site's habitat suitability for each species. MRB also conducted an updated botanical survey in May 2004. Due to the amount of time since the prior biological report was completed by MRB, an updated Biological Report was prepared by Streamline Planning Consultants (SPC) in 2016 which included multiple site visits to survey for listed sensitive plant and wildlife species (Appendix Z; SPC, 2016b). The study area for the SPC Biological Report also included parcel 505-151-009, which is the location of the proposed expansion of Ennes Park, and the northern portion of parcel 505-151-001, which is proposed to be developed with an emergency access road.

Sensitive species addressed in the MRB BA (Appendix Y) and updated Biological Report (Appendix Z; SPC, 2016b) included all those listed as rare or endangered by the U.S. Fish and Wildlife Service (FWS), including candidates for listing; all species designated rare, threatened, or endangered by the California Fish and Wildlife Commission; and, all plants listed in the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California*. Consideration was also given to species that fall within any of the following categories:

- 1) Taxa officially listed or proposed for listing under the Federal and/or California Endangered Species Acts;
- 2) Taxa that are state or federal candidates for possible listing;
- 3) Taxa that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the California Environmental Quality Act (CEQA) Guidelines;

- 4) Taxa considered by the California Department of Fish and Wildlife (CDFW) to be a Species of Special Concern (CSC);
- 5) Taxa considered by the FWS to be a federal “Species of Concern” (FSC);
- 6) Taxa listed in the CNPS *Inventory of Rare and Endangered Plants of California* (CNPS 2015);
- 7) Taxa designated as special status, sensitive, or declining species by state or federal agencies or non-governmental organizations;
- 8) Taxa that are biologically rare, very restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their life cycle that warrants monitoring;
- 9) Populations of plant or animal species in California that may be on the periphery of a taxon’s range, but are threatened with extirpation in California; or
- 10) Taxa that are closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old-growth forests, native grasslands, etc.).

The list of special-status species with the potential for occurrence in the project area – those that are addressed in the EIR – was compiled through queries of the California Natural Diversity Database (CNDDDB, 2016) and the California Native Plant Society Inventory (CNPS, 2016) as well as review of the BA (Appendix Y; MRB, 2000). The database queries focused on the project area’s U.S. Geologic Survey 7.5-minute quadrangle map (Arcata North) and all adjacent quadrangles (Arcata South, Blue Lake, Crannell, Eureka, Korbel, Panther Creek, Trinidad, and Tyee City). However, since the greater scoping region includes habitat types that are known not to be present within the project area (e.g., coastal dunes, coastal salt marsh, off-shore islands, etc.), the resulting list was reduced to include only those habitats with the potential for presence in the project area. Furthermore, since the database queries only result in those species that historically have been recorded in the specified quadrangle(s), they do not account for species that have not been recorded but for which habitat may be present in the quadrangle(s). Thus, species lists from local experts (e.g., Golec, 2002) were also considered in the scoping process, and any additional species with potential habitat in the project region were included on the target list (Appendix Y & Z).

Results

Plants

No rare plant species are known to occur on the residential development site (Appendix Y & Z). In general, the site supports little suitable habitat for rare plant species, except possibly for a few species that tend to occur on disturbed sites. Historical records of rare plants have not been documented for the site (CNDDDB, 2016). Furthermore, there are no special-status natural communities that are known to occur on the site (CNDDDB, 2016). The common vegetation types occurring on the project parcels are discussed at the beginning of the Environmental Setting.

Wildlife

In general, the riparian area around Janes Creek and the open grassland areas of the residential development site provide suitable habitat for a number of special-status wildlife species. The BA (Appendix Y; MRB, 2000) and updated biological report (Appendix Z; SPC 2016b) determined that the site supports suitable habitat (breeding and/or foraging/feeding habitat) for several rare, threatened, and endangered species. These include, but are not limited to, Cooper’s Hawk (foraging), Sharp-shinned Hawk (foraging), Northern Harrier (foraging), California

Yellow Warbler (potential breeding habitat in the riparian area), Merlin (winter foraging), Yellow-breasted Chat (potential breeding habitat in the riparian area), Black-capped Chickadee (feeding), Purple Martin (feeding); White-footed Vole, Long-eared Myotis (foraging), Townsend's Big-eared Bat (foraging), and Northern Red-legged Frog (breeding/feeding).

Field surveys of the site were conducted by MRB in 2000 and by SPC in 2015 and 2016. Wildlife species observed during the surveys are included in Appendix A of the MRB report (Appendix Y) and Attachment 3 of the SPC report (Appendix Z). During the surveys, no rare animal species were observed on or adjacent to the site, nor were any expected due to the highly disturbed nature of the parcel and riparian habitat.

Aquatic Environment & Sensitive Fish Species

The Janes Creek watershed drains approximately 4.5 square miles, flowing through forestlands, an industrial complex, urban areas, and low elevation pasture. Seasonal rainfall is often high in intensity and results in surface water runoff. Typical stream flows in Janes Creek and its tributaries are perennial, with high flows in the winter and little flow in the late summer. The upper Janes Creek watershed is forested with second and third growth redwood. West of Highway 101, Janes Creek winds through residential and commercial property, and passes through culverts under streets and residential areas (City of Arcata/CDFW, 2006).

The southeast boundary of the residential development site (APN 505-161-011) contains an approximately 800-foot section of Janes Creek and associated riparian corridor. There are two undersized culverts along this section of Janes Creek that restrict fish passage to the upper watershed. One culvert is at the pathway crossing to Alliance Road on the central eastern edge of the residential development site and the other culvert is at the Simpson Mill spur track crossing near Foster Avenue on the southeastern edge of the residential development site. It is planned to replace these culverts as part of the proposed project to increase flood flow capacity and the ability for fish passage in this section of Janes Creek.

Fish species known to occur in Janes Creek include coastal cutthroat trout (*Oncorhynchus clarki*) and three-spine sticklebacks (*Gasterosteus aculeatus*) (City of Arcata/CDFW, 2006). Biological surveys for fish species were not conducted as part of the biological reports that were prepared for the proposed project.

Coastal cutthroat trout are often found in small, coastal streams as opposed to larger channels. They require watercourses with shaded areas, cool water, and small-grained gravel for spawning. Generally, these fish are threatened by water diversion, siltation, and marsh and tideland reclamation. There are records of cutthroat trout in the upper Janes Creek watershed (City of Arcata/CDFW, 2006). Coastal cutthroat trout are designated by the CDFW as a Species of Special Concern.

Threespine stickleback are often found in inland coastal waters or freshwater bodies and can live in fresh, brackish, or salt water. They prefer slow-flowing water with emerging vegetation. The upper Janes Creek watershed is known to support a population of threespine stickleback.

Threespine stickleback are not federally or state listed and are not considered a sensitive fish species.

Coho salmon (*Oncorhynchus kisutch*), steelhead trout (*O. mykiss*), and Chinook salmon (*O. tshawytscha*) are known to occur in Humboldt Bay and use other tributaries to the Bay to spawn. These fish are currently listed as threatened under the Federal ESA. With the replacement of a failed culvert along Samoa Blvd and the restoration of McDaniel Slough (i.e., lower Janes Creek) in 2013, these fish species are again able to spawn in Janes Creek and ultimately increase their overall populations (City of Arcata/CDFW, 2006). Based on fish surveys conducted by the City of Arcata and the California Department of Fish & Wildlife (CDFW), coho salmon have been observed in lower Janes Creek since 2014 (City of Arcata, 2016).

REGULATORY FRAMEWORK

Federal

Federal Endangered Species Act

The federal Endangered Species Act of 1973 (ESA) recognizes that many species of fish, wildlife, and plants are in danger of or threatened with extinction and established a national policy that all federal agencies should work toward conservation of these species. The Secretary of the Interior and the Secretary of Commerce are designated in the Act as responsible for identifying endangered and threatened species and their critical habitats, carrying out programs for the conservation of these species, and rendering opinions regarding the impact of proposed federal actions on endangered species. The Act also outlines what constitutes unlawful taking, importation, sale, and possession of endangered species, and specifies civil and criminal penalties for unlawful activities.

Biological assessments are required under Section 7(c) of the Act if listed species or critical habitat may be present in the area affected by any major construction activity conducted by, or subject to issuance of a permit from, a federal agency as defined in Part 404.02. Under Section 7(a)(3) of the Act every federal agency is required to consult with the U.S. Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration (NOAA) Fisheries on a proposed action if the agency determines that its proposed action may affect an endangered or threatened species.

Section 9 of the ESA prohibits the “take” of any fish or wildlife species listed under the ESA as endangered or threatened. Take, as defined by the ESA, means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such action.” However, Section 10 allows for the “incidental take” of endangered and threatened species of wildlife by non-federal entities. Incidental take is defined by the ESA as take that is “incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.” Section 10(a)(2)(A) requires an applicant for an incidental take permit to submit a “conservation plan” that specifies, among other things, the impacts that are likely to result from the taking and the measures the

permit applicant will undertake to minimize and mitigate such impacts. Section 10(a)(2)(B) provides statutory criteria that must be satisfied before an incidental take permit can be issued.

Clean Water Act, Section 404

Proposed discharges of dredged or fill material into waters of the U.S. require U.S. Army Corps of Engineers (USACE) authorization under Section 404 of the Clean Water Act (CWA) [33 U.S.C. 1344]. Waters of the U.S. generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands (with the exception of isolated wetlands). Wetlands subject to the CWA Section 404 are defined 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” (33 CFR 328.3 [b]; 40 CFR 230.3 [t]). The USACE identifies wetlands using a “multi-parameter approach,” which requires positive wetland indicators in three distinct environmental categories: hydrology, soils, and vegetation. According to the USACE Wetlands Delineation Manual, except in certain situations, all three parameters must be satisfied for an area to be considered a jurisdictional wetland. The Regional Supplement to the Corps of Engineers Wetland Delineation Manual (USACE, 2010) is also utilized when conducting jurisdictional wetland determinations in areas identified within the boundaries of the arid west.

The CWA also defines the ordinary high water mark as the Section 404 jurisdictional limit in non-tidal waters. When adjacent wetlands are present, the limit of jurisdiction extends to the limit of the wetland. Field indicators of ordinary high water include clear and natural lines on opposite sides of the banks, scouring, sedimentary deposits, drift lines, exposed roots, shelving, destruction of terrestrial vegetation, and the presence of litter or debris. Typically, the width of waters corresponds to the two-year flood event.

Clean Water Act, Section 401

Section 401 of the CWA requires applicants acquiring a federal license or permits to conduct any activity that may result in a discharge of a pollutant into waters of the United States, to also obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards. The appropriate Regional Water Quality Control Board (RWQCB) regulates Section 401 requirements (see under State below).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (50 CFR 10.13) established federal responsibilities for the protection of nearly all species of birds, their eggs, and nests. A migratory bird is defined as any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. “Take” is defined in the MBTA “to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof.” Only non-native species such as feral pigeon (*Columba livia*), house sparrow (*Passer domesticus*), and European starling (*Sturnus vulgaris*) are exempt from protection. The federal Migratory Bird Treaty Act

makes it unlawful to “take” (kill, harm, harass, etc.) any migratory bird listed in the Code of Federal Regulations (CFR) 50 CFR 10, including their nests, eggs, or products. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many other types of birds.

State of California

California Environmental Quality Act

Rare or endangered plant or wildlife species are defined in the CEQA Guidelines Section 15380. Endangered means that survival and reproduction in the wild are in immediate jeopardy. Rare means that a species is either presently threatened with extinction or that it is likely to become endangered within the foreseeable future. A species of animal or plant shall be presumed to be rare or endangered if it is listed in Sections 670.2 or 670.5, Title 14, California Administrative Code; or Title 50, CFR Sections 17.11 or 17.12 pursuant to the federal ESA as threatened or endangered.

California Endangered Species Act

The California Endangered Species Act (CESA) includes provisions for the protection and management of species listed by the State of California as endangered or threatened or designated as candidates for such listing (Fish and Wildlife Code Sections 2050 through 2085). The Act requires consultation “to ensure that any action authorized by a State lead agency is not likely to jeopardize the continued existence of any endangered or threatened species or results in the destruction or adverse modification of habitat essential to the continued existence of the species” (Section 2053). California plants and animals declared to be endangered or threatened are listed in 14 California Code of Regulations (CCR) 670.2 and 14 CCR 670.5, respectively. The State prohibits the take of protected amphibians (14 CCR 41), protected reptiles (14 CCR 42), and protected furbearers (14 CCR 460). The California Department of Fish and Wildlife (CDFW) may also authorize public agencies through permits or a memorandum of understanding to import, export, take, or possess any endangered species, threatened species, or candidate species for scientific, educational, or management purposes (Section 2081[a]). The CDFW may also authorize, by permit, the take of endangered species, threatened species, and candidate species provided specific conditions are met (Section 2081[b]).

California Fish and Game Code

The CDFW enforces the California Fish and Game Code (CFGFC), which provides protection for “fully protected birds” (Section 3511), “fully protected mammals” (Section 4700), “fully protected reptiles and amphibians” (Section 5050), and “fully protected fish” (Section 5515). With the exception of permitted scientific research, no take of any fully protected species is allowed.

Section 3503 of the CFGFC prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 specifically prohibits the take, possession, or destruction of

any birds in the orders Falconiformes (hawks and eagles) or Strigiformes (owls) and their nests. These provisions, along with the federal MBTA, essentially serve to protect nesting native birds. Non-native species, including European starling and house sparrow, are not afforded protection under the MBTA or CFGC.

Streams, lakes, and riparian vegetation as habitat for fish and other wildlife species, are subject to jurisdiction by the CDFW under Sections 1600-1616 of the CFGC. Activity that will do one or more of the following, generally require a Section 1602 Lake and Streambed Alteration Agreement: 1) substantially obstruct or divert the natural flow of a river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. The term “stream,” which includes creeks and rivers, is defined in the CCR as follows: “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. Riparian is defined as, “on, or pertaining to, the banks of a stream;” therefore, riparian vegetation is defined as, “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself.” Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from the CDFW.

Clean Water Act and the State of California’s Porter-Cologne Water Quality Control Act

The State Water Resources Control Board (SWRCB) regulates construction stormwater discharges through SWRCB Order No. 2003-0017-DWQ, “General Waste Discharge Requirements for Dredge and Fill Discharges that have Received State Water Quality Certification.” The State’s authority to regulate activities in wetlands and waters resides primarily with the SWRCB, which in turn has authorized the State’s nine RWQCBs, discussed below, to regulate such activities. Under Section 401 of the federal CWA, every applicant for a federal permit for any activity that may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with State water quality standards.

In the project area, the North Coast RWQCB (NCRWQCB) regulates construction in waters of the U.S. and waters of the State, including activities in wetlands, under both the CWA and the State of California’s Porter-Cologne Water Quality Control Act (California Water Code, Division 7). Under the CWA, the RWQCB has regulatory authority over actions in waters of the U.S., through the issuance of water quality certifications, as required by Section 401 of the CWA, which are issued in conjunction with permits issued by the USACE under Section 404 of the CWA. The RWQCB must certify that a USACE permit action meets State water quality objectives (§401 CWA, and Title 23 CCR 3830, et seq.) before a USACE permit is issued. Activities in areas that are outside of the jurisdiction of the USACE (e.g., isolated wetlands,

vernal pool, or stream banks above the ordinary high water mark) are regulated by the nine RWQCBs, under the authority of the Porter-Cologne Act, and may require the issuance of either individual or general waste discharge requirements.

The California Wetlands Conservation Policy (Executive Order W-59-93) establishes a primary objective to “ensure no overall net loss of wetlands acreage and values in California.” The RWQCBs implement this policy and the Basin Plan Wetland Fill Policy, both of which require mitigation for wetland impacts.

State Species of Special Concern

The CDFW maintains a list of species and habitats of special concern. These are broadly defined as species that are of concern to the CDFW because of population declines and restricted distributions, and/or they are associated with habitats that are declining in California; the criteria used to define special-status species are described by the CDFW. Impacts to special-status plants, animals, and habitats may be considered significant under CEQA.

State Species of Special Concern include those plants and wildlife species that have not been formally listed; yet are proposed or may qualify as endangered or threatened, or are candidates for such listing under the CESA. This affords protection to both listed species and species proposed for listing. In addition, CDFW Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, United States Fish and Wildlife Service (USFWS) Birds of Conservation Concern, and CDFW special-status invertebrates, are considered special-status species by CDFW. Plant species included within the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (Inventory) with California Rare Plant Rank (CRPR) of 1 and 2 are also considered special-status plant species. Few Rank 3 or Rank 4 plants meet the definitions of Section 1901 Chapter 10 of the Native Plant Protection Act (see below) or Sections 2062 and 2067 of the CDFG Code that outlines the CESA. There are occasions where CRPR List 3 or 4 species might be considered of special concern particularly for the type locality of a plant, for populations at the periphery of a species range, or in areas where the taxon is especially uncommon or has sustained heavy losses, or from populations exhibiting unusual morphology.

Also under the jurisdiction of CDFW and considered sensitive are vegetation alliances with a State (“S”) ranking of S1 through S3 in the List of Vegetation Alliances (CDFG, 2009). CDFG ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in its California Natural Diversity Database (CNDDDB).

Native Plant Protection Act

The CDFW administers the California Native Plant Protection Act (CNPPA) (Sections 1900–1913 of the CFGC). These sections allow the California Fish and Game Commission to designate rare and endangered plant species and to notify landowners of the presence of such species. Section 1907 of the CFGC allows the Commission to regulate the “*taking, possession, propagation, transportation, exportation, importation, or sale of any endangered or rare native plants.*” Section 1908 further directs that “[n]o person shall import into this state, or take,

possess, or sell within this state, except as incident to the possession or sale of the real property on which the plant is growing, any native plant, or any part or product thereof, that the Commission determines to be an endangered native plant or rare native plant.”

California Species Preservation Act

The California Species Preservation Act (CFGCA, Sections 900–903) includes provisions for the protection and enhancement of the birds, mammals, fish, amphibians, and reptiles of California. The administering agency is the CDFW.

City of Arcata

Arcata General Plan

The City of Arcata General Plan contains guidelines for biological resources within the Resource and Conservation Element. The General Plan has developed several specific Goals and related Policies that address biological resources. Table 4.3-2 contains a list of policies from the Arcata General Plan that are applicable to the proposed project.

Table 4.3-2 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|---|--|--------------------------------|
| OS-1 Overall Open Space System | Designate, maintain, and enhance the quality, and increase the amount of permanently protected open space in the Arcata Planning Area, including: natural resource areas; resource production areas; outdoor recreation areas; and areas subject to health and safety hazards. These areas are to be protected, linked together in a network wherever practical for accessibility, managed for resource production, and maintained for enjoyment by City residents and visitors. | OS-1d |
| OS-2 Natural Resources Protection & Enhancement | Designate, maintain, and enhance natural resource areas, including sensitive habitat areas, necessary to sustain plant and animal life and native biological diversity. | OS-2b |
| RC-1 Natural Biological Diversity/ Ecosystem Function | Set an overarching policy that emphasizes the overall value of biological diversity and the fact that all natural resources are optimized when they function as part of a healthy ecosystem. | RC-1a to RC-1g |
| RC-2 Streams Conservation & Management | Enhance, maintain, and restore the biological integrity of entire streamcourses (headwaters to mouth), and their associated riparian habitats, as natural features in the City’s landscape. | RC-2a to RC-2d, and RC-2f |

| Policy | Objective | Applicable Sub-Policies |
|--------------------------|---|---|
| RC-3 Wetlands Management | Enhance, maintain, and restore the biological integrity of entire streamcourses (headwaters to mouth), and their associated riparian habitats, as natural features in the City’s landscape. | RC-3a to RC-3e, RC-3h, RC-3j, and RC-3k |

Arcata Land Use code

The City of Arcata Land Use Code addresses biological resources within Chapters 9.58 (Tree Preservation and Hazardous Tree Removal) and 9.59 (Environmentally Sensitive Habitat Areas Protection and Preservation). Table 4.3-3 below contains a list of requirements from the Arcata Land Use Code that are applicable to the proposed project.

Table 4.3-3 Applicable Land Use Code Requirements

| Policy | Objective | Applicable Sub-Policies |
|--|---|--------------------------------|
| 9.58 (Tree Preservation and Hazardous Tree Removal) | Provide procedures for the filing, processing, and approval or disapproval of applications for tree removal. Establishes minimum standards and regulations to preserve and protect trees which are considered important to the character of the City of Arcata and its neighborhoods. | 9.58.010 - 9.58.070 |
| 9.59 (Environmentally Sensitive Habitat Areas Protection and Preservation) | Establishes minimum standards and regulations to protect Environmentally Sensitive Habitat Areas (ESHA). Ensures that any proposed subdivision, land use or development adjacent to or capable of affecting ESHA will not degrade these resources or diminish their structure, function, and natural processes. | 9.59.010 - 9.59.100 |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact to biological resources is considered to be significant if it meets any of the following criteria.

If the project would:

- 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;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community in local or regional plans, polices, or regulations, or by the CDFW or USFWS;
- 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;
- 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Arcata General Plan

Table 4.3-4 Project Consistency with General Plan

| Policy | Consistency Analysis |
|--|--|
| OS-1 Overall Open Space System (OS-1d) | OS-1d. Consistent with this policy, the proposed project enhances the Janes Creek corridor to establish linkages between open space areas. |
| OS-2 Natural Resources Protection & Enhancement (OS-2b) | OS-2b. Consistent with this policy, the proposed project enhances Janes Creek to establish a biological corridor and greenway as a visual asset for the developed area. |
| RC-1 Natural Biological Diversity/ Ecosystem Function (RC-1a – 1g,) | <p>RC-1a. The proposed project will protect and enhance the Janes Creek riparian corridor and mitigate for the filling of wetlands consistent with the measures specified in this policy.</p> <p>RC-1b. Consistent with the recommendations in this policy, landscaping for the development will be done with native species. Construction of the wetland mitigation area proposed as part of the project would also involve the planting of native species and the removal of non-native plant species.</p> <p>RC-1c. Janes Creek is identified as an ESHA pursuant to Policy RC-1d. Consistent with this policy the only portion of the development that will occur within the 100-foot Environmental Buffer Area (EBA) along Janes Creek will be the wetland mitigation area and trails which would be compatible with the continuance of this habitat area.</p> <p>RC-1d. Pursuant to this policy, the Janes Creek riparian corridor and wetlands on the residential development site are identified as an Environmentally Sensitive Habitat Area (ESHA).</p> <p>RC-1e. Consistent with this policy, the project plans specifically identify sensitive habitat areas within the residential development site and potentially affected by the proposed project.</p> <p>RC-1f. The proposed project applies 100-foot buffer setbacks from the Janes Creek riparian corridor consistent with this policy.</p> |

| Policy | Consistency Analysis |
|--|--|
| | <p>RC-1g. Sensitive habitat area information specified in this policy has been provided to the City as part of application submittal.</p> |
| <p>RC-2 Streams Conservation & Management (RC-2a – 2f)</p> | <p>RC-2a. Pursuant to this policy, Janes Creek is designated as a protected water course.</p> <p>RC-2b. Consistent with this policy, the project proposes a 100-foot Environmental Buffer Area (EBA) from Janes Creek.</p> <p>RC-2c. Consistent with this policy, the project proposes to develop the wetland mitigation area and trails within the 100-foot EBA along Janes Creek which are allowable uses outside of the Coastal Zone.</p> <p>RC-2d. Consistent with this policy, the area of the residential development site within 100-feet of Janes Creek will be designated as a Wetland and Stream Combining (:WSP) Protection Zone.</p> <p>RC-2f. Consistent with this policy, a conservation easement or similar deed restriction will be required for the EBA along Janes Creek.</p> |
| <p>RC-3 Wetlands Management (RC-3a – 3h,3j, 3k)</p> | <p>RC-3a. A Wetland Delineation report (Appendix AA; SPC, 2016a) was prepared for this project consistent with this policy.</p> <p>RC-3b. Consistent with this policy, the proposed project would fill only small and isolated wetland areas and the proposed wetland mitigation ratio of 1.8:1 exceeds the City of Arcata minimum requirement of 1:1 or “no net loss.” The wetland mitigation will provide a three-parameter wetland that is of greater functional capacity and value than the wetlands proposed to be filled.</p> <p>RC-3c. Consistent with Section 9.59.060, the proposed development (roads and/or houses) will maintain a variable 50-foot setback from the edge of the wetland mitigation area.</p> <p>RC-3d. Consistent with this policy, the project proposes to develop trails within the EBA for the wetland mitigation area which is an allowable use.</p> <p>RC-3e. Consistent with this policy, the area of the residential development site within the EBA for the wetland mitigation area will be designated as a Wetland and Stream Protection Combining (:WSP) Zone.</p> <p>RC-3h. Consistent with this policy, the area of the residential development site within the EBA for the wetland mitigation area will be designated as a Wetland and Stream Protection Combining (:WSP) Zone.</p> <p>RC-3j. Consistent with this policy, a detailed Wetland Mitigation and Monitoring Plan was prepared for the proposed project (Appendix CC). The proposed wetland mitigation will provide a three-parameter wetland that is of greater functional capacity and value than the wetlands proposed to be filled.</p> <p>RC-3k. Consistent with this policy, the proposed wetland mitigation will provide a three-parameter wetland that is of greater functional capacity and value than the wetlands proposed to be filled. Implementation of the Wetland Mitigation and Monitoring Plan (Appendix CC) will ensure that the long-term functional capacity of the wetland mitigation area is maintained.</p> |

Arcata Land Use Code

Table 4.3-5 Project Consistency with Land Use Code

| Policy | Consistency Analysis |
|---|--|
| Chapter 9.58 Tree Preservation and Hazardous Tree Removal (Sections 9.58.010 through 9.58.070) | <p>Tree Preservation Standards. There may be the potential for removal of trees meeting the criteria in this Chapter as part of project activities including replacement of culverts in Janes Creek, construction of the Foster Avenue connection, and construction of the wetland mitigation area. As such, the applicant will be required to submit a Tree Removal Permit application to the City of Arcata in compliance with Sections 9.58.030 and 9.58.050 of this Chapter. These regulations and policies allow the City to require mitigation including, but not limited to, tree replacement, the removal of invasive vegetation, erosion control measures, and biological surveys to ensure that the trees do not contain active nesting or roosting sites.</p> |
| 9.59 Environmentally Sensitive Habitat Areas Protection and Preservation (Sections 9.59.010 through 9.59.100) | <p>Environmentally Sensitive Habitat Areas (ESHA) Standards. The ESHA areas on the parcels that will contain the proposed development include the Janes Creek riparian corridor and the small isolated wetlands on the residential development site. Consistent with Sections 9.59.020 and 9.59.050, the project proposes a 100-foot Environmental Buffer Area (EBA) on the western bank of Janes Creek. Consistent with Section 9.59.060, the project proposes to develop a wetland mitigation area within the 100-foot EBA along Janes Creek to mitigate for the filling of wetlands as part of the proposed residential development. The mitigation will occur at a 1.8:1 ratio and will provide a three-parameter wetland that is of greater biological function and value than the wetlands proposed to be filled. Consistent with Section 9.59.060, the proposed development (roads and/or houses) will maintain a variable 50-foot setback from the edge of the wetland mitigation area. Consistent with Section 9.59.080, a conservation easement or similar deed restriction will be required for the EBA along Janes Creek and the wetland mitigation area.</p> |

Proposed Project

Finding 4.3.1: 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.

Discussion:

Plant Species

Based on the Biological Assessment prepared by Mad River Biologists (Appendix Y; MRB, 2000) and the updated Biological Report prepared by Streamline Planning Consultants (Appendix Z; SPC, 2016b), no plant species protected by federal and State regulations were observed in the project area. Plant species observed on-site were characteristic of a disturbed

environment. Of the 110 plant species observed within the project area, 37 were native species and 73 were non-native species. This is the equivalent of 34% native and 66% non-native plant cover (Appendix Z; SPC, 2016b). Based on the existing disturbed conditions at the residential development site, it is not anticipated that the project will have a substantial effect, either directly or indirectly through habitat modifications, on any plant species identified as a candidate, sensitive, or special status species.

Animal Species

Based on the Biological Assessment prepared by Mad River Biologists (Appendix Y; MRB, 2000) and the updated Biological Report prepared by Streamline Planning Consultants (Appendix Z; SPC, 2016b), various species of birds, mammals, and amphibians protected by federal and State regulations have potential habitat (foraging and/or rearing) along Janes Creek and the associated riparian zone. However, the potential to find such species on the residential development site or in the surrounding area is low due to the dominance of non-native vegetation, lack of habitat, disturbed nature of the area, and close proximity of single-family and multi-family residential development.

Regardless, direct impacts to birds, mammals, and amphibians (Northern red-legged frog) protected by federal or State regulations, and/or their nests, eggs, or young, could potentially occur from the proposed project activities including replacement of culverts in Janes Creek, construction of the Foster Avenue connection, and construction of the wetland mitigation area. Due to the potential for protected species to exist at or adjacent to the residential development site, surveys by a qualified biologist will occur prior to the beginning of construction activities. If any of these species are observed at or directly adjacent to the site, mitigation will include establishing buffers, operational restrictions, and other appropriate methods of mitigation acceptable to the City of Arcata. This has been included as Mitigation Measure 4.3.1a for the proposed project.

As discussed in Chapter 1 (Introduction) of the EIR, the project proposes to replace the concrete box culvert at the pathway crossing to Alliance Road and the metal culvert at the Foster Avenue crossing with open-bottom arch pipe (see Figure 4.2C [Proposed Janes Creek Culvert Replacement at Foster Ave] in Section 4.2 [Hydrology and Water Quality] of the EIR). These arch culverts will be set to grade and have a natural bottom composed of native substrate material. The replacement will require removing the old culverts, preparing the banks for new culvert abutments, installing concrete abutment forms, pouring concrete, installing the new pipes in sections, backfilling over the new culverts, and armoring the inlet and outlet slopes. The habitat currently within the existing culverts is of poor quality. Replacement of these structures with open-bottom arch culverts with a natural bottom will improve habitat inside the crossings. In addition, the natural bottom should reduce water velocity along the bottom during runoff events and allow fish passage during a greater range of flows than currently exists.

It is likely that coastal cutthroat trout will be present within, or in the vicinity of, the culverts scheduled for replacement. Juvenile Coho salmon have again been observed in the creek due to restoration of habitat downstream and removal of a fish barrier, and though uncommon cannot be ruled out at this time. Even though the habitat is of poor quality within the existing culverts, fish may use these locations because of the heavily shaded overhead cover they provide. Salmonids

may also utilize the instream habitat upstream and downstream of the culverts. Culvert replacement activities may inadvertently injure or kill a very small number of fish. The replacement of the old culverts could result in the production of highly turbid water once activities commence in the wetted channel. Turbid water can affect salmonids by reducing feeding opportunities, impeding production of aquatic insects, and irritating gills. Excessive levels of sediment laden waters can result in gill abrasion and even death for fish species. To minimize potential impacts during the culvert replacement activities, applicable measures from the CDFW “Salmonid Stream Habitat Restoration Manual” will be implemented. This could include measures such as exclusion fencing upstream and downstream of the work area and the relocation of sensitive fish species to another section of Janes Creek outside of the work area. This has been included as Mitigation Measure 4.3.1b for the proposed project.

As described in Chapter 1 (Introduction) of the EIR, a 0.85-acre mitigation wetland is proposed to be constructed within the 100-year floodplain of Janes Creek to mitigate for the filling of 0.47 acres of wetlands at the residential development site (see the response under Finding 4.3.3 for a discussion of the impacts to wetland habitat from the proposed project). The constructed wetland will be connected to and be subject to inundation by backwatering from Janes Creek during storm events. The wetland will create a low velocity off-channel refuge habitat for salmonids while Janes Creek is running at high flood levels. The proposed wetland mitigation has been designed to prevent fish entrapment and the creation of bullfrog habitat. As stated within the Wetland Mitigation and Monitoring Plan (Appendix CC) “...wetland mitigation will be graded to a depth from 3 feet to 8 feet deep below the existing ground surface to create seasonal wetland hydrology for a significant portion of the growing season. Open water may exist at times, but a slope of 0.4 percent towards the outlet to Janes Creek will allow for flooding to dissipate into the creek, and /or recharge groundwater.” The sloping wetland design will prevent permanently pooled water needed by bullfrogs and will prevent fish entrapment by allowing fish to swim back into the creek following the receding floodwaters.

Permits for work conducted as part of the proposed project within the Janes Creek channel and riparian corridor are required from the California Department of Fish & Wildlife (CDFW), U.S. Army Corps of Engineers (USACE), and North Coast Regional Water Quality Control Board (NCRWQCB). Prior to the issuance of grading and building permits by the City of Arcata, the applicant shall provide evidence that the permits have been obtained from CDFW, USACE, and NCRWQCB. This will be included as a condition of approval by the City of Arcata for the proposed project.

Various species of special-status birds and mammals are known to or potentially could use the open space habitat that parcels 505-161-011 (residential development site), 505-151-001 (emergency access road site), and 505-151-009 & 505-284-009 (park site) currently offer for foraging. The proposed development of these parcels would effectively eliminate this potential foraging habitat. However, given the degraded nature of the existing open space habitat (e.g., compacted soils, invasive species, etc.), and given the abundance of open space foraging habitat in the immediate vicinity surrounding the parcels, loss of open space foraging habitat from the proposed project will not significantly affect any special-status species or the environment.

Household pets, including cats and dogs, will most likely reside at some of the proposed residential units, especially the single-family units. Household pets, particularly cats, have the potential to affect migratory birds and other wildlife that may use the habitat areas on the residential development site and in the Janes Creek riparian corridor. The City of Arcata Municipal Code contains regulations concerning the keeping of animals, which address licensing, vaccination, trespassing, nuisance animals, tethering, waste disposal, etc. The future residents will be required to comply with these regulations, which will minimize potential impacts to wildlife species and their habitat from the keeping of household pets at the proposed residential development. The requirement to comply with the regulations concerning the keeping of animals in the City's Municipal Code, will be included as a condition of approval for the proposed project.

With the proposed mitigation measures, and in compliance with agency permitting requirements, the proposed project will 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 CDFW or USFWS.

Determination:

Less than significant impact with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures would reduce the potential impacts to a less than significant level.

Mitigation Measure 4.3.1a. Prior to construction activities for each phase of the proposed project, the applicant shall have a qualified biologist conduct a focused survey for protected wildlife species identified in the Mad River Biologists Biological Assessment (Appendix Y) and Streamline Planning Consultants Biological Report (Appendix Z) as having potential habitat on the residential development site, including birds, mammals, amphibians, and fish. Surveys shall be performed within 30 days of the beginning of construction activity. If construction is delayed for more than 30 days from the date of the survey, and is to then commence during the nesting season (March 1 to September 15) an additional survey shall be conducted. The results of the survey shall be submitted to the City of Arcata for review and approval. If protected wildlife species are observed, the qualified biologist shall design appropriate project activity buffer widths and operational restrictions. Project-related activities shall only commence when the City of Arcata has approved the report in writing, and the buffer widths and operational restrictions are applied.

Mitigation Measure 4.3.1b. The project applicant shall implement applicable measures from the California Department of Fish & Wildlife (CDFW) "Salmonid Stream Habitat Restoration Manual" for guidance to minimize impacts during stream crossing construction. The CDFW Guidance details how to minimize impacts to aquatic species and their habitat during crossing replacement and/or construction activities. This could include measures such as exclusion fencing upstream and downstream of the work area and the relocation of sensitive fish species to another section of Janes Creek outside of the work area.

Finding 4.3.2: Have a Substantial Adverse Effect on any Riparian Habitat or Other Sensitive Natural Community in Local or Regional Plans, Policies, or Regulations, or by the CDFW or USFWS.

Discussion:

The southeast boundary of the residential development site contains an approximately 800-foot section of Janes Creek and associated riparian corridor (see Figures 4.3B [Aerial Photo of the Residential Development Site], 4.3C [Biological Resources on the Residential Development Site], and 4.3F [Western Edge of the Janes Creek Riparian Corridor]). The City of Arcata General Plan classifies Janes Creek as an environmentally sensitive habitat area (ESHA). The riparian area around Janes Creek lies within a City-designated Environmental Buffer Area (EBA). The average width of the riparian vegetation is approximately 25 feet out from the center of the creek on the west bank, but is as great as 100 feet at the southeast corner of the parcel where several large willows dominate. Consistent with General Plan Resource Conservation and Management Element Policy RC-2b (*Environmental Buffer Area*), the proposed residential development (e.g. structures and paved surfaces) will maintain a 100-foot setback from the top of bank of Janes Creek.

Some of the proposed project activities will temporarily and permanently affect the riparian vegetation and habitat along Janes Creek including replacement of two culverts in the creek, construction of the Foster Avenue connection, and construction of the wetland mitigation area. The Foster Avenue connection is estimated to permanently affect approximately 8,000 s.f. of riparian vegetation. The replacement of the culverts and construction of the wetland mitigation area are estimated to temporarily affect approximately 3,000 s.f. of riparian vegetation and are designed to improve the habitat conditions along this section of Janes Creek and improve flood flow capacity.

Figures 4.3G (Western Edge of Janes Creek Corridor and Foster Avenue Right-of-Way) and 4.3H (Eastern Edge of Janes Creek Corridor and Foster Avenue Right-of-Way) show the riparian vegetation on the western and eastern edges of the Janes Creek riparian corridor within the Foster Avenue right-of-way. Figure 4.3I (Riparian Vegetation within the Foster Avenue Connection Area) shown the riparian vegetation in the interior of the riparian corridor within the area of the Foster Avenue Connection and Figure 4.3J (Existing Culvert at the Foster Avenue Railbed Crossing) shows the culvert that is proposed for replacement as part of the Foster Avenue Connection. Riparian habitat along Janes Creek within the location of the Foster Avenue Connection is currently characterized as riparian woodland dominated by native tree species with a mixed dominance of native and non-native shrubby and herbaceous species.

To mitigate for the permanent affect to 8,000 s.f. of riparian vegetation from construction of the Foster Avenue connection, the applicant proposes riparian mitigation at a ratio of 2:1 or 16,000 s.f. Due to the fact that there are limited opportunities for riparian mitigation on the residential development site, the applicant shall contribute towards City of Arcata riparian enhancement projects along Jolly Giant Creek within and adjacent to the Arcata Community Forest. To contribute towards these projects, the applicant shall provide the City with a riparian impact fee of \$26,500 that will be used towards riparian enhancement activities on parcels 020-201-012 and 503-291-017.

Figure 4.3G Western Edge of Janes Creek Corridor and Foster Avenue Right-of-Way



Figure 4.3H Eastern Edge of Janes Creek Corridor and Foster Avenue Right-of-Way



Figure 4.3I Riparian Vegetation Within the Foster Avenue Connection Area



Figure 4.3J Existing Culvert at the Foster Avenue Railbed Crossing



Figure 4.3K (Map of Jolly Giant Creek Riparian Mitigation Areas) shows the location of these parcels and the proposed enhancement areas that would mitigate for the impacts to riparian vegetation from the Creek Side Homes project. In addition, the City may use some of these funds for similar riparian enhancement activities in other stream sections.

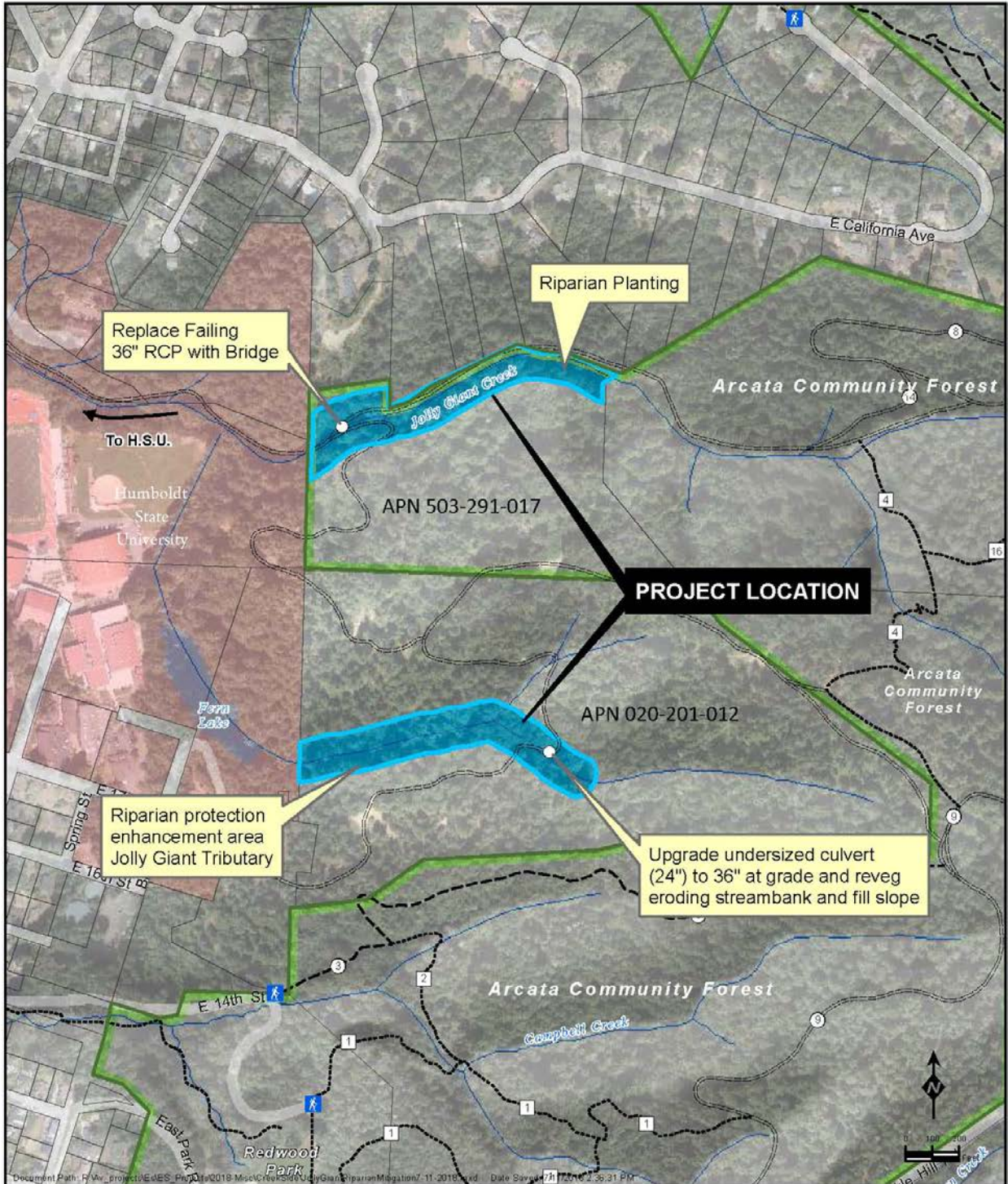
Parcel 020-201-012 is a 49-acre property that is located within the upper Jolly Giant Creek Watershed and contains a tributary to Jolly Giant Creek which flows to Fern Lake and then joins the mainstem of Jolly Giant Creek, which flows to Humboldt Bay. The forest, creeks, and streams within this parcel and the surrounding Arcata Community Forest serve as critical habitat for a variety of species, many of them rare, threatened, and/or endangered. Several state and federally listed endangered (E) or threatened (T) species that may exist or are known to exist on properties adjacent to this property include steelhead trout (FT) (*Oncorhynchus mykiss*), Coho salmon (FT) (*Oncorhynchus kisutch*), tidewater goby (FE) (*Eucyclogobius newberry*), northern spotted owl (FT) (*Strix occidentalis caurina*), and bald eagle (SE) (*Haliaeetus leucocephalus*). Parcel 020-201-012 also contains high-quality habitat for the following State-listed Species of Special Concern: southern torrent salamander (*Rhyacotriton variegatus*), northern red-legged frog (*Rana aurora aurora*), Del Norte salamander (*Plethodon eolugongatus*), foothill yellow-legged frog (*Rana boylei*), coastal cutthroat trout (*Oncorhynchus clarki clarki*), osprey (*Pandion haliaetus*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), Pacific fisher (*Martes pennanti*), red tree vole (*Arborimus longicaudus*), and the "Fully Protected" ring-tailed cat (*Bassariscus astutus*). Riparian enhancement activities proposed by the City on parcel 020-201-012 include, but are not limited to, removal of invasive species, replacement of an undersized culvert, planting of 2,250 additional trees, and the implementation of erosion control measures. Based on a conservative estimate of 25 s.f. of canopy per tree, the planting of these additional trees on parcel 020-201-012 has the potential to result in over 50,000 s.f. of new canopy.




Parcel 503-291-017 is a 20.7-acre parcel in the Arcata Community Forest that is located directly north of parcel 020-201-012. This parcel is also located in the upper Jolly Giant Creek Watershed and contains a portion of the main stem of Jolly Giant Creek. Similar to parcel 020-201-012, this parcel serves as critical habitat for rare, threatened, and/or endangered species. As indicated on Figure 4.3K (Map of Jolly Giant Creek Riparian Mitigation Area), riparian enhancement activities proposed by the City on this parcel would include additional riparian planting along Jolly Giant Creek and the replacement of a failing culvert with a bridge crossing.

The requirement to provide the City with a riparian impact fee of \$26,500, to contribute towards offsite riparian enhancement projects, has been included as Mitigation Measure 4.3.2a for the proposed project.

Permits for work conducted as part of the proposed project within the Janes Creek channel and riparian corridor are required from the California Department of Fish & Wildlife (CDFW), U.S. Army Corps of Engineers (USACE), and North Coast Regional Water Quality Control Board (NCRWQCB). Prior to the issuance of grading and building permits by the City of Arcata, the applicant shall provide evidence that the permits have been obtained from CDFW, USACE, and NCRWQCB. This will be included as a condition of approval by the City of Arcata for the proposed project.

Figure 4.3K Map of Jolly Giant Creek Riparian Mitigation Areas



| | | | | | | | | | | | | |
|--|---|---|--|--|---|---|---|---|---|---|--|---|
|  <p>City of Arcata Environmental Services</p> | <h2>Jolly Giant Creek Riparian Mitigation Areas</h2> | <table border="0"> <tr> <td> Riparian Protection Enhancement Area Jolly Giant Tributary</td> <td> Trail Head</td> </tr> <tr> <td> Arcata Community Forest</td> <td> Creek</td> </tr> <tr> <td> Humboldt State University</td> <td> Trail (Multi-Use)</td> </tr> <tr> <td> Waterbody</td> <td> Hiking Only</td> </tr> <tr> <td></td> <td> Gravel Road/Trail (Multi-Use)</td> </tr> </table> |  Riparian Protection Enhancement Area Jolly Giant Tributary |  Trail Head |  Arcata Community Forest |  Creek |  Humboldt State University |  Trail (Multi-Use) |  Waterbody |  Hiking Only | |  Gravel Road/Trail (Multi-Use) |
|  Riparian Protection Enhancement Area Jolly Giant Tributary |  Trail Head | | | | | | | | | | | |
|  Arcata Community Forest |  Creek | | | | | | | | | | | |
|  Humboldt State University |  Trail (Multi-Use) | | | | | | | | | | | |
|  Waterbody |  Hiking Only | | | | | | | | | | | |
| |  Gravel Road/Trail (Multi-Use) | | | | | | | | | | | |

Permits for the riparian enhancement projects proposed by the City within the Jolly Giant Creek channel and riparian corridor are required from the CDFW, USACE, and NCRWQCB. These permits will require the implementation of minimization measures designed to reduce potential impacts to riparian and other special status habitat, special status plant and animal species, and water quality. In addition, the City will implement standard minimization measures for riparian restoration activities that, along with the agency permitting requirements, will reduce potential impacts to less than significant. These BMPs include the following:

- Streams, riparian zones, and wetlands shall not be used as staging or refueling areas. Equipment shall be stored, serviced, and fueled a minimum of 150 feet from aquatic habitats and other sensitive areas.
- Prior to equipment use, special status plants and habitats shall be well-marked and communicated to equipment operators to avoid direct and indirect adverse effects.
- Snags shall be retained on project sites for cavity dependent wildlife species whenever possible.
- Bank stabilizing vegetation removed or altered because of restoration activities shall be replanted with native vegetation and protected from further disturbance until new growth is well established. Native shrubs, trees, and erosion control seed mixes from only local ecotypes shall be included in the reclamation and restoration of disturbed sites.
- Sedimentation and erosion controls shall be implemented, when and where appropriate, during riparian wetland restoration or creation activities to maintain the water quality of adjacent water sources.
- Weed free rice straw shall be used for mulching exposed bare mineral soil areas in excess of 100 s.f.

As described in Chapter 1 (Introduction), the project proposes various sources of new outdoor lighting (street, pedestrian-scale, security, and buildings). If not designed properly, the proposed outdoor lighting could shine on the Janes Creek riparian corridor which is designated as an Environmentally Sensitive Habitat Area (ESHA) in the City of Arcata General Plan. To minimize potential impacts, the project proposes outdoor lighting consistent with the City's design guidelines, Section 9.30.070 (Outdoor Lighting) of the Arcata Land Use Code, and the recommendations of the International Dark-Sky Association (IDA), which includes standards for fixtures, shielding, wattage, placement, height, and illumination levels. To comply with these requirements, lighting for the project will be the minimum lumens necessary, directed downward, shielded, and pedestrian level when feasible. This will ensure lighting is contained within the site and does not cause significant lighting impacts for the Janes Creek riparian corridor.

With the proposed mitigation measures, and in compliance with agency permitting requirements, the proposed project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community in local or regional Plans, polices, or regulations, or by the CDFW or USFWS.

Determination:

Less than significant impact with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures would reduce the potential impacts to a less than significant level.

Mitigation Measure 4.3.2a. To mitigate for the permanent affect to 8,000 s.f. of riparian vegetation from construction of the Foster Avenue connection, the applicant proposes riparian mitigation at a ratio of 2:1 or 16,000 s.f. Due to the fact that there are limited opportunities for riparian mitigation on the residential development site (APN 505-161-011), the applicant shall contribute towards City of Arcata riparian enhancement projects along Jolly Giant Creek within and adjacent to the Arcata Community Forest. Prior to the issuance of grading and building permits by the City of Arcata for construction of the Foster Avenue connection, the applicant shall provide the City with a riparian impact fee of \$26,500 that will be used towards riparian enhancement activities on parcels 020-201-012 and 503-291-017. In addition to these two sites, the City may use some of these funds for similar riparian enhancement activities in other stream sections. Riparian enhancement activities proposed by the City on parcel 020-201-012 include, but are not limited to, removal of invasive species, replacement of an undersized culvert, planting of 2,250 additional trees, and the implementation of erosion control measures. Riparian enhancement activities proposed by the City on parcel 503-291-017 would include additional riparian planting along Jolly Giant Creek and the replacement of a failing culvert with a bridge crossing.

Finding 4.3.3: 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.

Discussion:

Based on the Wetland Delineation conducted by Streamline Planning Consultants (Appendix AA; SPC, 2016a), the residential development site contains 0.69 acres (29,991 s.f.) of two-, and three-parameter wetlands (see Table 4.3-1 and Figures 4.3B [Aerial Photo of the Residential Development Site], 4.3C [Biological Resources on the Residential Development Site], and 4.3D [Wetlands on the Residential Development Site]).

All of the wetlands delineated on the residential development site have some wetland value and functionality. Even a heavily impacted, anthropogenic wetland can provide habitat value for amphibians, aquatic invertebrates, and hydrophytic vegetation. In addition, these wet areas serve to retain stormwater, aid in groundwater recharge, filter potential introduced pollutants, as well as many other wetland functions. However, the wetlands found on site vary in the quality of habitat and wetland function, and many of the areas delineated as wetlands are of very low habitat quality and wetland functionality. Wetland quality on site was influenced by a number of different factors, mainly connectivity to other wetland or natural areas, dominance by native or

non-native vegetation, structure and diversity of the wetland for wildlife habitat, presence of a buffer, and the size of the wetland (Appendix AA; SPC, 2016a).

The proposed project will directly impact (grade and fill) 0.47 acres (20,285 s.f.) of two- and three-parameter wetlands on the residential development site. This excludes 0.22 acres (9,706 s.f.) of two- and three-parameter wetlands in and adjacent to the ditches along the railroad right-of-way that will not be filled during construction of the project. It was estimated that approximately 0.08 acres (3,578 s.f.) of the ditches along the railroad right-of-way would be impacted due to construction of the access road, the Foster Avenue Connection, and the proposed pedestrian/bicycle trails (see Figures 4.3A [Parcels Proposed for Development], 4.3B [Aerial Photo of the Residential Development Site], and 4.3E [Ditches along the Railbed North of Foster Avenue]).

To mitigate for the impacts to two- and three-parameter wetlands on the residential development site, the project proposes to create a three-parameter (wetland hydrology, hydrophytic vegetation, and hydric soils) mitigation wetland on the project parcel that will be 0.85 acres (37,026 s.f.) in size. The mitigation wetland will be constructed according to the design and recommendations in the Wetland Mitigation and Monitoring Plan prepared by Winzler & Kelly (Appendix CC) and the recommendations of the City of Arcata and other regulatory agencies (e.g., USACE, RWQCB, and CDFW). A planting plan and long-term enhancement plan for the wetland mitigation area shall be developed to the satisfaction of the City of Arcata. This has been included as Mitigation Measure 4.3.3a for the proposed project.

Table 4.3-6 (Wetland Planting Location, Spacing, and Species) contains information about the location, spacing, and species of the planting proposed in the wetland mitigation area. Table 4.3-7 (Wetlands Monitoring Program – Annual Performance Criteria) contains information about the annual performance criteria for the 5 years of proposed monitoring.

Table 4.3-6 Wetlands Planting Location, Spacing, and Species

| Location | Common Name | Species | Spacing (feet) | Size (gal) |
|---|-------------------|--------------------------|----------------|------------|
| Bottom of Wetland | Soft Stem rush | <i>Juncus effuses</i> | 4-6 | 1 |
| | Slough sedge | <i>Carex obnupta</i> | 4-6 | 1 |
| Bottom of Side Slopes (1/3 and 1/2 way up slope) | Willow species | <i>Salix sp.</i> | 4-6 | 5 |
| Top 1/2 of Side Slope and Top of Bank | Big leaf maple | <i>Acer macrophyllum</i> | 10-12 | 15 |
| | Red alder | <i>Alnus rubra</i> | 10-12 | 15 |
| | Western red cedar | <i>Thuja plicata</i> | 10-12 | 15 |
| | Sitka spruce | <i>Picea sitchensis</i> | 10-12 | 15 |

Table 4.3-7 Wetlands Monitoring Program - Annual Performance Criteria

| Year | Seasonal Wetland Vegetation Establishment |
|------|--|
| 1 | 30% cover of native plant species over mitigation area and 30% of all species counted are native FAC or wetter |
| 2 | 35% cover of native plant species over mitigation area and 35% of all species counted are native FAC or wetter |
| 3 | 40% cover of native plant species over mitigation area and |

| Year | Seasonal Wetland Vegetation Establishment |
|------|---|
| | 40% of all species counted are native FAC or wetter |
| 4 | 45% cover of native plant species over mitigation area and 45% of all species counted are native FAC or wetter |
| 5 | Greater than 50% cover of native plant species over mitigation area and Greater than 50% of all species counted are native FAC, FAC wet, or obligate |

A portion of the proposed mitigation wetland would be built on top of an area that contains hydrophytic vegetation, but does not meet the other wetland parameters (Appendix AA). This area was dominated by native Pacific willows that had blown over into the proposed mitigation area from the adjacent Janes Creek riparian area. The area had been used as a homeless encampment in the past and showed signs of significant disturbance. Herbaceous vegetation within this area and surrounding the willows was dominated by poison hemlock, Himalayan blackberry, and teasel. The habitat value at this site and the entire wetland mitigation area will be significantly improved by grading the area to the depth of the water table to establish wetland hydrology, removing invasive species, and planting native species within and surrounding the wetland mitigation area.

The proposed mitigation wetland will compensate for filling of two- and three-parameter wetlands on the residential development site at a calculated 180 percent, or 1.8:1, replacement ratio. The City has a “no net loss” policy for wetland area and value (GP policy RC-3). Both of these policies are satisfied by the proposed wetland mitigation design scenario. The 0.85-acre (37,026 s.f.) wetland mitigation area will be located in an onsite upland area adjacent to Janes Creek and will have higher functional value than the compacted wetland areas being filled. The wetland mitigation area will be constructed with 3:1 side slopes that will ensure slope stability, safety, animal egress, and mitigation area success.

The project is proposed to maintain a variable 50-foot setback from the edge of the wetland mitigation area as required by Section 9.59.060 (Wetland Conservation and Management) of the Arcata Land Use Code for existing developed areas. Use of the “*existing developed areas*” wetland setback standard for the project is appropriate since the wetland mitigation area will be developed as part of the proposed residential development. Since the project proposes the minimum standard required by the City of Arcata Land Use Code, it is proposed to plant the 50-foot wetland setback area with regionally-appropriate evergreen native trees and shrubs. This will serve as a vegetative “screen” (i.e., natural visual screen) between the wetland mitigation area and the proposed residential development, extend the Janes Creek riparian corridor, and provide additional habitat on the residential development site. A schematic diagram of the planting plan showing individual plant species placement and spacing within the 50-foot wetland setback area will be included in the wetland mitigation and monitoring plan. This has been included as Mitigation Measure 4.3.3b for the proposed project.

The majority of the residential development site, including the proposed wetland mitigation area, is dominated by invasive or non-native plant species. As described in Chapter 1 (Introduction) of the EIR, it is proposed as part of this project to conduct invasive species removal within the wetland mitigation area and its corresponding 50-foot setback, as these species could compromise the success of the wetland mitigation plan and other proposed landscaping plans by

inhibiting establishment of native plantings. Invasive exotic species to be targeted for removal include English ivy (*Hedera helix*), Himalayan blackberry (*Rubus armeniacus*), poison hemlock (*Conium maculatum*), teasel (*Dipsacus fullonum*), Cotoneaster (*Cotoneaster lacteus*), English holly (*Ilex aquifolium*), Canary reedgrass (*Phalaris arundinacea*), and mayten tree (*Maytenus boaria*). Poison hemlock also poses a potential impact to residential uses due to its toxicity to humans and animals.

Areas targeted for invasive species removal include the wetland mitigation area, and the 50-foot setback area around the wetland mitigation area. As described in Chapter 1 (Introduction) of the EIR, removal of these species will be conducted using numerous methods targeting each specific species to ensure a higher rate of successful removal. The Wetland Mitigation and Monitoring Plan will include measures for the control of the invasive exotic species at the site that could potentially reduce wetland mitigation area success. Annual performance criteria for invasive species control shall be specified in the Monitoring Plan. The applicant shall conduct invasive species removal during construction of the wetland mitigation area and shall conduct long-term control of invasive species as will be specified in the Monitoring Plan. This has been included as Mitigation Measure 4.3.3c for the proposed project.

As described in Chapter 1 (Introduction) and Section 4.2 (Hydrology and Water Quality) of the EIR, the onsite stormwater system will be designed to overflow to a pre-treatment bioswale and the wetland mitigation area. As described in the Stormwater Management Assessment completed by SHN Consulting Engineers & Geologists, Inc. (Appendix X), the proposed onsite stormwater system includes six site design measures that will be created and installed according to Humboldt County LID Manual and California State MS4 Permit standards. These measures include a combination of Soil Quality Improvement and Maintenance, Tree Planting and Preservation, Vegetated Swales, PPPP (Alternative Engineered Hardscaping Surfaces), Stream Setbacks and Buffers, and Rain Gardens (Self-retaining Areas), which will be spread and interspersed across the site.

These site design measures will adequately manage the 85th percentile storm event and reduce stormwater runoff to the wetland mitigation area and Janes Creek by increasing infiltration, detention, evaporation, and transpiration. Transpiration increases detention and infiltration by extracting (mining) water from both the soil and detention areas such as rain gardens and vegetated swales. The site design measures also treat stormwater through physical processes such as settling and filtration, chemical processes such as adsorption, volatilization, and chemical reaction, as well as biological processes including plant root and vegetative uptake, biochemical reaction in the soil or plant rhizosphere biofilm, and microbiological uptake. These measures and processes, designed with a safety factor at 23% above the MS4 Permit Regulated Project requirement for the 85th Percentile, 24-hour storm event (0.65 inches), will exceed applicable water quality requirements and protect the surrounding watershed by reducing volume and treating any stormwater that may leave the site during peak storm events.

Based on National Oceanic and Atmospheric Administration climate records for 2014 through 2017, a period which averaged 107.6% of average annual rainfall for the project area, a calculated average of 18 days annually are predicted to exceed the 100% MS4 Regulated Project LID stormwater volume (0.65 inches). As noted above, this project was designed at 123% of this

volume. However, assuming occurrence of unforeseen inefficiencies such as compacted soils or system damage reducing the capacity from 123% to 100%, the system is expected to overflow to the wetland mitigation area an average of 18 days per year. As discussed in Chapter 1 (Introduction) and Section 4.2 (Hydrology and Water Quality) of the EIR, to protect the wetland mitigation area and Janes Creek, as well as downstream resources such as Humboldt Bay, the hydromodification calculations used to design this system are based on the 2-year, 24-hour storm event of 2.93 inches. Most of the 18 days will produce somewhere between the 0.65-inch Regulated Project and 2.93-inch hydromodification runoff volumes. To increase the hydromodification volume to 110% of the permit requirement as an additional factor of safety, an approximate 5,700 ft³ bioswale will be installed along the western edge of the wetland mitigation area for additional pretreatment of stormwater prior to entry to the mitigation wetland.

Since the wetland mitigation area will be excavated in an upland environment, lacking springs or normal (non-flood) stream flow, directing pretreated stormwater runoff to this area will be important to maintain the health and function of the wetland, especially in dry years when the water table remains below average. During such times, storms such as a 2-year or 5-year event can be crucial to sustaining hydrophytic vegetation, wetland microorganisms, and aquatic-dependent species such as amphibians. The wetland mitigation area will be a created wetland habitat, in contrast to an engineered stormwater treatment system comprising LID/green infrastructure techniques such as bioswales and permeable paving. The management and maintenance of these two different environments will differ markedly both in frequency and intensity. Site design measures such as bioswales may be entered monthly with intrusive activities such as removing sediment, trash, and weeds, as well as for mowing and pruning. In contrast, the wetland mitigation area may only be entered once annually to pull invasive plant species or to clear the outflow of a debris blockage deposited by a flood event. Since any sediment accumulation in the wetland mitigation area will be from a stream flood event, rather than from the stormwater management system, maintenance for the wetland will employ the standard purpose and techniques common to mitigation areas, as outlined in the Wetland Mitigation and Monitoring Plan (Appendix DD).

As discussed in Chapter 1 (Introduction), the City of Arcata proposes to construct a section of the Hammond Trail on parcel 505-151-005. The property owner of this parcel (Arcata Land Company LLC) will dedicate an access easement to the City to allow the construction and maintenance of the proposed trail section. A Wetland Assessment of this parcel was conducted by SHN Consulting Engineers & Geologists, Inc. (Appendix CC), which determined that two- and three- parameter wetlands exist in the drainages ditches on this parcel that occur on either side of the former railbed. Since the proposed trail will be constructed on top of the existing fill prism of the railbed, it is not anticipated that substantial adverse effects will happen to the wetlands that exist on the edge of the railbed.

With the proposed mitigation measures, the proposed project will 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.

Determination:

Less than significant impact with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures would reduce the potential impacts to a less than significant level.

Mitigation Measure 4.3.3a. To mitigate the impacts of grading and filling 0.47 acres (20,285 s.f.) of two- and three-parameter wetlands on the residential development site, the applicant shall create a three-parameter (wetland hydrology, hydric soils, and hydrophytic vegetation) mitigation wetland at the site that will be 0.85 acres (37,026 s.f.) in size, or a 1.8 mitigation ratio. The mitigation wetland will be constructed according to the design and recommendations in the Wetland Mitigation and Monitoring Plan prepared by Winzler & Kelly (Appendix CC) and the recommendations of the City of Arcata and other regulatory agencies (e.g., CDFW, RWQCB, and USACE). A planting plan and long-term enhancement plan for the wetland mitigation area shall be developed to the satisfaction of the City of Arcata.

Mitigation Measure 4.3.3b. The applicant shall plant the variable 50-foot wetland setback area for the mitigation wetland with regionally-appropriate evergreen native trees and shrubs. This will serve as a vegetative “screen” (i.e., natural visual screen) between the wetland mitigation area and the proposed residential development, extend the Janes Creek riparian corridor, and provide additional habitat on the residential development site. A schematic diagram of the planting plan showing individual plant species placement and spacing within the wetland setback area shall be included in the Wetland Mitigation and Monitoring Plan.

Mitigation Measure 4.3.3c. The applicant shall include measures for the control of invasive species in the Wetland Mitigation and Monitoring Plan. Invasive species removal shall occur within the wetland mitigation area and its corresponding 50-foot setback required by Section 9.59.060 (Wetland Conservation and Management) of the Arcata Land Use Code. Invasive species that will be targeted include English ivy (*Hedera helix*), Himalayan blackberry (*Rubus armeniacus*), poison hemlock (*Conium maculatum*), teasel (*Dipsacus fullonum*), English holly (*Ilex aquifolium*), Cotoneaster (*Cotoneaster lacteus*), Canary reedgrass (*Phalaris arundinacea*), and mayten tree (*Maytenus boaria*). Annual performance criteria for invasive species control shall be specified in the Monitoring Plan. The applicant shall conduct invasive species removal during construction of the wetland mitigation area and shall conduct long-term control of invasive species as specified in the Monitoring Plan.

Finding 4.3.4: 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.

Discussion:

The residential development site (APN 505-161-011) is a 16-acre parcel that contains an 800-foot section of Janes Creek and associated riparian corridor on its southeastern boundary (see Figures 4.3B [Aerial Photo of the Residential Development Site], 4.3C [Biological Resources on

the Residential Development Site], and 4.3F [Western Edge of the Janes Creek Riparian Corridor]). The other project parcels that would be developed with the expansion of Ennes Park, emergency access road, and trails, do not contain significant wildlife corridors. Due to the disturbed condition of the project parcels from past lumber milling and agricultural activities, the Janes Creek riparian corridor is the primary wildlife corridor that has the potential to be impacted by the proposed project.

Based on the Biological Assessment prepared by Mad River Biologists (Appendix Y; MRB, 2000) and the updated Biological Report prepared by Streamline Planning Consultants (Appendix Z; SPC, 2016b), various species of birds, mammals, and amphibians protected by federal and state regulations have potential habitat (foraging and/or rearing) along Janes Creek and the associated riparian zone. Direct impacts to birds, mammals, and amphibians (Northern red-legged frog) protected by federal or state regulations, and/or their nests, eggs, or young, could potentially occur from the proposed project activities including replacement of culverts in Janes Creek, construction of the Foster Avenue Connection, and construction of the wetland mitigation area. Due to the potential for protected species to exist at or adjacent to the residential development site, surveys by a qualified biologist will occur prior to the beginning of ground-disturbing activities. If any of these species are observed at or directly adjacent to the site, mitigation will include establishing buffers, operational restrictions, and other appropriate methods of mitigation acceptable to the City of Arcata. This has been included as Mitigation Measure 4.3.1a for the proposed project (Also see discussion under Finding 4.3.1).

It is likely that coastal cutthroat trout will be present within, or in the vicinity of, the culverts scheduled for replacement. Juvenile Coho salmon, steelhead trout, and Chinook salmon also have the potential to occur in the creek as the result of restoration of habitat downstream and removal of a fish barrier in the last few years. Even though the habitat is of poor quality within the existing culverts, fish may use these locations because of the heavily shaded overhead cover they provide. Salmonids may also utilize the instream habitat upstream and downstream of the culverts. Culvert replacement activities may inadvertently injure or kill a very small number of individuals. The replacement of the old culverts could result in the production of highly turbid water once activities commence in the wetted channel. Turbid water can affect salmonids by reducing feeding opportunities, impeding production of aquatic insects, and irritating gills. Excessive levels of sediment laden waters can result in gill abrasion and even death for fish species. To minimize potential impacts during the culvert replacement activities, applicable measures from the CDFW “Salmonid Stream Habitat Restoration Manual” will be implemented. This has been included as Mitigation Measure 4.3.1b for the proposed project (Also see discussion under Finding 4.3.1). Ultimately, the replacement of the culverts in Janes Creek will increase the capacity for flood flows and fish passage.

With the proposed mitigation measures, the proposed project will 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.

Determination:

Less than significant impact with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures would reduce the potential impacts to a less than significant level.

Same as *Mitigation Measures 4.3.1a (Biological Surveys)* and *4.3.1b (Implementation of the Salmonid Stream Habitat Restoration Manual)*.

Finding 4.3.5: Conflict with any Local Policies or Ordinances Protecting Biological Resources, such as a Tree Preservation Policy or Ordinance.

Discussion:

The Arcata General Plan Resource Conservation Element has been developed in order to protect biological resources. The proposed project is consistent with Arcata General Plan Resource Conservation Policies RC-1, Natural Biological Diversity/Ecosystem Function, RC-2 Streams Conservation and Management, RC-3 Wetlands Management, and RC-7 Water Resources Management, by delineating and protecting sensitive habitat (including two- and three-parameter wetlands and the Janes Creek riparian corridor) and mitigating for impacts to isolated wetlands and riparian habitat through the development of an onsite wetland mitigation area and the payment of riparian impact fees for riparian enhancement projects along Jolly Giant Creek within and adjacent to the Arcata Community Forest. See further discussion under Findings 4.3.1 to 4.3.4 above.

Chapter 9.58 (Tree Preservation and Hazardous Tree Removal) of the Arcata Land Use Code contains regulations governing the removal of trees greater than 16 inches in diameter or the removal or relocation of a group of 30 or more trees with diameters greater than 10 inches. Most of the larger trees on the residential development site occur within the Janes Creek riparian corridor and will not be impacted by the proposed project since the residential development will maintain a 100-foot setback from Janes Creek. However, there may be the potential for removal of trees meeting these criteria as part of project activities including replacement of culverts in Janes Creek, construction of the Foster Avenue Connection, and construction of the wetland mitigation area. As such, the applicant will be required to submit a Tree Removal Permit application to the City of Arcata in compliance with Sections 9.58.030 and 9.58.050 of the Land Use Code and Policies D-3j and D-4d of the General Plan. These regulations and policies allow the City to require mitigation including, but not limited to, tree replacement, the removal of invasive vegetation, erosion control measures, and biological surveys to ensure that the trees do not contain active nesting or roosting sites. The project will be conditioned to require submittal of a Tree Removal Permit application to ensure the proposed project complies with Chapter 9.58 of the Land Use Code.

Therefore, as designed and conditioned, the proposed project will not conflict with any local policies or ordinances protecting biological resources.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.3.6: Conflict with the Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other Approved Local, Regional, or State Habitat Conservation Plan.

Discussion:

According to the U.S. Fish & Wildlife Service Environmental Conservation Online System (ECOS) (USFWS, 2016) and the West Coast Region National Marine Fisheries Service (NMFS, 2018), the project parcels are not located within the boundaries of a Habitat Conservation Plan. Habitat Conservation Plans in Humboldt County include the following:

- 1) Green Diamond Resource Company California Timberlands & Northern Spotted Owl (formerly Simpson Timber Company) Habitat Conservation Plan;
- 2) Green Diamond Resource Company (formerly Simpson Timber Company) Aquatic Habitat Conservation Plan;
- 3) Humboldt Redwood Company (formerly Pacific Lumber, Headwaters) Habitat Conservation Plan;
- 4) Humboldt Bay Municipal Water District Habitat Conservation Plan; and
- 5) Regli Estates.

These Habitat Conservation Plans primarily apply to forest lands in the County. The project parcels are approximately 1 mile from the nearest forest lands which occur on the eastern side of Highway 101.

According to the California Department of Fish & Wildlife website (CDFW, 2016), the project parcels are not located in the boundaries of a Natural Community Conservation Plan. The conservation plans for Humboldt County listed on California Regional Conservation Plans Map on the CDFW website include the habitat conservation plans listed above.

Therefore, the proposed project will not conflict with any local policies or ordinances protecting biological resources or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Plan, or other approved plan applicable to the project area.

Determination:

Less than significant impact.

Mitigation:

None required.

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Section 4.4

AGRICULTURE AND FORESTRY RESOURCES

This section evaluates the potential impacts related to agriculture and forest resources with implementation of the project. The Environmental Setting section describes the existing setting as it relates to agricultural and forest resources in the project area. The Regulatory Framework section describes the applicable regulations at the federal, State, and local level. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to agriculture and forest resources, and identifies the significance of impacts. Where appropriate, mitigation is presented to reduce impacts to less than significant levels.

ENVIRONMENTAL SETTING

Agricultural Resources

Humboldt County was ranked 33rd in terms of gross agricultural production for California counties, recording a value of \$174,422,000 for its total gross agricultural production in 2012 (CDFA, 2012). The project parcels are located at the edge of the Arcata Bottom area. The Arcata Bottom is a significant contributor to Humboldt County agricultural production with extensive dairy lands, nearby Sun Valley Floral Farms, Tule Fog Farm, DeepSeeded Community Farm, and specialty organic farms.

Forestry Resources

There are 1.2 million acres of private forested land and 0.3 million acres of public forested land in Humboldt County, covering more than 80 percent of the county's land area. Roughly 990,000 acres are zoned Timber Production Zone (TPZ), two-thirds of which are held by timber companies. Dedicated timber management of these lands and unique growing conditions have consistently made Humboldt County the State's leading timber producer, contributing more than 20 percent of the State's total since 2000 (Humboldt County, 2012).

The eastern portion of Arcata is located on forested slopes of Fickle Hill Ridge. The slopes contain mostly second growth conifer stands. These forested lands are both publicly and privately held. The City of Arcata owns two separate tracts of forest land that comprise approximately 1,125 acres. Together, the publicly owned Arcata Community and Jacoby Creek Forests constitute a significant ecological, recreational, economic, and educational resource for the citizens of Arcata and the surrounding region.

Project Parcels

The residential development site (APN 505-161-011) and the parcels proposed for offsite improvements including the expansion of Ennes Park (APNs 505-151-009, 505-284-009, and 505-284-010) and emergency access road (APN 505-151-001), are not subject to a Williamson Act contract and are not zoned or used for forestry purposes.

The residential development site was developed as a lumber mill in the 1950s and is currently vacant. Prior to 1950, parcel 505-161-011 was open space and assumed to be used as pasture land. A mill was constructed on the site in 1951 and operated as a redwood and hardwood mill until 1986. The site is currently vegetated with grasses and bushes and contains remnants of the former mill structures, including concrete footings and foundations. As indicated in the Soils Report prepared by LACO Associates (Appendix V) for the residential development site, the site contains 1.5 feet or more of imported fill material from past industrial uses. As a result, parcel 505-161-011 would not be considered prime farmland. Since the residential development site has not been used for agricultural purposes for at least 50-years, it would not qualify as either unique farmland or farmland of statewide importance based upon definitions from the State Department of Conservation. The residential development site is currently zoned by Humboldt County for industrial (ML) and residential (R-1 and R-4) uses and is planned to be designated/zoned by the City of Arcata as Residential Medium Density (RM) upon annexation.

The parcels proposed to be developed for the expansion of Ennes Park (APNs 505-151-009, 505-284-009, and 505-284-010) and emergency access road (APN 505-151-001), were historically used for agricultural purposes and contain prime agricultural soils. Based on the U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS) soils mapping project area, these parcels have been mapped as Jollygiant and Dungan soils. Both Jollygiant and Dungan soils are considered prime farmland if irrigated. The Jollygiant series consist of very deep, somewhat poorly drained soils on low terraces, alluvial fans, and fan remnants on alluvial plains. Dungan series soils are found in similar locations but within higher floodplain steps. Both soils are found on sites with slopes ranging from zero to two percent.

The zoning for the parcels proposed for the expansion of Ennes Park and emergency access road include the following:

Table 4.4-1 Existing and Proposed Zoning

| Parcel | Existing Zoning | Proposed Zoning |
|-----------------------------|--|----------------------|
| Park Site | | |
| 505-151-009 4.22 acres | AG (Agriculture General) AE (Agriculture Exclusive) | PF (Public Facility) |
| 505-284-009 0.26 acres | PF (Public Facility) | No change proposed |
| 505-284-010 (0.21-acres) | PF (Public Facility) | No change proposed |

| Parcel | Existing Zoning | Proposed Zoning |
|--|---|---------------------|
| Emergency Access Road Site | | |
| 505-151-001 0.34 acres (of 26.16-acre parcel) | AG (Agriculture General) R-1 (Residential One-Family) ML (Limited Industrial) | No changed proposed |

Lands to the west and south of the project parcels are currently used for grazing and crop production, and contain the Sun Valley bulb farm. These properties are zoned for agricultural and industrial purposes by Humboldt County. The City of Arcata planned for this area to be designated/zoned for agricultural uses upon annexation in the Arcata General Plan (Figure LU-a).

REGULATORY FRAMEWORK

Federal

Farmland Protection Policy Act (FPPA)

The Farmland Protection Policy Act (FPPA) requires federal agencies to minimize the extent to which federal programs contribute to unnecessary and irreversible conversion of farmland to nonagricultural uses. Farmland subject to FPPA requirements does not have to be currently used for cropland. Areas under protection include forestland, pastureland, cropland, or other land, but not bodies of water or urban, developed land. The FPPA does not authorize the Federal Government to regulate the use of private property, or in any way affect the uses of private property or the rights of property owners.

The FPPA is not applicable to projects that are planned and completed without the assistance of a Federal agency. As the proposed project is a private development, on private lands, and not being developed with the assistance of the Federal Government, the FPPA is not applicable to this project.

Natural Resource Conservation Service (NRCS)

There is not a single definition of prime agricultural land. The Land Capability Classification System, the Land Inventory and Monitoring System, and the Storie Index Rating system are each used by the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service in its effort to survey soils and assess agricultural lands throughout the United States. Prime farmlands are defined by the USDA in the following manner:

Prime farmlands are soils that are best suited to food, feed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of

sustained high yields of crops. The soils need only to be treated and managed by acceptable farming methods.

The following are two definitions of urban land found on the NRCS website that further suggest that the residential development site would likely not be considered as prime agricultural land by the NRCS:

Urban Land. Areas so altered or obstructed by urban works or structures that identification of soils is not feasible.

Urban and built-up areas. A land cover/use category consisting of residential, industrial, commercial, and institutional land; construction sites; public administrative sites; railroad yards; cemeteries; airports; golf courses; sanitary landfills; sewage treatment plants; water control structures and spillways; other land used for such purposes; small parks (less than 10 acres) within urban and built-up areas; and highways, railroads, and other transportation facilities if they are surrounded by urban areas. Also included are tracts of less than 10 acres that do not meet the above definition but are completely surrounded by Urban and built-up land. Two size categories are recognized in the NRI: areas of 0.25 acre to 10 acres, and areas of at least 10 acres.

State of California

Department of Conservation (DOC)

The California Department of Conservation (DOC), Division of Land Resource Protection works to assist landowners and local governments in the identification and protection of agricultural lands. The program is intended to be a consistent resource to land managers and decision makers using impartial data to evaluate the current status of agricultural lands in California. The DOC has mapped and designated farmlands in cooperation with county governments through the Farmland Mapping and Monitoring Program (FMMP). The FMMP designates lands in the following categories, from greater to lower agricultural value (as a general rule). Those designations are (1) Prime, (2) Farmland of Statewide Importance, (3) Unique Farmland, (4) Farmland of Local Importance, (5) Grazing Land, (6) Urban and Built-Up Land, (7) Other Land, and (8) Water. Due to the developed condition of the residential development site, it would be designated as Urban and Built-Up Land.

California Department of Forestry and Fire Protection (CAL FIRE)

California is rich in natural resources. Of the ±85 million acres classified as wildlands, nearly 17 million are commercial forestlands; about half are privately-owned and half government-owned. In addition to timber, the State's wildlands also provide valuable watershed, wildlife habitat, and recreation resources.

CAL FIRE administers State and federal forestry assistance programs for landowners, demonstrates forest management practices on eight demonstration state forests, enforces the California Forest Practice Act on all non-federal timberlands, provides research and educational outreach to the public on forest pests such as Sudden Oak Death, and coordinates efforts for fuel reduction to reduce the risk of fire and improve the quality of California ecosystems.

California Forest Legacy Program. The California Forest Legacy Program Act of 2007 was developed to recognize the importance of California forest lands and provide a means to allow the State and owners of private forest lands to enter into conservation easements whereby private owners can voluntarily restrict development of their forest lands, with compensation from the State. For the meaning of the Act, Section 12220(g), describes “forest land” as land that can support, under natural conditions, 10 percent native tree cover of any species, including hardwoods, and that allows for the preservation or management of forest-related resources such as timber, aesthetic value, fish and wildlife, biodiversity, water quality, recreational facilities and other public benefits.

Timberland. Timberland in California is managed under the provisions of the Z’berg-Nejedly Forest Practice Act of 1973, also referred to as the “Forest Practice Act”. Timberland is considered lands that are capable of growing a crop of commercial tree species. Specifically, the California Forest Practices Act defines timberland as *“‘Timberland’ means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.”* (Public Resources Code [PRC] 4526).

CAL FIRE has oversight responsibility for private forest and timberlands in California. When a private landowner decides to convert their timberlands to non-timber growing uses (including but not limited to agricultural, residential, commercial, etc.) the owner must file a Timber Conversion Permit (TCP) with CAL FIRE, including environmental documentation such as an EIR. As specified in the regulations (CCR, Section 1100(g)), timberland conversion means the specific conversion or transformation of timberlands into non-timber growing purposes; such as timberland converted to vineyards.

CAL FIRE also has oversight and regulatory authority to approve private timber operations under Timber Harvest Plans (THP), including the conversion of timberlands to non-timber purposes. Both the TCP and the Exemption require the timber harvest to be developed under the direction and oversight of a California Registered Professional Forester (RPF).

County of Humboldt

Humboldt County General Plan

The Humboldt County General Plan, Volume II, Framework Plan uses the following definition of prime agricultural lands to distinguish prime agricultural lands from non-prime agricultural lands (from the Framework Plan glossary).

Agricultural Exclusive includes prime agricultural lands as identified by any of the following definitions:

- (1) Land which qualifies for rating as Class I or Class II in the Soil Conservation Service land use capability classifications.
- (2) Land which qualifies for rating 80 through 100 in the Storie Index Rating.
- (3) Land that has a livestock carrying capacity of one animal unit per acre.
- (4) Land planted with fruit or nut bearing trees, vines, bushes or crops which have a non-bearing period of less than five years and which will normally provide a return adequate for economically viable operations during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production.
- (5) Land capable of producing an unprocessed plant production adequate for economically viable operations.
- (6) Additional lands adjacent to 1, 2, or 3 above which presently or historically have been necessary to provide for economically viable agricultural areas. These lands are included to prevent the establishment of incompatible land uses within an area defined by natural or man-made boundaries.

Local Agency Formation Commission (LAFCo)

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Local Government Reorganization Act) established the authority for the Humboldt County Local Agency Formation Commission (LAFCO). LAFCOs are independent county-level regulatory commissions created by the California Legislature to control the boundaries of cities and most special districts. One of LAFCOs prime objectives is to preserve agricultural land resources and to discourage urban sprawl. The following is the definition of prime agricultural land contained in Local Government Reorganization Act that is used by LAFCO:

(California Government Code §56064) "Prime agricultural land" means an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:

- (a) Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible. (b) Land that qualifies for rating 80 through 100 Storie Index Rating.
- (b) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as

defined by the United States Department of Agriculture in the National Handbook on Range and Related Grazing Lands, July, 1967, developed pursuant to Public Law 46, December 1935.

- (c) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars (\$400) per acre.
- (d) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars (\$400) per acre for three of the previous five calendar years.

City of Arcata

Arcata General Plan

The City of Arcata General Plan contains guidelines for the management and protection of agriculture and forest lands in the Land Use Element and the Resource Conservation and Management Element. Table 4.4-2 below contains a list of policies from the Arcata General Plan that are applicable to the proposed project.

Table 4.4-2 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|--|---|-------------------------|
| LU-6 Agricultural and Natural Resource Lands | Preserve and promote the sustained production of natural resources; preserve and promote the agricultural, forest, and aquaculture lands; and protect public natural resource/open space lands, including stream courses, wetlands, tidelands, and open space areas. Provide for complementary uses including farm housing, processing of agricultural and aquaculture products, and access for timber harvesting, in designated areas. | LU-6b and LU-6c |
| RC-5 Agricultural Resources Management | Protect and enhance agricultural uses on prime agricultural lands within the City, and encourage more productive agricultural use of agriculturally suitable lands. | RC-5a and RC-5c |
| RC-6 Forest Resources Management | Protect and enhance private and public forest lands (Community and Jacoby Creek) to maintain the integrity of the ecosystem while providing timber production, recreation, and habitat values. | RC-6f |
| GM-2 Sphere of Influence | Advocate appropriate uses and management for Planning Area lands outside the City boundary, including Arcata's creek watersheds and coastal areas, in recognition that they will affect the future form of the Arcata community. | GM-2a and GM-2d, |
| GM-3 Annexations | Provide for logical annexations of unincorporated areas, | GM-3a through GM- |

| Policy | Objective | Applicable Sub-Policies |
|--------|--|-------------------------|
| | within the City’s Sphere of Influence and/or Planning Area, when the existing or proposed development is consistent with community character and City services can be adequately provided. | 3d |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact is considered to be significant if the project would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use, or conversion of forest land to non-forest use.

Arcata General Plan

Table 4.4-3 Project Consistency with General Plan

| Policy | Consistency Analysis |
|--|--|
| LU-6 Agricultural & Resource Lands (LU-6b and LU-6c) | <p>LU-6b: Consistent with this policy, the project has been designed to reduce potential future compatibility-related impacts between the proposed residential uses and adjacent agricultural uses.</p> <p>LU-6c: The project is consistent with this policy since the prime agricultural lands that will be converted for the expansion of Ennes Park and emergency access road will be mitigated with a conservation easement on parcel 505-151-001.</p> |
| RC-5 Agricultural Resources Management (RC-5a) | <p>RC-5a. Consistent with this policy, the project proposes to establish a conservation easement on parcel 505-151-001 which is currently used by Tule Fog Farm for grazing activities.</p> |

| Policy | Consistency Analysis |
|--|---|
| and RC-5c) | RC-5c. Consistent with this policy, the project has been designed to reduce potential future compatibility related impacts between the proposed residential uses and adjacent agricultural uses. |
| RC-6 Forest Resources Management (RC-6f) | RC-6f. Consistent with this policy, the project parcels do not contain any forestland and the project will not convert forestland to urban uses. |
| GM-2 Sphere Of Influence (GM-2a and GM-2d) | GM-2a. Annexation of property may not proceed unless the property is within the Sphere of Influence (SOI) boundary. Consistent with this policy, the parcels proposed for annexation are located within the City’s SOI. GM-2d. The project proposes residential and public facility land use designations consistent with the City’s General Plan and current planning efforts that would take effect only upon annexation to the City of Arcata. |
| GM-3 Annexations (GM-3a through GM-3d) | GM-3a – GM-3c. These policies outline the procedures, required submittal materials, and criteria for annexing lands to the City of Arcata. The annexation of parcels 505-161-011, 505-151-009, and 516-161-009 shall follow the requirements contained in these policies. GM-3d. This policy establishes criteria that must be met prior to annexing land with existing urban development. Consistent with this policy the project: 1) is located within the Urban Services Boundary; 2) all facilities would be brought up to City standards concurrent with annexation; and 3) costs would be borne by the project and not by the existing City taxpayers. |

Proposed Project

Finding 4.4.1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as Shown on the Maps Prepared Pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to Non-Agricultural Use.

Discussion:

The Farmland Mapping and Monitoring Program of the California Resources Agency has not yet mapped farmland in Humboldt County (DOC, 2016). The U.S.D.A. Natural Resource Conservation Service (NRCS) has recently mapped the project parcels and surrounding lands as part of the National Cooperative Soil Survey update and data is available on the Web Soil Survey website. Based on the mapping data, soils that underlay the project parcels and other agricultural properties to the south and west are considered prime farmland.

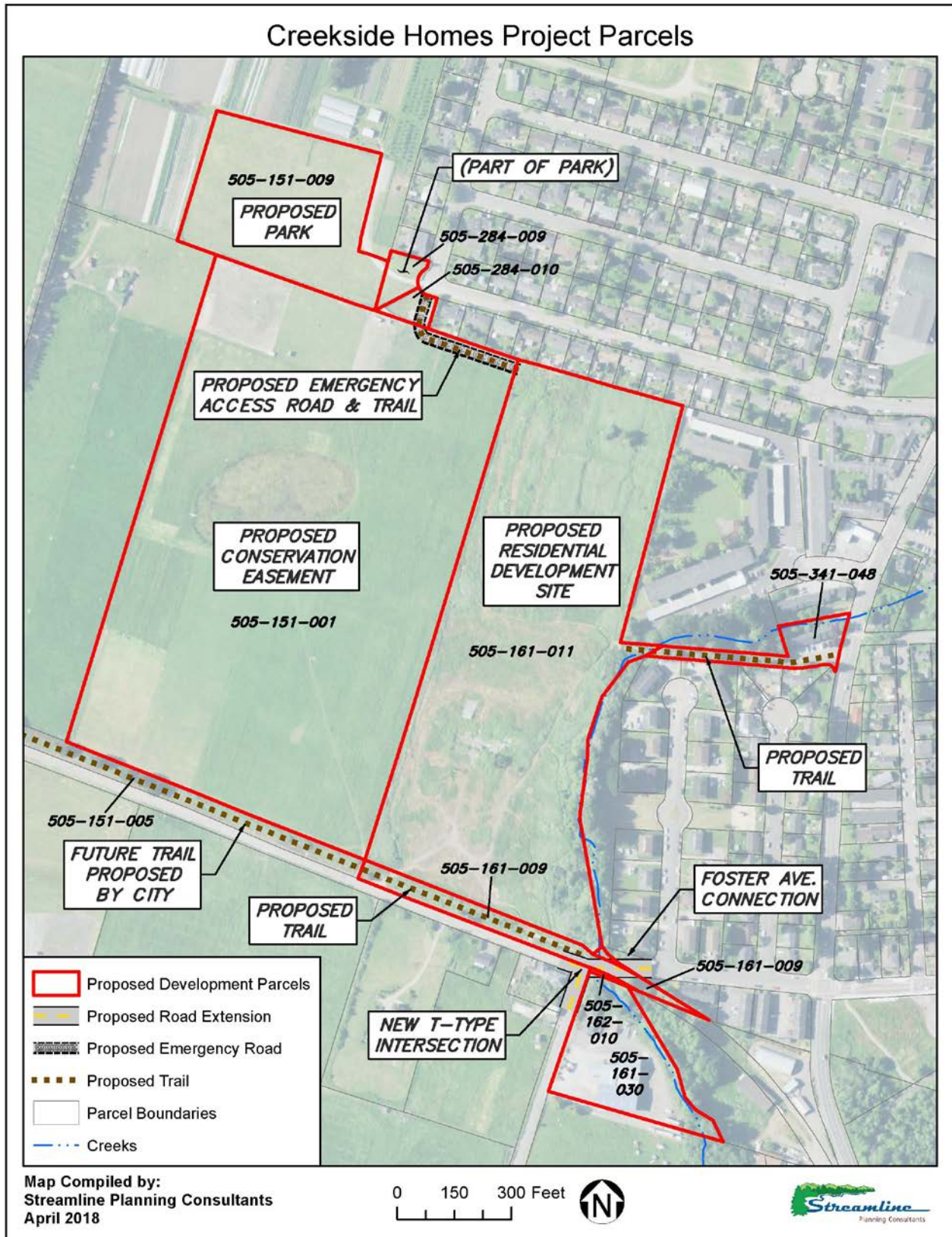
The residential development site (APN 505-161-011) was developed in the 1950s as a lumber mill. The prime farmland soils within the site are covered by urban and built-up areas consisting of 1.5 feet or more of imported material (Appendix V). As a result, parcel 505-161-011 would not be considered prime farmland. Further, since the residential development site has not been used for agricultural purposes for at least 50 years, it would not qualify as either unique farmland, or farmland of statewide importance, based upon definitions from the State Department of Conservation.

The proposed project includes the payment of park in-lieu fees for the development of parkland (Ennes Park Expansion) on City-owned parcels 505-151-009 (4.22 acres), 505-284-009 (0.26 acres), and 505-284-010 (0.21 acres). The Ennes Park Expansion will meet the parkland needs of the proposed residential development as well as provide adequate parkland for the Westwood neighborhood (see Figure 4.4A [Parcels Proposed for Development]). These properties have been planned to be developed as a park by the City of Arcata for several decades. Parcel 505-151-009 is planned for designation/zoning as Public Facility (PF) by the City of Arcata upon annexation and was recently designated as Public Facility (PF) as part of the County General Plan update. Parcels 505-151-009 and 505-284-009 are currently vacant, but were used historically for agriculture and contain prime agricultural soils. Parcel 505-284-010 is currently developed with a small park (Ennes Park) that serves the single-family residential neighborhood to the north of the residential development site. The proposed expansion of Ennes Park would ultimately convert approximately 4.69 acres of prime agricultural land to non-agricultural uses. Although the applicant is only responsible for providing park in-lieu fees for a portion of the proposed Ennes Park Expansion (1.35 acres), the annexation of parcel 505-151-009 into the City of Arcata and the development of all 4.69 acres of the Ennes Park Expansion are analyzed in the EIR.

The proposed project also includes an all-weather emergency access road (compacted gravel) along the northern boundary of parcel 505-151-001 (26.16 acres) that would also access through City-owned parcel 505-284-010 (0.21 acres), which currently contains Ennes Park. This would provide emergency access from the northwest corner of the residential development site to Stewart Avenue neighborhood (see Figure 4.4A [Parcels Proposed for Development]). Parcel 505-151-001 contains prime agricultural soils and is currently used for grazing activity by Tule Fog Farm. Despite being developed as a small City Park, parcel 505-284-010 contains prime agricultural soils and could be restored for agricultural use with limited effort. The proposed emergency access road would convert an approximately 300 by 50-foot strip (15,000 s.f. or 0.34 acres) of prime agricultural land on parcel 505-151-001 to non-agricultural uses. Although the emergency access road will access Stewart Avenue through an approximately 100 by 50-foot strip (5,000 s.f. or 0.11 acres) of parcel 505-284-010, it will not convert this portion of parcel 505-284-010 into an emergency access road. In the near future, the City of Arcata will pave this portion of parcel 505-284-010 and develop it as a multi-use court. The paved multi-use court will be available to be used as an emergency access connection to Stewart Avenue. In total, the emergency access road would be developed on approximately 0.34 acres.

Based on the above discussion, development of the proposed park site and emergency access road would ultimately convert approximately 5.03 acres of prime agricultural land to the northwest of the residential development site (APN 505-161-011) to non-agricultural uses.

Figure 4.4A Parcels Proposed for Development



With the continuing loss of farmland to development in the State of California, local agencies have chosen to mitigate these losses by requiring developers to preserve equivalent land on or offsite. Conservation easements offer a flexible tool for achieving open space protection, and the courts have upheld easement requirements as legally adequate mitigation for farmland conversions.

Yolo County, which has a population of 219,116 residents (U.S. Census, 2017), has developed an Agricultural Conservation and Mitigation Program (Sec. 8-2.404), which specifies the requirements for the use of conservation easements as mitigation for the conversion of agricultural land (Yolo County, 2015). The Yolo County program requires a minimum of three (3) acres of agricultural land to be preserved for each acre of prime agricultural land changed to a predominantly non-agricultural use or zoning classification (3:1 ratio). For the conversion of non-prime farmland, a minimum of two (2) acres of agricultural land are required to be preserved for each acre of non-prime agricultural land (2:1 ratio). The County also allows a reduced 1:1 mitigation ratio for the preservation of lands within priority conservation areas, which includes parcels within one-quarter mile of the sphere of influence of a city.

The Yolo County program provides guidance for rural counties such as Humboldt County (2017 population of 136,754 residents), concerning the use of conservation easements to mitigate for the conversion of agricultural land, and adequate mitigation ratios that will substantially lessen the impact of agricultural land conversion. As applied to the proposed project, the City of Arcata has determined that a minimum 3:1 mitigation ratio is appropriate since the project proposes the conversion of prime agricultural lands.

To mitigate for the permanent conversion of 5.03 acres of prime agricultural land from the proposed project and the City proposed Ennes Park Expansion, a conservation easement is proposed on approximately 22.65 acres of parcel 505-151-001 (total 26.16 acres), which would result in an approximately 4.5:1 mitigation ratio. The portions of parcel 505-151-001 that would not be included in the conservation easement include the following: 1) 0.34-acre area that would be developed with the emergency access road (see Figure 4.4A [Parcels Proposed for Development]); 2) 3.17 acre wetland mitigation area and 50-foot buffer (1.75 acre wetland mitigation area and 1.42 acre buffer area) that was installed in the mid-2000s as off-site mitigation for the Riverview Terrace Subdivision in Fortuna, California. Although the proposed project would only result in the conversion of 1.69 acres of prime agricultural land (1.35 acres for parkland and 0.34 acres for the emergency access road), the EIR analyzes and provides mitigation for the conversion of an additional 3.34 acres from the City's proposed Ennes Park Expansion. The additional area of conservation easement not required to mitigate the impacts of the proposed project is an added benefit of the project, and will be included in the Development Agreement between the City of Arcata and the applicant. The conservation easement would ensure the permanent protection of over 22 acres of prime agricultural lands within the City's Sphere of Influence. The proposed mitigation ratio of 4.5:1 exceeds the ratios typically used by other jurisdictions in the State for the conversion of prime agricultural land. This has been included as Mitigation Measure 4.4.1a for the proposed project.

With the proposed mitigation measures, the proposed project will adequately mitigate the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance

(Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

Determination:

Less than significant impact with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measure would reduce potential impacts to a less than significant level.

Mitigation Measure 4.4.1a. To mitigate for the permanent conversion of 5.03 acres of prime agricultural land from the proposed project and City proposed Ennes Park Expansion, the applicant shall dedicate a conservation easement to the benefit of the City of Arcata, on approximately 22.65 acres of parcel 505-151-001, which would result in a 4.5:1 mitigation ratio. Although the proposed project would only result in the conversion of 1.69 acres of prime agricultural land (1.35 acres for parkland and 0.34 acres for the emergency access road), the EIR analyzes and provides mitigation for the conversion of an additional 3.34 acres from the City's proposed Ennes Park Expansion.

Finding 4.4.2: Conflict with Existing Zoning for Agricultural Use, or a Williamson Act Contract.

Discussion:

The residential development site (APN 505-161-011) is currently zoned by the County for residential (R-1 and R-4) and limited industrial (ML) development. The project proposes to rezone parcel 505-161-011 for low-density residential (RL) development, which does not conflict with existing zoning for agricultural uses.

The City proposed Ennes Park Expansion would be developed on parcels 505-151-009, 505-284-009, and 505-284-010 (see Figure 4.4A [Parcels Proposed for Development]). Parcel 505-151-009 is in Humboldt County jurisdiction and is currently zoned for agricultural uses (AG and AE). However, parcel 505-151-009 is designated by the County as Medium Density Residential in the Arcata Community Plan (1966), which is inconsistent with the zoning for agricultural uses. As part of the Humboldt County General Plan Update process, the City of Arcata provided comments to the County in a letter dated May 30, 2008, requesting that parcel 505-151-009 be redesignated Public Facility (PF). As explained in the letter, the City purchased this parcel in 1991 to develop as a public park in the event of residential expansion along the western boundary of Arcata. As shown in the County General Plan Update Land Use Designation Maps, the County recently designated parcel 505-151-009 as Public Facility (PF) consistent with the City's request. It is anticipated that the County intends to rezone parcel 505-151-009 as PF when the Zoning Code is revised to be consistent with the recent General Plan Update. Parcels 505-284-009 and 505-284-010 are in the City of Arcata and are currently zoned for public facility uses (PF). Based on the existing and proposed zoning for the parcels that will be developed as parkland, the project will not conflict with zoning for agricultural use.

The emergency access road is proposed to be developed on parcel 505-151-001. As noted above, emergency access to Stewart Avenue will also occur through a proposed multi-use court on parcel 505-284-010 (see Figure 4.4A [Parcels Proposed for Development]). Parcel 505-151-001 is in Humboldt County jurisdiction and is currently zoned for agricultural (AG), industrial (ML), and residential (R-1) uses. Parcel 505-284-010 is in the City of Arcata and is currently zoned for public facility uses (PF) and contains Ennes Park. The emergency access road will occur on the portion of parcel 505-151-001 that is zoned by Humboldt County for single-family residential uses (R-1), and will not conflict with existing zoning for agricultural uses.

There is no Williamson Act contract applicable to the residential development site or the parcels that will be developed with the expansion of Ennes Park and the emergency access road. Based on the Humboldt County Map of Williamson Act Contract Ranches (December 2010) prepared for Humboldt County General Plan 2025 community meetings, the closest Williamson Act contract to the project parcels is located within the Arcata city limits approximately 0.4 miles to the north east. As such, the project will not conflict with an existing Williamson Act contract.

Therefore, the proposed project will not conflict with existing zoning for agricultural use, or a Williamson Act contract.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 4.4.3: Conflict with Existing Zoning for, or Cause Rezoning of, Forest Land (as Defined in Public Resources Code Section 12220(g)), Timberland (as Defined by Public Resources Code section 4526), or Timberland Zoned Timberland Production (as defined by Government Code section 51104(g)).

Discussion:

This project will not conflict with existing forestland or timberland zoning because the project parcels do not contain timberland and are zoned by Humboldt County for residential, agricultural, and industrial development. The closest forest lands are approximately one mile from the project parcels on the east side of Highway 101. The project also does not propose a zone change that would convert existing forest or timberland zoning.

Therefore, the proposed project will not conflict with existing zoning for, or cause rezoning of, forest land or timberland.

Determination:

No impact.

Mitigation:

None required.

Finding 4.4.4: Result in the Loss of Forest Land or Conversion of Forest Land to Non-Forest Use.

Discussion:

The project parcels are located in the Arcata Bottom area on properties that were historically used for lumber mill activities and agriculture. The project parcels do not contain forestland and are not zoned for timber production. The closest forest lands are approximately one mile from the project parcels on the east side of Highway 101.

Therefore, the proposed project will not result in the loss of forestland, or conversion of forest land to non-forest use.

Determination:

No impact.

Mitigation:

None required.

Finding 4.4.5: Involve Other Changes in the Existing Environment which, due to their Location or Nature, Could Result in Conversion of Farmland, to Non-Agricultural Use, or Conversion of Forest Land to Non-Forest Use.

Discussion:

The project proposes residential units and an assisted living facility adjacent to agricultural lands, and would bring urban services including water, wastewater, utilities, and improved roads closer to land that is designated for agricultural uses. The extension of these services could create pressure to convert land designated for agricultural uses to urban uses. The City of Arcata, County of Humboldt, and LAFCo have placed a high priority on the conservation of natural resource lands, including agricultural lands. The City of Arcata and County of Humboldt have General Plan growth management, resource conservation, and land use policies to protect agricultural lands from conversion to non-agricultural uses within City and County jurisdiction.

As described above, the project proposes a conservation easement on parcel 505-151-001, directly west of the residential development site (APN 505-161-011), to mitigate for the permanent conversion of prime agricultural land due to offsite improvements proposed as part of the project (e.g., emergency access road) and the City proposed Ennes Park Expansion. The conservation easement will permanently retain the majority of parcel 505-151-001 (22.65 acres of the 26.16-acre parcel) for future agricultural use and provide a buffer between the proposed residential development and agricultural lands to the west of the residential development site in the Arcata Bottom area.

The project parcels are located in the Arcata Bottom area on properties that were historically used for lumber mill activities and agriculture. The project parcels do not contain forestland and are not zoned for timber production. The closest forest lands are approximately one mile from the project parcels on the east side of Highway 101.

Therefore, the proposed project 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 or conversion of forest land to non-forest use.

Determination:

Less than significant impact.

Mitigation:

None required.

REFERENCES

California Department of Conservation (DOC). 2016. *Farmland Mapping & Monitoring Program*. Accessed 07/18/16. www.conservation.ca.gov/dlrp/FMMP/Pages/Index.aspx.

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Section 4.5

MINERAL RESOURCES

This section evaluates the potential impacts related to mineral resources during construction and operation of the project. To provide the basis for this evaluation, the Environmental Setting section describes the existing mineral resources for the project area and the Regulatory Framework section describes the regulatory background that applies to the project. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to mineral resources, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant.

ENVIRONMENTAL SETTING

Mineral Resources

Humboldt County has a wealth of mineral resources. There are 93 extraction sites around the county producing sand and gravel, metals, stone, and clay. Mining provides an input of vital importance to a number of key activities in the construction industry, primarily the raw materials for concrete used in foundations. Mining materials are also used for road construction, maintenance and repair, and other important uses (Humboldt County 2012).

The mineral resources in the City of Arcata planning area are primarily aggregate deposits found along the Mad River and in the Arcata Bottom. Areas along the Mad River, within and upstream of the City's Sphere of Influence, are currently used for aggregate resource extraction (gravel). The Arcata Bottom is not an aggregate reserve. Other than instream aggregate, no locally important mineral resources have been identified in Arcata. No mineral of state importance has been identified in or near the City's planning area (Arcata General Plan PEIR, Pg. 5-43).

Project Parcels

The project parcels are located on an alluvial plain between Humboldt Bay and the Mad River. The alluvial plain surface is Holocene alluvial deposit that has been uplifted to its present elevation above sea level as a result of active faulting associated with the Cascadia Subduction Zone fold and thrust belt (Clarke, 1992; McLaughlin et al, 2000). The alluvial plain is underlain by sands, silts, clays, and gravels.

The residential development site is relatively flat at an elevation of approximately 20 feet above mean sea level (Appendix G; SHN 1993, Pg. 5). Historically, compacted river run gravel fill

appears to have been placed over the entire former mill site parcel, presumably for operations at the former industrial lumber mill site (Appendix V; Pg. 1).

The residential development site was developed as a mill more than 50 years ago and was likely used for agricultural purposes prior to construction of the mill. The site itself is overlain by several feet of compacted unengineered fill material (aggregate rock and river-run material), and the native soils are fine alluvial materials (Appendix V, Pgs. 1-3). The residential development site and other project parcels do not contain any important mineral resources.

REGULATORY FRAMEWORK

State of California

Department of Conservation (DOC)

The California Department of Conservation has statewide oversight for the development of mining and mineral production on private and state lands, with many local jurisdictions providing additional oversight and management of mineral resources through county general plans, local area plans, zoning, and related ordinances. One of the objectives of the Department of Conservation is to collect and provide data related to minerals, and that is accomplished through the Mineral Resources and Mineral Hazards Mapping Program (MRMHMP). The state has not developed mapping related to mineral resources within the area of the proposed project.

City of Arcata

Arcata General Plan

Table 4.5-1 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|----------------------------------|---|--------------------------------|
| RC-9 Soils and Mineral Resources | Conserve and manage soil and mineral resources. | RC-9c |

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix G)

An impact to mineral resources is considered to be significant if it meets any of the following criteria.

If the project would:

- 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.

Arcata General Plan

Table 4.5-2 Project Consistency with General Plan

| Policy | Consistency Analysis |
|----------------------------------|--|
| RC-9 Soils and Mineral Resources | RC-9c: As noted in the setting, the native soils on the residential development site are fine alluvial materials which are covered by several feet of compacted river run gravel that was placed on the site when it was previously used as a lumber mill. The project parcels are located in the Arcata Bottom and do not contain any important mineral resources. |

Proposed Project

Finding 4.4.1: 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.

Discussion:

The project parcels are located on an alluvial plain between Humboldt Bay and the Mad River. As noted in the setting, the native soils at the site are fine alluvial materials which are covered by several feet of compacted river run gravel that was placed on the site when it was previously used as a lumber mill (Appendix V). No known mineral resources have been identified on the residential development site or the other project parcels proposed to be developed with offsite improvements.

Therefore, the proposed project will not 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.

Determination:

No impact.

Mitigation:

None required.

Finding 4.4.2: 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.

Discussion:

The project parcels are located on an alluvial plain between Humboldt Bay and the Mad River. The mineral resources in the City of Arcata planning area are primarily aggregate deposits found along the Mad River and in the Arcata Bottom. Figure 7-1 (Rock and Mineral Extraction Sites) of the Humboldt County Natural Resources and Hazards report completed for the County General Plan Update, does not identify the project parcels as rock and mineral extraction sites. No known mineral resources have been identified on the residential development site or the other project parcels proposed to be developed with offsite improvements.

Therefore, the proposed project will not 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.

Determination:

No impact.

Mitigation:

None required.

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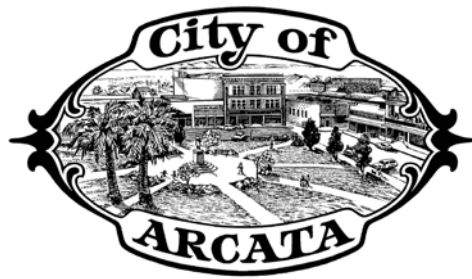
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CHAPTER 5.

ENERGY CONSERVATION

The following Sections are included in this Chapter:

Introduction

Environmental Setting

Regulatory Framework

Impact Analysis

References

Chapter 5

ENERGY CONSERVATION

INTRODUCTION

CEQA Guidelines

Appendix F of the California Environmental Quality Act (CEQA) Guidelines requires that an EIR shall include a “*discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.*”

The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include: 1) decreasing overall per capita energy consumption; 2) decreasing reliance on fossil fuels such as coal, natural gas and oil; and 3) increasing reliance on renewable energy sources.

Section II (EIR Contents) of Appendix F describes the contents that need to be included in an EIR to adequately address energy conservation which states, “*Potential significant energy implications of a project shall be considered in an EIR to the extent relevant and applicable to the project.*” Section II provides guidance on what to discuss in the various sections of the document including the Project Description, Environmental Setting, Environmental Impacts, Mitigation Measures, Alternatives, and other CEQA considerations. Appendix F does not specifically require that energy use be quantified. Under Appendix F (II)(C), an EIR's impact analysis may include the following:

- The project's energy requirements and its energy use efficiencies;
- The project's effects on local and regional energy supplies and on requirements for additional capacity;
- The project's effects on peak-period and base-period energy demands;
- The degree to which the project complies with existing energy standards;
- The project's effects on energy resources; and
- The project's projected transportation energy use and its overall use of efficient transportation alternatives.

For the proposed project, most of the discussion related to Energy Conservation is contained with this Chapter, with the exception of summarized discussions in Chapter 1 (Introduction), Chapter 6 (Alternative Analysis), and Chapter 7 (Cumulative Impact Analysis).

ENVIRONMENTAL SETTING

In Humboldt County, energy is used as a transportation fuel and as electrical and heat energy in homes, businesses, industries, and agriculture. The majority of primary energy used in Humboldt County is imported, with the exception of biomass energy. Essentially all of the county's transportation fuels are imported. Although the majority of electricity is generated in the county, a large portion of it is generated using natural gas. The county imports about 90% of its natural gas; the rest is obtained locally from fields in the Eel River valley (Schatz Energy Lab, 2005; Pgs. 1-2).

Humboldt County is remotely located at the end of the electrical and natural gas supply grids, and this limits both energy supply options and system reliability. PG&E owns the natural gas and electricity transmission and distribution systems in Humboldt County. There is one major natural gas supply line that serves the county and four electrical transmission circuits (Schatz Energy Lab, 2005; Pg. 3).

Prior to May 2017, electricity to the project parcels was provided by the PG&E Humboldt Bay Generating Station (HBGS) which is located just south of the City of Eureka along Humboldt Bay. The HBGS began commercial operation in 2010 and normally runs on natural gas, with ultra-low sulfur diesel as its backup fuel. As indicated on the PG&E website (www.pge.com), the HBGS is 33 percent more efficient than the previous Humboldt Bay Power Plant (HBPP) fossil fuel units.

Beginning in May 2017, electricity service for the City of Arcata was transitioned to the Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) program. The CCE program allows city and county governments to pool (or aggregate) the electricity demands of their communities in order to increase local control over electric rates, purchase power with higher renewable content, reduce greenhouse gas emissions, and reinvest in local energy infrastructure. The electricity continues to be distributed and delivered over the existing power lines by Pacific Gas & Electric (PG&E). The CCE program procures approximately 44% of its power from renewable and carbon-free sources, which is approximately 9% more renewable energy than the power sources previously provided by PG&E (RCEA, 2019). In addition, customers can choose to opt up to a premium service called Repower+, which is 100% renewable energy at only \$0.01 more per kilowatt hour (kWh). The proposed project will be automatically enrolled in the RCEA CCE program and will contribute towards increasing the amount of renewable power placed on California's grid, which has the effect of reducing greenhouse gas emissions and stimulating new renewable development in our region and State.

REGULATORY FRAMEWORK

Federal and State agencies regulate energy use and consumption through various means and programs. At the federal level, the U.S. Department of Transportation, the U.S. Department of Energy, and the U.S. Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel

economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure improvements. At the State level, the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) are two agencies with authority over different aspects of energy. The CPUC regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The CEC collects and analyzes energy-related data, prepares statewide energy policy recommendations and plans, promotes and funds energy efficiency programs, and adopts and enforces appliance and building energy efficiency standards. California is exempt under federal law from setting state fuel economy standards for new on-road motor vehicles. Some of the more relevant federal and State energy-related laws and plans are discussed below.

Federal

Energy Policy and Conservation Act

Enacted in 1975, this legislation established fuel economy standards for new light-duty vehicles sold in the United States. The law placed responsibility on the National Highway Traffic and Safety Administration (a part of the U.S. Department of Transportation) for establishing and regularly updating vehicle standards. The U.S. Environmental Protection Agency (U.S. EPA) administers the Corporate Average Fuel Economy (CAFE) program, which determines vehicle manufacturers' compliance with existing fuel economy standards.

Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. The act includes tax incentives for the following: energy conservation improvements in commercial and residential buildings; fossil fuel production and clean coal facilities; and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers. It directs the Department of Energy to study and report on alternative energy sources such as wave and tidal power, and includes funding for hydrogen research. The act also increases the amount of ethanol required to be blended with gasoline, and extends daylight saving time (to begin earlier in spring and end later in fall) to reduce lighting requirements. It also requires the federal vehicle fleet to maximize use of alternative fuels. The Act further includes provisions for expediting construction of major energy transmission corridors, such as high-voltage power lines, and fossil fuel transmission pipelines.

Energy Independence and Security Act of 2007

Signed into law in December 2007, this broad energy bill most notably included an increase in auto mileage standards, and also addressed biofuels, conservation measures, and building efficiency. The bill amended the CAFE standards to mandate significant improvements in fuel efficiency (i.e., average fleetwide fuel economy of 35 miles per gallon by 2020, versus the previous standard of 27.5 mpg for passenger cars and 22.2 mpg for light trucks). Another

provision includes a mandate to increase use of ethanol and other renewable fuels by 36 billion gallons by 2022, of which 21 million gallons is to include advanced biofuels, largely cellulosic ethanol, that have 50 to 60 percent lower GHG emissions. The bill also includes establishment of a new energy block grant program for use by local governments in implementing energy-efficiency initiatives, as well as a variety of green building incentives and programs.

EnergyStar Program

In 1992, the U.S. EPA introduced Energy Star as a voluntary labeling program designed to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, heating and cooling systems. Under this program, appliances that meet specifications for maximum energy use established under the program are certified to display the Energy Star label. In 1996, U.S. EPA joined with the Energy Department to expand the program, which now also includes qualifying commercial and industrial buildings, and homes.

State

Energy Action Plan

In 2003, the three key energy agencies in California— the CEC, the California Power Authority (CPA), and the CPUC— jointly adopted an Energy Action Plan (EAP) that listed goals for California’s energy future and set forth a commitment to achieve these goals through specific actions. In 2005, the CPUC and the CEC jointly prepared the EAP II to identify the further actions necessary to meet California’s future energy needs. EAP II describes the priority sequence for actions to address increasing energy needs, also known as “loading order.” The loading order identifies energy efficiency and demand response as the state’s preferred means of meeting growing energy needs. After cost-effective efficiency and demand response, the state is to rely on renewable sources of power and distributed generation, such as combined heat and power applications. To the extent that efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, the EAP II supports the use of clean and efficient fossil-fired generation. The plan recognizes that concurrent improvements are required to the bulk electricity transmission grid and distribution facility infrastructure to support growing demand centers and the interconnection of new generation, both on the utility and customer side of the meter. The EAP II identifies key actions to be taken in all of these areas in order to meet the state’s growing energy requirements. The plan recommendations are implemented by the governor through executive orders, by the legislature through new statutes, and by the responsible state agencies through regulations and programs. Progress on EAP II implementation is reported in successive biennial updates of the plan.

Title 24, Energy Efficiency Standards

Title 24, which was promulgated by the CEC in 1977 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, provides energy efficiency standards for residential and nonresidential buildings. These standards conserve electricity and natural gas and prevent the state from having to build more power plants. The success of these standards and other energy efficient efforts is a significant factor in California's per capita electricity use remaining flat over the last 40 years while the rest of the country's use continues to rise. The energy efficient standards have saved Californians billions in reduced electricity bills since 1977.

California's Building Energy Efficient Standards are updated on an approximately three-year cycle. The most recent update was in 2016 which took effect on January 1, 2017. Pursuant to the California Building Standards Code and the Title 24 Energy Efficiency Standards, the City of Arcata will review the design and construction components of the project's Title 24 compliance when specific building plans are submitted.

Green Building Standards Code

On January 12, 2010, the California Building Standards Commission adopted the 2010 California Green Building Standards Code, otherwise known as CALGreen. (CALGreen took effect in January 2014.) CALGreen is contained within Part 11 of the California Building Standards Code, otherwise known as the state Building Code, Title 24 of the California Code of Regulations. The list below identifies the most substantive CALGreen requirements. In addition, CALGreen encourages local governments to adopt voluntary provisions, known as Tier 1 and Tier 2 provisions, to reduce air pollutant emissions, improve energy efficiency, and conserve natural resources. If a local government adopts one of the tiers, the provisions become mandates for all new construction within that jurisdiction. CALGreen includes the following provisions:

- A 20 percent mandatory reduction in indoor water use, along with fixture-specific restrictions on water flow
- Separate indoor and outdoor water meters to measure nonresidential buildings' indoor and outdoor water use, with a requirement for moisture-sensing irrigation systems for larger landscape projects
- Diversion of 50 percent of construction waste from landfills
- Mandatory periodic inspections of energy systems (i.e., heat furnace, air conditioner and mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies
- Mandatory use of low-pollutant-emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard.

Arcata

Arcata General Plan

The City of Arcata General Plan includes several policies related to energy resources management in the Resource Conservation and Management Element. Table 5-1 contains a list of policies from the Arcata General Plan and regulations that are applicable to the proposed project.

Table 5-1 Applicable General Plan Policies

| Policy | Objective | Applicable Sub-Policies |
|----------------------------------|---|-------------------------|
| ARCATA GENERAL PLAN | | |
| RC-8 Energy Resources Management | Reduce the net emissions of greenhouse gases from Arcata; reduce other negative impacts of energy production and use, including risks from nuclear power, air emissions, fuel spills, and wildlife and habitat destruction; reduce energy costs to the city and its residents, and increase the percent of energy purchases from sources within our region; increase the city's and nation's energy security and our vulnerability to changes in energy availability and price; increase public awareness of energy issues and encourage an energy conservation ethic; monitor the cost and effectiveness of Arcata's actions so we and others can learn from them. | RC-8a, RC-8b, and RC-8c |

Arcata Land Use Code

The City of Arcata Land Use Code addresses energy conservation within Chapter 9.54 (Resource Conservation). Table 5-2 contains a list of requirements from the Arcata Land Use Code that are applicable to the proposed project.

Table 5-2 Applicable Land Use Code Requirements

| Policy | Objective | Applicable Sub-Policies |
|--------------------------------------|--|-------------------------|
| ARCATA LAND USE CODE | | |
| 9.54 (Resource Conservation) | Provide additional standards that improve energy conservation and minimize solid waste disposal in new development. The resource conservation standards are intended to reduce per capita energy consumption and its contributions to global greenhouse gas production, potable water consumption and resulting wastewater production, and solid waste production. | 9.54.030 and 9.54.050 |
| 9.56 (Solar Siting and Solar Access) | Implement the California Solar Rights Act and the California Solar Shade Control Act, as well as to strive to meet the City's energy policy goals outlined in the | 9.56.040 |

| Policy | Objective | Applicable Sub-Policies |
|-----------------------------|--|-------------------------|
| ARCATA LAND USE CODE | | |
| | Arcata General Plan. Intended to protect access to solar energy for future development in Arcata by serving as a guideline for new development. This is done by setting limits on the amount of shading permitted by new construction and requiring that new buildings be sited to maximize solar access. Proper building siting and orientation is required to fully utilize solar energy. These measures will benefit the citizens of Arcata by reducing dependence on non-renewable energy sources. | |

Community Greenhouse Gas Reduction Plan

The City of Arcata developed a Community Greenhouse Gas Reduction Plan in 2006, which focuses on six action areas:

- 1) Energy efficiency
- 2) Renewable energy
- 3) Sustainable transportation
- 4) Waste and consumption reduction
- 5) Sequestration and other methods
- 6) Cross-cutting approaches

In addition to reducing greenhouse gas emissions it is expected that the implementation of this plan will offer many other community benefits. These include: energy cost savings with subsequent benefits to the local economy, cleaner air, less reliance on fossil fuels and imported energy sources, and a move toward a more sustainable energy economy.

IMPACT ANALYSIS

Impact Evaluation Criteria

CEQA Guidelines (Appendix F)

Although Appendix F is not described as a threshold for determining the significance of impact, for purposes of determining the significance of an impact in the EIR, the following criteria are used:

- Would the project result in the wasteful and inefficient use of nonrenewable resources during construction of the project.

- Would the project result in the wasteful and inefficient use of nonrenewable resources during the long-term operation of the project.

Arcata General Plan

Table 5-3 Project Consistency with General Plan

| Policy | Consistency Analysis |
|--|---|
| ARCATA GENERAL PLAN | |
| RC-8 Energy Resources Management (RC-8a, RC-8b, and RC-8c) | <p>RC-8a. Consistent with this policy, the proposed project will be automatically enrolled in the RCEA CCE program which currently procures approximately 44% of its power from renewable and carbon-free sources, which is approximately 9% more renewable energy than the power sources previously provided by PG&E (RCEA, 2019).</p> <p>RC-8b. Consistent with this policy, the proposed project would be subject to City of Arcata Ordinance No. 1507 (Residential Reach Code) that requires new residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by at least 20 percent.</p> <p>RC-8c. Consistent with this policy, the proposed project includes onsite and offsite pedestrian and bicycle pathways that will connect the residential development with adjacent trail systems, bus stops, and surrounding neighborhoods. This increased connectivity to the site will encourage the use of alternative modes of transportation by future residents.</p> |

Arcata Land Use Code

Table 5-4 Project Consistency with Land Use Code

| Policy | Consistency Analysis |
|---|---|
| ARCATA LAND USE CODE | |
| Chapter 9.54 Resource Conservation (Sections 9.54.030 and 9.54.050) | <p>Energy Conservation Standards. This City’s prior Land Use Code policy required new residential buildings to be designed and constructed to achieve a minimum of 15 percent greater energy efficiency than otherwise required by the current California Code of Regulations, Title 24. In September 2018, the City of Arcata adopted Ordinance No. 1507 (Residential Reach Code) that requires new residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by at least 20 percent. The proposed project would be subject to the energy efficiency requirements of Ordinance No. 1507.</p> <p>Construction Materials Recycling. Consistent with this policy, the applicant shall be required to submit a Waste Management Plan as part of building, grading, and demolition permit submittals. As noted below, the applicant proposes to recycle or salvage over 50% of the construction waste from the project.</p> |
| Chapter 9.56 Solar | Subdivision Design, Building Orientation, Easements, and Access. |

| Policy | Consistency Analysis |
|--|--|
| ARCATA LAND USE CODE | |
| Siting and Solar Access (Section 9.56.040) | Consistent with this policy, the proposed residential structures will be designed for passive solar heating, which will reduce energy consumption for heating during operation of the project. |

Proposed Project

Finding 5.1: Would the Project Result in the Wasteful and Inefficient Use of Nonrenewable Resources during Construction of the Project.

Discussion:

During construction of the proposed project, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project parcels, construction worker travel to and from the project parcels, as well as delivery truck trips; and to operate generators to provide temporary power for lighting and electronic equipment.

The manufacture of construction materials used by the proposed project would also involve energy use. Due to the large number of materials and manufacturers involved in the production of construction materials (including manufacturers in other states and countries), upstream energy use cannot be reasonably estimated. However, it is reasonable to assume that manufacturers of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business. Furthermore, the applicant has no control over or the ability to influence energy resource use by the manufacturers of construction materials. Therefore, this analysis does not evaluate upstream energy use.

Construction would consist of demolition, site preparation, grading, building construction, trenching, paving, and architectural coating. Table 5-5 (Off-Road Construction Equipment Diesel Fuel Consumption) and Table 5-6 (Construction Period Petroleum Fuel Consumption) provides an estimate of construction fuel consumption for the project based on information provided by the CalEEMod air quality computer model (Appendix E).

As shown in Tables 5-5 and 5-6, off-road construction equipment, vendor trips, and hauling trips would consume a total of approximately 63,565 gallons of diesel fuel over the project’s construction period. Worker trips would consume a total of approximately 26,719 gallons of gasoline over the project’s construction period. These fuels would be consumed over a period of several years and would represent a small percentage of the total energy used in the State. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or State. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

Table 5-5 Off-Road Construction Equipment Diesel Fuel Consumption

| Equipment | Quantity | Horsepower | Load Factor | Fuel Consumption Rate ¹ (gallons per hour) | Duration ² (total hours) | Total Fuel Consumption ^{3,4} (gallons) |
|---|----------|------------|-------------|--|--|--|
| Demolition (20 days) | | | | | | |
| Concrete/Industrial Saws | 1 | 81 | 0.73 | 2.37 | 160 | 379 |
| Excavators | 3 | 158 | 0.38 | 2.40 | 160 | 1,152 |
| Rubber Tired Dozers | 2 | 247 | 0.40 | 3.95 | 160 | 632 |
| Site Preparation (20 days) | | | | | | |
| Rubber Tired Dozers | 3 | 247 | 0.40 | 3.95 | 160 | 1,896 |
| Tractors/Loaders/Backhoes | 4 | 97 | 0.37 | 1.44 | 160 | 922 |
| Grading (70 days) | | | | | | |
| Excavators | 2 | 158 | 0.38 | 2.40 | 560 | 2,690 |
| Graders | 1 | 187 | 0.41 | 3.07 | 560 | 1,719 |
| Rubber Tired Dozers | 1 | 247 | 0.40 | 3.95 | 560 | 2,212 |
| Scrapers | 2 | 367 | 0.48 | 7.05 | 560 | 7,896 |
| Tractors/Loaders/Backhoes | 2 | 97 | 0.37 | 1.44 | 560 | 1,613 |
| Building Construction (370 days) | | | | | | |
| Cranes | 1 | 231 | 0.29 | 2.68 | 2,590 | 6,941 |
| Forklifts | 3 | 89 | 0.20 | 0.71 | 2,960 | 6,305 |
| Generator Sets | 1 | 84 | 0.74 | 2.49 | 2,960 | 7,370 |
| Tractors/Loaders/Backhoes | 3 | 97 | 0.37 | 1.44 | 2,590 | 11,189 |
| Welders | 1 | 46 | 0.45 | 0.83 | 2,960 | 2,457 |
| Trenching (20 days) | | | | | | |
| Tractors/Loaders/Backhoes | 1 | 97 | 0.37 | 1.44 | 160 | 230 |
| Excavators | 1 | 158 | 0.38 | 2.40 | 160 | 384 |
| Paving (40 days) | | | | | | |
| Pavers | 2 | 130 | 0.42 | 2.18 | 320 | 1,395 |
| Paving Equipment | 2 | 132 | 0.36 | 1.90 | 320 | 1,216 |
| Rollers | 2 | 80 | 0.38 | 1.22 | 320 | 781 |
| Architectural Coating (30 days) | | | | | | |
| Air Compressors | 1 | 78 | 0.48 | 1.50 | 180 | 270 |
| | | | | | Total Diesel Usage⁴ | 59,649 |

Notes:

1. Derived using the following equation: Fuel Consumption Rate = Horsepower x Load Factor x Fuel Consumption Factor
Where: Fuel Consumption Factor for a diesel engine in 0.04 gallons per horsepower per hour (gal/hp/hr)
2. Total hours of duration derived from CalEEMod modeling results.
3. Total Fuel Consumption calculated using the following equation: Total Fuel Consumption = Quantity of Equipment x Duration in Hours x Fuel Consumption Rate
4. Values may be slightly off due to rounding.

Table 5-6 Construction Period Petroleum Fuel Consumption

| Phase | Number of Daily Trips ¹ | Number of Days ¹ | Average Round-Trip Commute Distance (in miles) ¹ | Fuel Usage (miles per gallon) ² | Gasoline/Diesel Usage (in gallons) ^{4,5} | |
|--------------------------------|------------------------------------|-----------------------------|---|--|---|---------------|
| Worker Trips (Gasoline) | | | | | | |
| Demolition | 15 | 20 | 10.8 | 18.6 | 174 | |
| Site Preparation | 18 | 20 | 10.8 | 18.6 | 209 | |
| Grading | 20 | 70 | 10.8 | 18.6 | 813 | |
| Building Construction | 115 | 370 | 10.8 | 18.6 | 24,706 | |
| Trenching | 5 | 20 | 10.8 | 18.6 | 58 | |
| Paving | 15 | 40 | 10.8 | 18.6 | 348 | |
| Architectural Coatings | 23 | 30 | 10.8 | 18.6 | 401 | |
| | | | | | Total Gasoline Usage⁵ | 26,719 |
| Vendor Trips (Diesel) | | | | | | |
| Building Construction | 21 | 370 | 7.30 | 25.1 | 2,259 | |
| Hauling Trips (Diesel) | | | | | | |
| Demolition | 79 ³ | -- | 20 | 25.1 | 63 | |
| Grading | 2,000 ³ | -- | 20 | 25.1 | 1,594 | |
| | | | | | Total Diesel Usage⁵ | 3,916 |

Notes:

1. Derived from CalEEMod modeling results.
2. This is a conservatively estimated total, as it assumes no electric, hybrid, or other alternative fuel use vehicles in the fleet mix.
3. Total number of haul trips for entire phase.
4. Derived using the following equation: Gasoline/Diesel Usage = # of Daily Trips x # of Days x Avg. Round-Trip Distance / Fuel Usage
5. Values may be off due to rounding.

As described below, the project would be required to comply with existing regulatory requirements and proposes various project measures that would result in the reduction of energy consumption during construction.

In 1994, the U.S. Environmental Protection Agency (EPA) adopted the first set of emission standards (Tier 1) for all new off-road diesel engines greater than 37 kilowatts (kW). The Tier 1 standards were phased in for different engine sizes between 1996 and 2000, reducing NO_x emissions from these engines by 30 percent. The EPA Tier 2 and Tier 3 standards for off-road diesel engines are projected to further reduce emissions by 60 percent for NO_x and 40 percent for particulate matter from Tier 1 emission levels. Tier 4 standards were established in 2004 and reduce NO_x, PM₁₀, and PM_{2.5} emissions by 90 percent and were phased in between 2008 and 2014. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary consumption.

Any relevant vehicle or machine use associated with the project will be subject to CARB standards. The CARB In-Use-Off-Road Diesel Vehicle Regulation applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulations: 1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; 2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System, DOORS) and labeled; 3) restricts the adding of older vehicles into fleets starting on January 1, 2014; and 4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies, VDECS (i.e., exhaust retrofits). The requirements and compliance dates of the Off-Road regulation vary by fleet size, as defined by the regulation.

As described in Section 2.9 (Noise) of the EIR, Section 9.30.050(D)(2) of the Arcata Land Use Code places limitations on the hours of construction activities to minimize potential noise impacts. This limitation on construction to daytime hours would not require the use of lighting and would therefore reduce the amount of diesel fuel consumed to generate electricity.

Consistent with the recommendations of the City's Zero Waste Action Plan (ZWAP), the applicant also proposes to recycle or salvage over 50% of the construction waste from the project. The applicant will be required to submit a construction Waste Management Plan to the City as part of the building, grading, and demolition permit submittals. Recycling or salvaging of construction waste will reduce the amount of fuel consumed for transporting waste to landfills.

As such, the applicant proposed project measures combined with existing regulatory requirements, would reduce short-term energy demand due to project construction. Therefore, the project would not result in the wasteful and inefficient use of nonrenewable resources during construction of the project.

Determination:

Less than significant impact.

Mitigation:

None required.

Finding 5.2: Would the Project Result in the Wasteful and Inefficient Use of Nonrenewable Resources during Long-Term Operation of the Project.

Discussion:

During long-term operation of the proposed project, energy use will include electricity and natural gas consumption by the residents, energy consumption related to obtaining water, and fuel consumption by operation of vehicles.

Building Energy Demand

As required by State regulations and the City of Arcata's building code, the design and construction of the proposed residential units would be in accordance with the most recently adopted edition of California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the California Code of Regulations) which will reduce energy use associated with operation of the residential units. It has generally been the presumption throughout the State of California that compliance with Title 24 (as well as compliance with the federal and state regulations discussed in the Environmental Setting) ensures that projects will not result in the inefficient, wasteful, and unnecessary consumption of energy.

The proposed project's electricity and natural gas use was estimated using the California Emissions Estimator Model (CalEEMod) (Appendix E). As indicated in Appendix E, without mitigation the project would result in an estimated 1,252 megawatt hours (MWh) of electricity use and 1.6 million kilo British Thermal Units (kBtu) of natural gas use annually.

As described in Section 2.8 (Greenhouse Gas Emissions) of the EIR (see Table 2.8-3 [GHG Laws and Regulations Applicable to the Proposed Project]), the project is subject to existing regulatory requirements and proposes several measures that will reduce energy consumption during operation of the project. These include the following:

- The proposed project would be subject to City of Arcata Ordinance 1507 (Residential Reach Code) that requires new residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part Building Energy Efficiency Standards by at least 20 percent;
- All installed appliances will comply with California Code of Regulations Title 20 (Appliance Efficiency Standards);
- As required by Arcata Land Use Code section 9.56 (Solar Siting and Solar Access), the proposed residential structures will be designed for passive solar heating which will reduce energy consumption for heating during operation of the project;
- To reduce indoor water use it is proposed to install low flow plumbing fixtures in the proposed residential units and assisted living facility (see Mitigation Measure 2.8.1a); and

- To reduce outdoor water use for landscaping, it is proposed to install native and drought-tolerant plant species that do not require irrigation at the assisted living facility and senior-restricted cottage units (see Mitigation Measure 2.8.1a).

As indicated in Appendix E, in compliance with the above listed regulatory requirements and with implementation of the project design features and/or mitigation measures, the project would result in an estimated 1,213 megawatt hours (MWh) of electricity use and 1.34 million kilo British Thermal Units (kBtu) of natural gas use annually. Due to limitations in the modeling software, only the energy reductions resulting from the exceedance of Title 24 standards and the reduced water use are quantified.

CEQA Guidelines Appendix F indicates that "increasing reliance on renewable energy sources" is one of the means of achieving the goal of energy conservation (see Appendix F [I][3] and [II][D][4]). As described in the Environmental Setting, electricity service for the City of Arcata was transitioned to the Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) program in May 2017. The CCE program procures approximately 44% of its power from renewable and carbon-free sources, which is approximately 9% more renewable energy than the power sources previously provided by PG&E (RCEA, 2019). Accordingly, the electricity provider for the project is increasingly relying on renewable energy sources. Due to the limitations of the CalEEMod modeling software, the energy conservation benefits of enrollment in the RCEA CCE program were not considered.

As the project would exceed Title 24 requirements, include the above sustainable project features, and participate in the RCEA CCE program, electricity and natural gas use would not be inefficient, wasteful, and unnecessary.

Transportation Energy Demand

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration (NHTSA) is responsible for establishing additional vehicle standards and for revising existing standards. Compliance with Federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States.

Energy in the form of fuel (gasoline or diesel) would be consumed by vehicles associated with the project through the generation of new vehicle trips. Vehicle miles traveled (VMT) can be used to determine energy consumption based on assumptions of fuel economy and fleet mix. The proposed project's vehicle miles traveled (VMT) was estimated using the California Emissions Estimator Model (CalEEMod) (Appendix E). As indicated in Appendix E, without mitigation the project would generate approximately 2.79 million VMT per year, or 7,644 VMT daily. Table 5-7 (Unmitigated Operational Fuel Consumption) provides an estimate of the unmitigated daily fuel consumed by vehicles traveling to and from the proposed project parcels.

Table 5-7 Unmitigated Operational Fuel Consumption

| Vehicle Type | Percent of Vehicle Trips ¹ | Daily Vehicle Miles Traveled ² | Average Fuel Economy (miles per gallon) ³ | Total Daily Fuel Consumption (gallons) ⁴ |
|--------------------------|---------------------------------------|---|--|---|
| Passenger Cars | 62 | 4,739 | 21.6 | 219 |
| Light/Medium Trucks | 26 | 1,987 | 17.2 | 116 |
| Heavy Trucks/Other | 12 | 917 | 6.1 | 150 |
| TOTAL⁵ | 100 | 7,644⁶ | -- | 485 |

Notes:

1. Percent of Vehicle Trip distribution based on trip characteristics within the CalEEMod model.
2. Daily Vehicle Miles Traveled (VMT) calculated by multiplying percent vehicle trips by total VMT (i.e., VMT x percent of Vehicle Trips).
3. Average fuel economy derived from the Department of Transportation.
4. Total Daily Fuel Consumption calculated by dividing the daily VMT by the average fuel economy (i.e., VMT/Average Fuel Economy).
5. Values may be slightly off due to rounding.
6. Daily vehicle miles traveled is based upon data within the CalEEMod model.

As indicated in Table 5-7, without mitigation, operation of the proposed project is estimated to consume approximately 485 gallons of fuel daily, or 177,025 gallons annually. Based on the estimate of annual fuel consumption, the proposed project would result in an energy use of approximately 22.1 billion BTUs per year associated with transportation. This is based on an average of 125,000 BTUs per gallon of fuel. To reduce the amount of fuel consumed for transportation, the project proposes the following measures that will encourage the use of alternative modes of transportation (see Mitigation Measure 3.1b):

- The proposed residential development site is located on the western boundary of the City of Arcata adjacent to existing residential neighborhoods and within walking and biking distance of Humboldt State University (~1 mile) and the City of Arcata Plaza and Downtown area (~1 mile). The site is also within 1.15 miles of the Arcata Transit Station. Development of the site for with residential uses will improve the destination accessibility and transit accessibility for the future residents.
- A pedestrian/bicycle pathway through parcel 505-341-048 is proposed for access to Alliance Road that would include a crossing over Janes Creek. The proposed crossing would include the replacement of an existing overcrossing located mid-way along the eastern boundary of the residential development site. This pathway would connect the eastern edge of the residential development site to an existing paved access road that connects to Alliance Road adjacent to the Janes Creek Townhouses (South).
- A portion of the Hammond Trail is proposed to be constructed on parcel 505-161-009 along the southern boundary of the residential development site directly south of the proposed cottage units.
- A north-south pathway is proposed on the southeastern portion of the residential development site that will connect the Hammond Trail with the pedestrian/bicycle pathway to Alliance Road.
- Sidewalks and bike lanes will be developed within the Foster Avenue Connection to provide non-vehicular access from the residential development site to Alliance Road.
- The all-weather emergency access proposed to connect the residential development site (APN 505-161-011) with Stewart Avenue will also function as a pedestrian/bicycle pathway.

As indicated in Appendix E, with implementation of the mitigation measures listed above (see Mitigation Measure 3.1b), the project would generate approximately 2.46 million VMT per year, or 6,740 VMT daily. Table 5-8 (Mitigated Operational Fuel Consumption) provides an estimate of the mitigated daily fuel consumed by vehicles traveling to and from the proposed project parcels.

Table 5-8 Mitigated Operational Fuel Consumption

| Vehicle Type | Percent of Vehicle Trips ¹ | Daily Vehicle Miles Traveled ² | Average Fuel Economy (miles per gallon) ³ | Total Daily Fuel Consumption (gallons) ⁴ |
|--------------------------|---------------------------------------|---|--|---|
| Passenger Cars | 62 | 4,179 | 21.6 | 193 |
| Light/Medium Trucks | 26 | 1,752 | 17.2 | 102 |
| Heavy Trucks/Other | 12 | 809 | 6.1 | 133 |
| TOTAL⁵ | 100 | 6,740⁶ | -- | 428 |

Notes:

1. Percent of Vehicle Trip distribution based on trip characteristics within the CalEEMod model.
2. Daily Vehicle Miles Traveled (VMT) calculated by multiplying percent vehicle trips by total VMT (i.e., VMT x percent of Vehicle Trips).
3. Average fuel economy derived from the Department of Transportation.
4. Total Daily Fuel Consumption calculated by dividing the daily VMT by the average fuel economy (i.e., VMT/Average Fuel Economy).
5. Values may be slightly off due to rounding.
6. Daily vehicle miles traveled is based upon data within the CalEEMod model.

As indicated in Table 5-8, with implementation of the project measures listed above, operation of the proposed project is estimated to consume approximately 428 gallons of fuel daily, or 156,220 gallons annually. Based on the estimate of mitigated annual fuel consumption, the proposed project would result in an energy use of approximately 19.5 billion BTUs per year associated with transportation. This is based on an average of 125,000 BTUs per gallon of fuel.

The project would not result in any unusual characteristics that would result in excessive long-term operational fuel consumption in comparison to other developments in the region. As noted above, the project would be located within walking and biking distance of nearby employment, commercial, and educational centers (e.g., Arcata Plaza and Downtown area and Humboldt State University) and transit facilities (e.g., bus stops and Arcata Transit Station). The project would also include several pedestrian and bicycle improvements that would provide connectivity to the surrounding trail systems and encourage alternative modes of transportation. As such, fuel consumption associated with vehicle trips generated by the project would not be considered inefficient, wasteful, or unnecessary.

In summary, the project proposes structures that would be energy efficient and by virtue of its location and design features, such as pedestrian and bicycle facilities and convenient access to transit, the proposed project would minimize petroleum-based fuel use and would not involve the inefficient, wasteful, and unnecessary use of energy during operation.

Therefore, with the proposed project design features, mitigation measures, and compliance with existing regulatory requirements, the proposed project would not result in the wasteful and inefficient use of nonrenewable resources during long-term operation of the project.

Determination:

Less than significant impact with incorporation of mitigation measures.

Mitigation:

Implementation of the following mitigation measures would reduce the potential impacts to a less than significant level.

Same as *Mitigation Measures 2.8.1a (GHG Reduction Measures)* and *3.1b (Pedestrian/Bicycle Improvements)*.

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CHAPTER 6.

ALTERNATIVE ANALYSIS

The following Sections are included in this Chapter:

Introduction

Project Objectives

Alternatives Eliminated from Further Consideration

Description and Evaluation of Alternatives

Comparison of Alternatives Analyzed

Environmentally Superior Alternative

References

Chapter 6

ALTERNATIVES ANALYSIS

INTRODUCTION

This chapter presents the alternatives analysis for the project. The California Environmental Quality Act (CEQA) requires that the EIR shall describe a range of reasonable alternatives to the project that would “feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives” (CEQA Section 15126.6(a)). The CEQA guidelines also note in Section 15126.6(a) that an EIR “need not consider every conceivable alternative to a project” and that “An EIR is not required to consider alternatives which are infeasible”. The development of alternatives is a means to provide ways of “avoiding or substantially lessening any significant effects of the project” (CEQA Section 15126.6(b)).

CEQA GUIDELINES

CEQA guidelines state that the EIR must describe a range of reasonable alternatives to the project, but provide no clear direction for determining the nature or scope of those alternatives. The guidelines state that there is no rule that governs “the scope of the alternatives to be discussed other than the rule of reason” (CEQA Guidelines Section 15126.6(a) and (f)). Alternatives are limited to those that would avoid or substantially lessen any of the significant effects of the project.

The guidelines also provide that an EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effect of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the proposed project, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.

The specific No Project alternative, along with its impacts shall also be evaluated (CEQA Guidelines 15126.6(e)), with the purpose of the No Project alternative being the evaluation of conditions should the project not be approved. The No Project is not the baseline for determining a project’s environmental impacts, unless it is identical to the existing environmental setting. Through evaluation of the project alternatives, if the environmentally superior alternative is the No Project alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

Several alternatives were identified but were eliminated from further review because they do not meet several of the basic requirements of CEQA; Section 15126.6(c) states “The EIR should also

identify any alternatives that were considered . . . but were rejected as infeasible during the scoping processAmong the factors that may be used to eliminate alternatives from detailed consideration in the EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.”

Rule of Reason

CEQA specifically addresses the Rule of Reason (Section 15126.6(f)) and provides some clarity on the scope of the alternatives, if not their nature. The focus of the discussions in this section of CEQA revolve around the ability of alternatives to lessen any significant effects of the project, and provides that the only alternatives the Lead Agency needs to examine are those that could feasibly attain most of the basic objectives of the project. CEQA specifically addresses three items of (1) Feasibility, (2) Alternative Locations, and (3) Reasonable Effects (Section 15126.6(f) (1 to 3)).

Feasibility

As provided for in CEQA, factors that may be taken into account in evaluating alternatives includes “site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent”. (Section 15126.6(f)(1)).

Alternative Locations

The key question CEQA asks as the first step in alternative locations is whether “any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location” (Section 15126.6(f)(2)(A)). Only those locations that would avoid or substantially lessen any of the significant effects of the project need to be considered.

The second question that CEQA poses is related to there being no feasible alternative location for the project. CEQA Guideline Section 15126.6(f)(2)(B), states: “If the Lead Agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR”. The rationale is that in some cases, there may be no alternative to the location of the project other than on the site proposed by the Project. In those cases no other site need to be evaluated, but the rationale for the conclusion must be disclosed.

Reasonable Effects

Lastly, Section 15126.6(f)(2)(C) provides that “An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative”. As noted here, this limits alternatives to what can be reasonably determined, and does not require alternatives to be created for the sake of creating alternatives, especially when their implementation is “remote and speculative”.

PROJECT OBJECTIVES

As described in Chapter 1 (Introduction) of the EIR, the following Project Objectives have been established as the rationale for the Proposed Project. These objectives aid the Lead Agency in the review of the project and associated alternatives and their related environmental impacts:

- 1) To provide for orderly development of the City, including additional housing development within the City's Sphere of Influence and Urban Services Boundary;
- 2) To comply with the General Plan and other relevant adopted planning documents and implementing ordinances (e.g. Land Use Code);
- 3) Assist the City in implementation of the General Plan Housing Element goals by developing single-family and senior housing;
- 4) Provide housing adjacent to existing residential neighborhoods;
- 5) Provide infill residential development on an underutilized former lumber mill site that is planned by the County of Humboldt and City of Arcata for residential uses;
- 6) Create a strong sense of community by providing new connections between neighborhoods on the western edge of the City;
- 7) Provide a mix of housing types;
- 8) Develop trails connecting the residential development site to the existing City trail system, transit facilities, parks, neighborhoods, and schools;
- 9) Tree-lined streets & curb-separated sidewalks; and
- 10) Create enhanced streetscape and a walkable community.

ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Alternatives discussed in this section were identified but were eliminated from further review because they do not meet several of the basic requirements of CEQA; Section 15126.6(c) states “The EIR should also identify any alternatives that were considered . . . but were rejected as infeasible during the scoping process . . . Among the factors that may be used to eliminate alternatives from detailed consideration in the EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.”

OFFSITE LOCATION

The Offsite Location Alternative was evaluated and eliminated from further consideration because its fatal flaw is that the project applicant does not own another suitable site of this size in the City of Arcata or Humboldt County, and it could not be reasonably expected that a different site would provide for any lessening of potential environmental impacts (CEQA Guidelines Section 15126.6). The proposed residential development site (APN 505-161-011) is owned by the project applicant, has been planned for residential development by the City of Arcata upon annexation, is surrounded on three sides by residential development, has sufficient land and services available for development of the Proposed Project, and is a logical and reasonable extension of the Arcata city limits.

An offsite location would not necessarily meet some of the most basic Project objectives of (1) provide housing adjacent to existing residential neighborhoods; (2) provide infill residential development on an underutilized former lumber mill site that is planned by the County of Humboldt and City of Arcata for residential uses; and (3) develop trails connecting the residential development site to the existing City trail system, parks, neighborhoods, and schools.

Additionally, an offsite location would not necessarily avoid significant environmental impacts as it is likely vacant or underutilized property within the City’s Planning Area would contain environmental constraints and may actually result in other unknown significant impacts that would themselves be avoided by the Proposed Project. For example, many of the larger vacant parcels that are planned for residential development within the City of Arcata Sphere of Influence and Urban Services Boundary consist of sloping forestland. For this reason, the City has planned for these properties to be designated/zoned Residential – Very Low Density [RVL] upon annexation. Due to the suitability of parcel 505-161-011 for residential development, it is one of the only properties the City has planned to be designated/zoned Residential – Medium Density (RM) upon annexation.

Based on this evaluation, the Offsite Location alternative was eliminated from further review.

MEDIUM DENSITY RESIDENTIAL DEVELOPMENT

The Medium Density Residential Development alternative would develop the residential development site (APN 505-161-011) for the maximum density allowed under the City of Arcata

planned designation/zoning of Residential Medium Density (RM) which allows residential densities of 7.26 to 15 units per acre. This alternative would allow a maximum of 240 residential units on the 16-acre residential development site (APN 505-161-011) that would provide housing for approximately 506 residents. This alternative would generate greater traffic impacts, produce more wastewater, produce greater amounts of criteria air pollutants and greenhouse gas emissions, and generate additional stormwater runoff. Evaluation concluded that this alternative has the potential to increase the severity of significant impacts or result in additional significant impacts, and was therefore eliminated from detailed study.

HIGH DENSITY RESIDENTIAL DEVELOPMENT

The High Density Residential Development alternative would develop the residential development site (APN 505-161-011) for the maximum density allowed under the Residential High Density (RH) designation/zoning, which allows residential densities of 15.01 to 32 units per acre. This alternative would allow a maximum of 512 residential units on the 16-acre residential development site that would provide housing for approximately 1,080 residents. This alternative would generate greater traffic impacts, produce more wastewater, produce greater amounts of criteria air pollutants and greenhouse gas emissions, and generate additional stormwater runoff. Evaluation concluded that this alternative has the potential to increase the severity of significant impacts or result in additional significant impacts, and was therefore eliminated from detailed study.

DESCRIPTION AND EVALUATION OF ALTERNATIVES

In addition to the Proposed Project, the alternatives analyzed in the EIR are the following:

- **Alternative 1: No Project**
- **Alternative 2: County General Plan Update**
- **Alternative 3: No Assisted Living Facility**
- **Alternative 4: Single-Family Residential Development**
- **Alternative 5: No Foster Avenue Connection**

The project alternatives are described and evaluated below.

Alternative 1: No Project Alternative

DESCRIPTION

As the name implies, the No Project Alternative is an alternative in which there is no project. As such, no changes would occur and the project parcels would remain in their current state and use (i.e., vacant, agricultural grazing, riparian corridor, and Ennes Park).

IMPACT EVALUATION

This section provides an evaluation of the potential environmental impacts of the No Project Alternative as compared against the Proposed Project. There are numerous differences in the types and levels of impacts for each alternative. Where there is a change in the degree of severity of an impact (more or less severe) as compared to the Proposed Project, it is described as greater or lesser. Impacts which are relatively equal as compared to the Proposed Project are described as similar.

Land Use and Planning

The Proposed Project was found to have Less than Significant Impacts related to Land Use and Planning. Under the No Project Alternative, the residential development site (APN 505-161-011) would keep the existing Limited Industrial (ML), Residential One-Family (R-1), and Apartment Professional (R-4) County zoning classifications, and would not be redesignated/rezoned as Residential Low Density (RL) upon annexation. Under this alternative, the residential development site (APN 505-161-011) would continue to have inconsistency between its County General Plan designation (Medium Density Residential) and zoning

classifications (ML, R-1, and R-4). It is anticipated that this inconsistency would be corrected through the County General Plan and Zoning Code update process, which would include the rezoning of the entire property for residential development.

Compared to the Proposed Project, the No Project Alternative would have *similar* impacts related to Land Use and Planning. As such, the No Project Alternative would have Less Than Significant Impacts related to Land Use and Planning.

Population and Housing

The Proposed Project was found to have Less than Significant Impacts related to Population and Housing. The No Project Alternative would not provide additional single-family and senior housing that would assist the City in meeting the goals of the General Plan Housing Element. As such, the No Project Alternative would not result in additional population growth.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Population and Housing. As such, the No Project Alternative would have Less Than Significant Impacts related to Population and Housing.

Public Services

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Public Services. The No Project Alternative would not result in an increase in service calls to the Fire or Police Departments. The No Project Alternative would not impact schools or enrollment, the use of existing parks or recreation facilities, or the use of other public facilities. Since the No Project Alternative would not result in new residents on the residential development site, it would not require the development of offsite park facilities that would result in the permanent conversion of prime agricultural land. As such, this alternative would not require the dedication of a conservation easement to mitigate for the permanent conversion of prime agricultural land.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Public Services and would not require mitigation to reduce impacts to a less than significant level. As such, the No Project Alternative would have Less Than Significant Impacts related to Public Services.

Recreation

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Recreation. The No Project Alternative would not result in increased use of existing recreational facilities or require the construction or expansion of recreational facilities that would have an adverse physical effect on the environment. As such, this alternative would not require the dedication of a conservation easement to mitigate for the permanent conversion of prime agricultural land.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Recreation and would not require mitigation to reduce impacts to a less than significant level. As such, the No Project Alternative would have Less Than Significant Impacts related to Recreation.

Cultural Resources

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Cultural Resources. As indicated in the Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D), the project parcels do not contain any known historical or archaeological resources. The No Project Alternative would not result in any ground disturbance and therefore would not have the potential to inadvertently discover cultural resources during construction activities.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Cultural Resources. As such, the No Project Alternative would have Less Than Significant Impacts related to Cultural Resources.

Aesthetics

The Proposed Project was found to have Less than Significant Impacts related to Aesthetics. Under the No Project Alternative, the residential development site (APN 505-161-011) would remain as a vacant, former industrial site in a blighted condition that is aesthetically inconsistent with surrounding residential neighborhoods (see Section 2.6 [Aesthetics] for a description of the visual condition of the residential development site). The Proposed Project will ultimately improve the overall condition of the site and provide greater land use and aesthetic consistency with surrounding residential neighborhoods.

Compared to the Proposed Project, the No Project Alternative would have *greater* impacts related to Aesthetics. However, since the residential development site has been in a blighted condition for over 30 years, the No Project Alternative would have Less Than Significant Impacts related to Aesthetics.

Air Quality

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Air Quality. The No Project Alternative would not result in any new construction or operational emissions, expose sensitive receptors to substantial pollutant concentrations, or create objectionable odors that would affect a substantial number of people.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Air Quality. As such, the No Project Alternative would have Less Than Significant Impacts related to Air Quality.

Greenhouse Gas Emissions

The Proposed Project was found to have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Greenhouse Gas Emissions. For this reason, the adoption of a Statement of Overriding Considerations related to GHG emissions impacts would be required for the Proposed Project (see Section 2.8 [Greenhouse Gas Emissions] and Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion).

The No Project Alternative would not result in any new construction or operational GHG emissions. This alternative would also not have the potential to conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. As such, this alternative would not require mitigation to reduce GHG emissions.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Greenhouse Gas Emissions and would not require mitigation to reduce GHG emissions. As such, the No Project Alternative would have Less Than Significant Impacts related to Greenhouse Gas Emissions.

Noise

The Proposed Project, as designed and in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Noise. The No Project Alternative would not result in temporary construction noise impacts, nor would it result in increased noise from additional traffic and new residential and recreational uses. Noise at the site would continue to be dominated by traffic on Foster Avenue and Alliance Road, which exceeds any noise that would be generated by this alternative or operation of the Proposed Project.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Noise. As such, the No Project Alternative would have Less Than Significant Impacts related to Noise.

Hazards and Hazardous Materials

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Hazards and Hazardous Materials. Under the No Project Alternative, the residential development site (APN 505-161-011) would remain vacant and would not be developed for single-family and senior housing. Under the No Project Alternative, mitigation would not be required for removal of hydrocarbon contamination on the residential development site under the remaining debarker slab. Under this alternative, mitigation would also not be required for implementation of the Site Development Contamination Contingency and Site Safety Plan (Appendix O) during construction activities. Similar to the Proposed Project, this alternative would not be located on a site that is in close proximity to a public airport or private airstrip, would not interfere with an emergency response or evacuation plan, and would not be located on a site that is subject to wildland fires.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Hazards and Hazardous Materials and would not require mitigation to reduce impacts to a less

than significant level. As such, the No Project Alternative would have Less Than Significant Impacts related to Hazards and Hazardous Materials.

Utilities and Service Systems

The Proposed Project was found to have Less than Significant Impacts related to Utilities and Service Systems. The No Project Alternative would not result in increased water consumption, wastewater discharge, stormwater runoff, and solid waste generation. No improvements to existing utilities on and adjacent to the project parcels would occur and no water and sewer connection fees would be paid to the City.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Utilities and Service Systems. As such, the No Project Alternative would have Less Than Significant Impacts related to Utilities and Service Systems.

Tribal Cultural Resources

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Tribal Cultural Resources. As indicated in the Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D), the project parcels do not contain any known tribal cultural resources. The No Project Alternative would not result in any ground disturbance and therefore would not have the potential to inadvertently discover tribal cultural resources during construction activities.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Tribal Cultural Resources. As such, the No Project Alternative would have Less Than Significant Impacts related to Tribal Cultural Resources.

Transportation-Traffic

The Proposed Project was found to have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Transportation-Traffic, since the future transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1) may not be constructed for several years (see Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion). For this reason, the adoption of a Statement of Overriding Considerations related to traffic impacts would be required for the Proposed Project.

The No Project Alternative would not result in an increase in vehicle trips generated from the site and would not reduce the level of service at nearby intersections. The No Project Alternative would also not require mitigation for the payment of a fair share contribution to improve nearby intersections or mitigation requiring the construction of pedestrian and bicycle access improvements to provide connectivity with surrounding trail systems and transit facilities.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Transportation-Traffic and would not require mitigation. As such, the No Project Alternative would have Less Than Significant Impacts related to Transportation-Traffic.

Geology and Soils

The Proposed Project, as designed and in compliance with existing regulatory requirements, was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Geology and Soils. The No Project Alternative would not result in soil disturbance and construction of new residential structures or recreational facilities. The remnants of the former lumber mill would remain on parcel 505-161-011. This alternative would also not result in the loss of topsoil that could have otherwise been used for agricultural production, and therefore does not require mitigation for the permanent conversion of prime agricultural soils.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Geology and Soils and would not require mitigation to reduce impacts to a less than significant level. As such, the No Project Alternative would have Less Than Significant Impacts related to Geology and Soils.

Hydrology and Water Quality

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Hydrology and Water Quality. The No Project Alternative would not produce additional wastewater, which is estimated to be 17,460 gallons per day for the Proposed Project. However, this alternative would not pay sewer capital connection fees that would be used to make improvements to the City's wastewater treatment system and ultimately improve water quality in Humboldt Bay.

The No Project Alternative would not have the potential to result in an increase in impervious surfaces and stormwater runoff. Existing drainage patterns on the project parcels would remain. However, this alternative would not result in the replacement of two culverts in Janes Creek that would minimize flooding on and adjacent to the residential development site. This alternative would also not have the potential to improve water quality through mitigation requiring the removal of hydrocarbon contamination on the residential development site under the remaining debarker slab.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Hydrology and Water Quality and would not require mitigation to reduce impacts to a less than significant level. As such, the No Project Alternative would have Less Than Significant Impacts related to Hydrology and Water Quality.

Biological Resources

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Biological Resources. The No Project Alternative would not result in new development on the project parcels that would include physical impacts to wetlands and the Janes Creek riparian corridor. As such, this alternative would not require the following mitigations required of the Proposed Project: 1) construction of a wetland mitigation area; 2) removal and control of invasive species; 3) planting of native species in the 50-foot buffer area for the wetland mitigation area; 4) the payment of fees to the City of Arcata to assist in the acquisition and restoration of properties adjacent to the Arcata Community Forest that contain

portions of Jolly Giant Creek; and 5) implementation of applicable measures in the CDFW Salmonid Habitat Restoration Manual during the replacement of culverts. Since there would be no potential to impact protected wildlife species using habitat on the project parcels, this alternative would also not include mitigation requiring biological surveys and operational restrictions, buffers, etc. if protected wildlife species are observed at the site.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Biological Resources and would not require mitigation to reduce impacts to a less than significant level. As such, the No Project Alternative would have Less Than Significant Impacts related to Biological Resources.

Agriculture and Forestry Resources

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Agriculture and Forestry Resources. The No Project Alternative would not develop the project parcels for residential and recreational uses and would therefore not permanently convert prime agricultural land on parcels 505-151-001, -009, 505-284-009, and -010. As such, this alternative would not include mitigation requiring dedication of a conservation easement on parcel 505-151-001.

Compared to the Proposed Project, the No Project Alternative would have *lesser* impacts related to Agriculture and Forestry Resources and would not require mitigation to reduce impacts to a less than significant level. As such, the No Project Alternative would have Less Than Significant Impacts related to Agriculture and Forestry Resources.

Mineral Resources

The Proposed Project was found to have No Impacts related to Mineral Resources. As indicated in Section 4.5 (Mineral Resources) of the EIR, the project parcels do not contain mineral resources. Under the No Project Alternative, the project parcels would remain vacant and would not be developed for residential and recreational uses.

Because there are no existing or potential mineral resources on the residential development site, compared to the Proposed Project, the No Project Alternative would have *similar* impacts related to Mineral Resources. As such, the No Project Alternative would have No Impacts related to Mineral Resources.

Energy Conservation

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Energy Conservation. The No Project Alternative would not result in new development that would consume energy during construction and operation. As such, this alternative would not require mitigation to increase energy efficiency and reduce vehicle miles traveled.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Energy Conservation and would not require mitigation to reduce impacts to a less than significant level. As such, the No Project Alternative would have Less Than Significant Impacts related to Energy Conservation.

Alternative 2: County General Plan Update

DESCRIPTION

The County General Plan Update Alternative assumes that the residential development site (APN 505-161-011) would not be annexed into the City of Arcata and would be developed for single-family residential uses. This alternative would also not include the annexation of City-owned parcel 505-151-009 (Ennes Park Expansion), a portion of parcel 506-161-009 (former railbed), or a portion of the right-of-ways for Foster Avenue and Q Street into the City of Arcata. This alternative is not referred to as the Existing Zoning Alternative because most of the residential development site is currently zoned Industrial Limited (ML), which is inconsistent with the existing General Plan Designation of Medium Density Residential (RM). It is assumed that this inconsistency will be addressed as part of the County General Plan and Zoning Code update process and the ML zoned portion of the property will be rezoned for residential uses consistent with the RM designation. For this alternative, it is assumed that discretionary approvals would be required from the County of Humboldt and the project would not be Categorically Exempt from the California Environmental Quality Act (CEQA).

Since the residential development site would not be annexed into the City of Arcata, it is assumed that the residential units would be served by onsite septic systems and a community water system. Due to the density limitations for onsite septic and community water systems, the County General Plan Update alternative would allow the development of one single-family residence and one accessory dwelling unit per acre. For this alternative, it is assumed that the residential development site would be subdivided into fourteen one-acre parcels with access and utilities (excluding water and sewer utilities from the City of Arcata) extended from Foster Avenue. This alternative would provide 14 new single-family residential units and 14 new accessory dwelling units that would provide housing for approximately 65 residents. Approximately 2 acres of the site along Janes Creek would be left as a remainder parcel, which would contain the 100-foot Streamside Management Area (SMA) setback required by the Humboldt County Zoning Code. The community water system well and treatment facilities are assumed to be located on the remainder parcel. Similar to the Proposed Project, this alternative would include removal of all of the remnant structures from the former lumber mill on the residential development site.

Improvements that would not occur as part of the County General Plan Update Alternative include, but are not limited to, the following:

- Foster Avenue Connection over Janes Creek that would include sidewalks and bike lanes to provide non-vehicular access from the residential development site to Alliance Road;

- All weather emergency access road (compacted gravel) to Stewart Avenue that would also function as a pedestrian/bicycle pathway;
- Pedestrian/Bicycle pathway through parcel 505-341-048 that would provide access from the eastern edge of the residential development site to Alliance Road;
- Annexation of parcel 505-161-009 into the City of Arcata for development as a section of the Hammond Trail along the southern boundary of the residential development site;
- A north-south pathway on the southeastern portion of the residential development site that would connect the Hammond Trail with the pedestrian/bicycle pathway to Alliance Road;
- Development of new park facilities on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (Ennes Park Expansion); and
- Replacement of two culverts in Janes Creek at the Foster Avenue crossing and the pathway crossing which is located mid-way along the eastern boundary of the residential development site.

For this alternative, it is assumed that discretionary approvals would be required from the County of Humboldt and the project would not be Categorically Exempt from the California Environmental Quality Act (CEQA). Requirements and mitigation measures applicable to the Proposed Project that would also be required for the County General Plan Update Alternative include, but are not limited to, the following:

Regulatory Requirements

- Payment of park in-lieu fees per Section 314-110.1 of the Humboldt County Zoning Regulations;
- Compliance with inadvertent discovery protocols during construction activities for the protection of historical, archaeological, paleontological, and tribal cultural resources including human remains; and
- Compliance with local and State stormwater regulations requiring the onsite management of stormwater runoff through low impact development site design measures.

Mitigation Measures

- Removal of the remaining petroleum hydrocarbon contamination under the debarker slab on the residential development site;
- Implementation of the Site Development Contingency and Site Safety Plan (Appendix O) during construction activities;
- Biological surveys and operational restrictions, buffers, etc. if protected wildlife species are observed at the site; and
- Construction of a wetland mitigation area along Janes Creek for the filling of three-parameter wetlands on the residential development site.

Requirements and mitigation measures applicable to the Proposed Project that would not be required for the County General Plan Update Alternative include, but are not limited to, the following:

Regulatory Requirements

- Compliance with the City's standard condition for controlling dust emissions during construction activities (Arcata General Plan Policy AQ-2f);
- Compliance with the City's standard condition for minimizing noise impacts during construction activities (Arcata Land Use Code Section 9.30.050.D.2);
- Payment of standard water capital connection fees that would be used to fund some of the proposed improvements to the City's water storage facilities; and
- Payment of standard sewer capital connection fees to the City of Arcata for residential development that would be used to fund some of the proposed improvements to the City's wastewater treatment system.

Mitigation Measures

- Fair share contribution to the near-term and future transportation improvements recommended in the W-Trans Traffic Study for intersections in the City of Arcata (Appendix T.1);
- Construction of pedestrian/bicycle pathways to connect the residential development site to nearby trail systems and transit facilities;
- Riparian restoration (e.g., the planting of native species and the removal and control of invasive species along Janes Creek) and the payment of riparian impact fees to the City of Arcata to assist in the offsite restoration of portions of Jolly Giant Creek, for impacts to riparian vegetation from improvements such as the Foster Avenue Connection; and
- Dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001 to mitigate for the permanent conversion of prime agricultural land on parcels 505-151-001, -009, 505-284-009, and -010.

IMPACT EVALUATION

This section provides an evaluation of the potential environmental impacts of the County General Plan Update Alternative as compared against the Proposed Project. There are numerous differences in the types and levels of impacts for each alternative. Where there is a change in the degree of severity of an impact (more or less severe) as compared to the Proposed Project, it is described as greater or lesser. Impacts which are relatively equal as compared to the Proposed Project are described as similar.

Land Use and Planning

The Proposed Project was found to have Less than Significant Impacts related to Land Use and Planning. The County General Plan Update Alternative would result in new low-density residential units on the residential development site consistent with the General Plan Designation and rezoning that will be adopted as part of the Humboldt County General Plan and Zoning Code update process. This alternative would provide development consistent with the rural residential development pattern in portions of the Arcata Bottom area. However, this alternative would not provide the density of residential units that are planned for by the County of Humboldt and City of Arcata. This alternative would also not assist in implementation of the policies in the County of Humboldt and City of Arcata Housing Elements, which identify a need for additional senior housing.

Compared to the Proposed Project, the County General Plan Update Alternative would have *similar* impacts related to Land Use and Planning. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Land Use and Planning.

Population and Housing

The Proposed Project was found to have Less than Significant Impacts related to Population and Housing. The County General Plan Update Alternative would develop the vacant residential development site with 14 new single-family residential units and 14 new accessory dwelling units. The additional residential units under this alternative would only provide housing for approximately 65 residents, compared to the Proposed Project which would provide housing for 269 residents. Compared to the population in the City of Arcata and unincorporated areas surrounding the City, this alternative would result in a minor increase in population. This alternative would not assist in implementation of the policies in the County of Humboldt and City of Arcata Housing Elements, which identify a need for additional senior housing. Similar to the proposed project, this alternative would not result in the removal of any housing or displace people.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Population and Housing. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Population and Housing.

Public Services

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Public Services. The County General Plan Update Alternative would result in the development of 14 new single-family residential units and 14 new accessory dwelling units that would provide housing for approximately 65 residents. The County General Plan Update Alternative has the potential to result in an increased demand for public services from new residents, but not to the extent that would occur from the Proposed Project which would provide housing for approximately 269 residents. This alternative would require the payment of park in-lieu fees to the County of Humboldt, but the fees would not be used to improve the parkland in the City of Arcata that will receive additional use by the new residents. It is currently unknown and would be speculative to assume how the park in-lieu fees would be spent

by the County. Therefore, it cannot be determined if the fees would be used for the construction or expansion of parks that would cause significant environmental impacts during construction. For the purpose of this analysis, it is assumed that this alternative would not result in the permanent conversion of prime agricultural land and require the dedication of a conservation easement as mitigation.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Public Services and is assumed to not require mitigation to reduce impacts to a less than significant level. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Public Services.

Recreation

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Recreation. The County General Plan Update Alternative would result in the development of 14 new single-family residential units and 14 new accessory dwelling units that would provide housing for approximately 65 residents. The additional residents have the potential to increase the use of nearby recreational facilities in the City of Arcata, but not to the extent that would occur from the Proposed Project, which would provide housing for approximately 269 residents. This alternative would require the payment of park in-lieu fees to the County of Humboldt, but the fees would not be used to improve the parkland in the City of Arcata that will receive additional use by the new residents. It is currently unknown and would be speculative to assume how the park in-lieu fees would be spent by the County. Therefore, it cannot be determined if the fees would be used for the construction or expansion of recreational facilities that would result in an adverse physical effect on the environment. For the purpose of this analysis, it is assumed that this alternative would not result in the permanent conversion of prime agricultural land and require the dedication of a conservation easement as mitigation.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Recreation and is assumed to not require mitigation to reduce impacts to a less than significant level. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Recreation.

Cultural Resources

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Cultural Resources. As indicated in the Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D), the project parcels do not contain any known historical or archaeological resources. The County General Plan Update Alternative would result in ground disturbance similar to the Proposed Project, but to a lesser degree based on the reduced footprint of the proposed improvements that would be constructed under this alternative. Inadvertent discovery protocols for the protection of cultural resources would apply to any construction activity involving ground disturbance.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Cultural Resources. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Cultural Resources.

Aesthetics

The Proposed Project was found to have Less than Significant Impacts related to Aesthetics. The County General Plan Update Alternative would result in the development of new single-family residential units and accessory dwelling units on the vacant residential development site. Similar to the Proposed Project, this alternative would replace existing views of a vacant mill site with views of new residential development, which would improve the overall appearance of the site (see Section 2.6 [Aesthetics] for a description of the visual condition of the residential development site). This alternative would extend the existing residential neighborhoods in the City of Arcata westward, but would provide a lower density and smaller scale of development than the Proposed Project. This alternative would not include the extension of Foster Avenue over Janes Creek, which would remove a section of the riparian corridor and provide new views of the Arcata Bottom area.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Aesthetics. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Aesthetics.

Air Quality

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Air Quality. The County General Plan Update Alternative would result in the development of 14 new single-family residential units and 14 new accessory dwelling units that would provide housing for approximately 65 residents. Similar to the Proposed Project, this alternative would produce new sources of emissions during construction and operation. Due to the low-density of development proposed by this alternative, it would generate significantly fewer emissions than the Proposed Project during operation. However, this alternative would not include new trails that would result in increased connectivity between the site and nearby trail systems and transit facilities. Due to this, the new residents would be less likely to walk or bike from the residential development site into the City or use mass transit. This has the potential to increase vehicle miles traveled and associated vehicular emissions on a per capita basis.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Air Quality. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Air Quality.

Greenhouse Gas Emissions

The Proposed Project was found to have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Greenhouse Gas (GHG) Emissions. For this reason, the adoption of a Statement of Overriding Considerations related to GHG emissions impacts would

be required for the Proposed Project (see Section 2.8 [Greenhouse Gas Emissions] and Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion).

The County General Plan Update Alternative would result in the development of 14 new single-family residential units and 14 new accessory dwelling units that would result in additional GHG emissions from construction and operation. Due to the low-density of development proposed by this alternative, it would generate significantly fewer GHG emissions during operation than the Proposed Project. However, this alternative would not include new trails that would result in increased connectivity between the site and nearby trail systems and transit facilities. Due to this, the new residents would be less likely to walk or bike from the residential development site into the City or use mass transit. This has the potential to increase vehicle miles traveled and associated GHG emissions on a per capita basis.

Generally, small residential development projects would not generate substantial GHG emissions that would result in a significant impact. Although not adopted in the North Coast Air Basin, the Bay Area Air Quality Management District (BAAQMD) has developed project screening criteria to provide lead agencies and project applicants with a conservative indication of whether a project could result in potentially significant impacts related to greenhouse gas emissions. Projects below the applicable screening criteria would not exceed the 1,100 metric tons (MT) of CO₂e/yr GHG threshold established by the BAAQMD for land use projects, other than permitted stationary sources. For operational impacts, the BAAQMD screening project size is 56 for single family dwelling units (du) (BAAQMD, 2017). Since the proposed project is much smaller than these thresholds (proposes total of 28 residential units), GHG emissions are considered less than significant. As such, this alternative would not require mitigation to reduce GHG emissions.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Greenhouse Gas Emissions and would not require mitigation to reduce GHG emissions. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Greenhouse Gas Emissions.

Noise

The Proposed Project, as designed and in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Noise. The County General Plan Update Alternative would result in new residential development that would generate noise during construction and operation. Compliance with the City of Arcata's standards for reducing construction noise levels would not apply to the proposed construction activity under this alternative. However, due to the reduced size of the development as compared to the Proposed Project, construction activity would occur for a shorter period of time and cause fewer noise impacts. Similar to the Proposed Project, noise at the site would continue to be dominated by traffic on Foster Avenue and Alliance Road, which exceeds any noise that would be generated by operation of this alternative.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Noise. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Noise.

Hazards and Hazardous Materials

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Hazards and Hazardous Materials. Similar to the Proposed Project, this alternative would include mitigation requiring removal of hydrocarbon contamination on the residential development site under the remaining debarker slab. Under this alternative, mitigation would be required for implementation of the Site Development Contamination Contingency and Site Safety Plan (Appendix O) during construction activities. Similar to the Proposed Project, the County General Plan Update Alternative would result in the construction of new residential uses which do not involve the handling, transport, or use of significant quantities of hazardous materials. Similar to the Proposed Project, this alternative would not be located on a site that is in close proximity to a public airport or private airstrip, would not interfere with an emergency response or evacuation plan, and would not be located on a site that is subject to wildland fires.

Compared to the Proposed Project, the County General Plan Update Alternative would have *similar* impacts related to Hazards and Hazardous Materials and would require mitigation to reduce impacts to a less than significant level. As such, the County General Plan Update Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Hazards and Hazardous Materials.

Utilities and Service Systems

The Proposed Project was found to have Less than Significant Impacts related to Utilities and Service Systems. The County General Plan Update Alternative would result in the development of new single-family residential units and new accessory dwelling units. Since this alternative would propose the use of onsite septic systems, the new residential units would not place additional demand on the City's wastewater treatment system. As such, this alternative would not require the payment of standard sewer capital connection fees that would be used to fund some of the proposed improvements to the City's wastewater treatment system. Since this alternative would propose a community water system, additional demand would not be placed on the City of Arcata's water system. As such, this alternative would not require the payment of standard water capital connection fees that would be used to fund some of the proposed improvements to the City's water storage facilities. Similar to the Proposed Project, the County General Plan Update Alternative would be required to comply with local and State stormwater regulations to ensure that stormwater runoff is properly managed onsite and does not exceed the capacity of a municipal stormwater system. Under this alternative, potential impacts related to solid waste disposal are anticipated to be less, due to the reduced size of this alternative relative to the Proposed Project.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Utilities and Service Systems. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Utilities and Service Systems.

Tribal Cultural Resources

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Tribal Cultural Resources. As indicated in the Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D), the project parcels do not contain any known tribal cultural resources. The County General Plan Update Alternative would result in ground disturbance similar to the Proposed Project, but to a lesser degree based on the reduced footprint of the proposed improvements that would be constructed under this alternative. Inadvertent discovery protocols for the protection of tribal cultural resources would apply to any construction activity involving ground disturbance.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Tribal Cultural Resources. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Tribal Cultural Resources.

Transportation-Traffic

The Proposed Project was found to have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Transportation-Traffic, since the future transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1) may not be constructed for several years (see Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion). For this reason, the adoption of a Statement of Overriding Considerations related to traffic impacts would be required for the Proposed Project.

The County General Plan Update Alternative would result in the development of new residential uses that would increase traffic levels to and from the residential development site. However, the County General Plan Update Alternative would only result in 14 single-family residential units and 14 accessory dwelling units that would provide housing for approximately 65 residents. As such, this alternative would result in significantly fewer residents (65 instead of 269), which would generate significantly fewer vehicle trips. Based on the trip generation rates developed by the Institute of Transportation Engineers (ITE), the County General Plan Update Alternative is estimated to generate approximately 227 vehicle trips per day (ITE, 2008). This is based on using the trip generation rate for single-family residences (9.57 ADT) for the single-family units and the trip generation rate for apartments for the accessory dwelling units (6.65 ADT). As noted in Chapter 3 (Transportation-Traffic) of the EIR, the Proposed Project is estimated to generate approximately 1,113 vehicle trips per day.

Although trip distribution assumptions have not been developed based on the housing type proposed by this alternative (i.e., single-family housing and accessory dwelling units), the additional vehicle trips from this alternative have the potential to contribute to cumulative traffic impacts in combination with the other approved/planned projects listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. However, due to its significantly reduced size and since this alternative would not propose annexation into the City of Arcata, it would not require the following mitigations required of the Proposed Project: 1) mitigation for the payment of a fair share contribution to the City of Arcata to improve nearby intersections in the City (e.g., Foster Ave/Alliance Rd and Sunset Ave/LK Wood Blvd); and 2) mitigation for the construction of pedestrian and bicycle improvements to provide connectivity with surrounding trail systems.

This alternative would also not include the extension of Foster Avenue over Janes Creek, which would provide an increase in traffic levels on Q Street and 17th Street. In addition, this alternative would not improve circulation for emergency vehicles by providing emergency access to Stewart Avenue.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Transportation-Traffic and would not require mitigation to reduce traffic impacts. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Transportation-Traffic.

Geology and Soils

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Geology and Soils. The County General Plan Update Alternative would result in the development of new residential buildings on parcel 505-161-011. Similar to the Proposed Project, all new buildings will be required to meet current building code standards for seismic hazards and local and State erosion control requirements, which will reduce impacts to a less than significant level. Since this alternative does not propose the development of offsite parkland on properties containing prime agricultural soils, it would not result in the loss of topsoil that could have otherwise been used for agricultural production. As such, this alternative would not require mitigation for the permanent conversion of prime agricultural soils.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Geology and Soils and would not require mitigation to reduce impacts to a less than significant level. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Geology and Soils.

Hydrology and Water Quality

The Proposed Project, as designed and in compliance with existing regulatory requirements, was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Hydrology and Water Quality. Similar to the Proposed Project, the County General Plan Update Alternative would have the potential to improve water quality through mitigation requiring the removal of hydrocarbon contamination on the residential development site under the remaining debarker slab.

This County General Plan Update Alternative would propose the use of onsite septic systems. As such, the new residential units would not place additional demand on the City's wastewater treatment system. This alternative would also not require the payment of standard sewer capital connection fees, which would be used to fund some of the proposed improvements to the City's wastewater treatment system. This alternative would propose a community water system. As such, additional demand would not be placed on the City of Arcata's water system. However, additional demand would be placed on groundwater supplies in the project area. Compliance with State regulations related to water rights and forbearance periods would be required to ensure the development does not substantially deplete groundwater supplies.

Similar to the Proposed Project, the County General Plan Update Alternative would result in the development of new impervious surfaces which has the potential to increase stormwater runoff. Compliance with local and State stormwater regulations would be required for this alternative, which would include the onsite management of stormwater runoff to ensure that pre-development runoff volumes are not exceeded. These regulations would also address protecting water quality and preventing erosion during construction and operation of this alternative.

Similar to the Proposed Project, this alternative would not place the proposed residential structures within a 100-year flood hazard area. This alternative would also not include the replacement of culverts in Janes Creek, and therefore would not have the potential to alter floodplain elevations upstream and downstream of the residential development site. Similar to the Proposed Project, this alternative would include the construction of a wetland mitigation area, which has the potential to provide off-channel storage during flood events.

As noted in Section 4.2 (Hydrology and Water Quality), the residential development site is mapped in Humboldt Bay Municipal Water District's (HBMWD) "Emergency Action Plan for R.W. Mathews Dam" as being within anticipated maximum reach of floodwaters resulting from catastrophic failure of the dam, in conjunction with winter floods the size of those occurring in 1964. The HBMWD Emergency Action Plan for the dam includes plans for notification of the affected areas. In the Humboldt County Contingency Plan/Dam Failure Evacuation Plan, the County is identified as being responsible for determining the approximate flood inundation area and notifying the City of Arcata. The City is responsible for manning roadblocks to isolate the inundation area. Since the residential development site is located on the western boundary of City limits, it is anticipated that the City will be responsible for notifying future residents in the event of a dam failure and manning roadblocks in the project area. Implementation of the existing local dam failure evacuation plans is anticipated to ensure that impacts to the future residents under this alternative would be less than significant.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Hydrology and Water Quality, but would still require mitigation to reduce impacts to a less than significant level. As such, the County General Plan Update Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Hydrology and Water Quality.

Biological Resources

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Biological Resources. Similar to the Proposed Project, the County General Plan Update Alternative would result in a residential development that would include physical impacts to wetlands on the residential development site. As such, this alternative would also include the following mitigations required of the Proposed Project: 1) construction of a wetland mitigation area along Janes Creek, which would occur on the proposed remainder parcel; 2) removal and control of invasive species; and 3) planting of native species in the buffer area for the wetland mitigation area. Similar to the Proposed Project, this alternative would have the potential to impact protected wildlife species using habitat on the residential development site during construction activities. As such, this alternative would also include mitigation requiring

biological surveys and operational restrictions, buffers, etc. if protected wildlife species are observed at the site.

This alternative would not result in significant impacts to the Janes Creek riparian corridor through improvements such as the Foster Avenue Connection, and will be designed to comply with the stream setback requirements of the County's Streamside Management Area (SMA) Ordinance. As such, mitigation will not be included requiring the payment of riparian impact fees to the City of Arcata to assist in the offsite restoration of portions of Jolly Giant Creek. This alternative would also not propose the replacement of two culverts in Janes Creek at the Foster Avenue crossing and the pathway crossing which is located mid-way along the eastern boundary of the residential development site. As such, it would not include mitigation requiring implementation of applicable measures in the CDFW Salmonid Habitat Restoration Manual.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Biological Resources, but would still require mitigation to reduce impacts to a less than significant level. As such, the County General Plan Update Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Biological Resources.

Agriculture and Forestry Resources

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Agriculture and Forestry Resources. As discussed above under the discussion of impacts to Public Services and Recreation, the County General Plan Update Alternative would require the payment of park in-lieu fees to the County of Humboldt, but the fees would not be used to improve the parkland in the City of Arcata that will receive additional use by the new residents. It is currently unknown and would be speculative to assume how the park in-lieu fees would be spent by the County. Therefore, it cannot be determined if the fees would be used for the construction or expansion of recreational facilities that would result in an adverse physical effect on the environment. For the purpose of this analysis, it is assumed that this alternative would not result in the permanent conversion of prime agricultural land on the parcels proposed by the City of Arcata for the Ennes Park Expansion (APNs 505-151-009, 505-284-009, and 505-284-010). In addition, this alternative would not include the emergency access road to Stewart Avenue, which would also result in the permanent conversion of prime agricultural land. Since the County General Plan Update Alternative will not result in the permanent conversion of prime agricultural land, it would not include mitigation requiring dedication of a conservation easement on parcel 505-151-001.

Compared to the Proposed Project, the County General Plan Update Alternative would have *lesser* impacts related to Agriculture and Forestry Resources and would not require mitigation to reduce impacts to a less than significant level. As such, the County General Plan Update Alternative would have Less Than Significant Impacts related to Agriculture and Forestry Resources.

Mineral Resources

The Proposed Project was found to have No Impacts related to Mineral Resources. As indicated in Section 4.5 (Mineral Resources) of the EIR, the residential development site does not contain mineral resources. As such, the County General Plan Update Alternative would result in new low-density residential development on a vacant property that does contain mineral resources.

Because there are no existing or potential mineral resources on the residential development site, compared to the Proposed Project, the County General Plan Update Alternative would have *similar* impacts related to Mineral Resources. As such, the County General Plan Update Alternative would have No Impacts related to Mineral Resources.

Energy Conservation

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Energy Conservation. The County General Plan Update Alternative would result in new residential development on a vacant property and consume energy during construction and operation. This alternative would be subject to many of the same State regulations that require the implementation of energy efficiency measures as the Proposed Project. However, this alternative would not include new pedestrian/bicycle pathways that would result in increased connectivity between the site and nearby trail systems and transit facilities. Due to this, the new residents would be less likely to walk or bike from the residential development site into the City or use mass transit. On a per capita basis, this could result in an increase in vehicle miles traveled. In addition, this alternative would not be subject to the energy efficiency requirements in City of Arcata Ordinance No. 1507 (Residential Reach Code), that requires new low-rise residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by a minimum of 20 percent. To reduce the impacts of this alternative to a less than significant level, mitigation would be required similar to the Proposed Project.

Compared to the Proposed Project, the County General Plan Update Alternative would have *greater* impacts related to Energy Conservation and would require mitigation to reduce impacts to a less than significant level. As such, the County General Plan Update Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Energy Conservation.

Alternative 3: No Assisted Living Facility

DESCRIPTION

As the name implies, the No Assisted Living Facility Alternative would exclude development of the Assisted Living and Memory Care Facility. This alternative would require the same discretionary approvals as the Proposed Project (e.g., annexation of parcels 505-161-011, 505-151-009, and 506-161-009 into the City of Arcata, redesignation/rezoning of parcel 505-161-011 to Residential Low Density, minor subdivision of parcel 505-161-011, etc.). As shown on Figure

1F (Tentative Parcel Map) and Figure 1G (Site Plan) of Chapter 1 (Introduction) of the EIR, the assisted living facility is proposed to be located in the central portion of the residential development site (APN 505-161-011). Under this alternative, the residential development site would still be subdivided into three parcels, but the 5.5-acre parcel in the central part of the site would remain vacant. This alternative would include the other residential uses included in the Proposed Project (e.g., 32 single-family residential units, 32 accessory dwelling units, and 25 senior-restricted cottage units). This alternative would provide housing for approximately 169 residents instead of the 269 residents that would be provided housing by the Proposed Project.

This alternative would propose most of the same improvements as the Proposed Project, with the exception of the access roads, parking, utilities, landscaping, and low impact development (LID) site design measures proposed for the assisted living facility. Since this alternative would not include the assisted living facility and would provide housing for 169 residents instead of 269, the applicant would pay lower fees to the City for the proposed development. Fees that would be reduced by this alternative include, but are not limited to, the following: 1) park in-lieu fees; 2) standard sewer capital connection fees; and 3) fair share contribution to the near-term and future transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1).

Improvements, requirements, and mitigation measures applicable to the Proposed Project that would also be required for the No Assisted Living Facility Alternative include, but are not limited to, the following:

Improvements

- Foster Avenue Connection over Janes Creek that will include sidewalks and bike lanes to provide non-vehicular access from the residential development site to Alliance Road;
- All weather emergency access road (compacted gravel) to Stewart Avenue that will also function as a pedestrian/bicycle pathway;
- Pedestrian/Bicycle pathway through parcel 505-341-048 that would provide access from the eastern edge of the residential development site to Alliance Road;
- Annexation of parcel 505-161-009 into the City of Arcata for development as a section of the Hammond Trail along the southern boundary of the residential development site;
- A north-south pathway on the southeastern portion of the residential development site that will connect the Hammond Trail with the pedestrian/bicycle pathway to Alliance Road;
- Development of new park facilities on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (Ennes Park Expansion); and
- Replacement of two culverts in Janes Creek at the Foster Avenue crossing and the pathway crossing which is located mid-way along the eastern boundary of the residential development site.

Regulatory Requirements

- Payment of park in-lieu fees per Section 9.86.030 (Park Land Dedication and Fees) of the Arcata Land Use Code;
- Compliance with inadvertent discovery protocols during construction activities for the protection of historical, archaeological, paleontological, and tribal cultural resources including human remains;
- Compliance with the City's standard condition for controlling dust emissions during construction activities (Arcata General Plan Policy AQ-2f);
- Compliance with the City's standard condition for minimizing noise impacts during construction activities (Arcata Land Use Code Section 9.30.050.D.2);
- Payment of standard water capital connection fees that would be used to fund some of the proposed improvements to the City's water storage facilities;
- Payment of standard sewer capital connection fees to the City of Arcata for residential development that would be used to fund some of the proposed improvements to the City's wastewater treatment system; and
- Compliance with local and State stormwater regulations requiring the onsite management of stormwater runoff through low impact development site design measures.

Mitigation Measures

- Implementation of several GHG reduction measures including pedestrian/bicycle improvements, area source reductions, energy efficiency measures, water conservation measures, solid waste reductions, and landscaping, to mitigate GHG emissions;
- The purchase of carbon offsets to mitigate GHG emissions;
- Removal of the remaining petroleum hydrocarbon contamination under the debarker slab on the residential development site;
- Implementation of the Site Development Contingency and Site Safety Plan (Appendix O) during construction activities;
- Fair share contribution to the near-term and future transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1);
- Biological surveys and operational restrictions, buffers, etc. if protected wildlife species are observed at the site;
- Implementation of applicable measures in the CDFW Salmonid Habitat Restoration Manual during the replacement of culverts;
- Construction of a wetland mitigation area along Janes Creek for the filling of three-parameter wetlands on the residential development site;
- Riparian restoration (e.g., the planting of native species and the removal and control of invasive species along Janes Creek) and the payment of riparian impact fees to the City

of Arcata to assist in the offsite restoration of portions of Jolly Giant Creek, for impacts to riparian vegetation from improvements such as the Foster Avenue Connection; and

- Dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001 to mitigate for the permanent conversion of prime agricultural land on parcels 505-151-001, -009, 505-284-009, and -010.

IMPACT EVALUATION

This section provides an evaluation of the potential environmental impacts of the No Assisted Living Facility Alternative as compared against the Proposed Project. There are numerous differences in the types and levels of impacts for each alternative. Where there is a change in the degree of severity of an impact (more or less severe) as compared to the Proposed Project, it is described as greater or lesser. Impacts which are relatively equal as compared to the Proposed Project are described as similar.

Land Use and Planning

The Proposed Project was found to have Less than Significant Impacts related to Land Use and Planning. The No Assisted Living Facility Alternative would result in the development of single-family residential units, accessory dwelling units, and senior-restricted cottage units on the residential development site consistent with the redesignation/rezoning (Residential Low Density) proposed after annexation of the site into the City of Arcata. Similar to the Proposed Project, the development of the site for residential uses under this alternative would provide greater land use compatibility with surrounding residential uses than a vacant, underutilized former industrial site. This alternative would assist in implementation of the City of Arcata Housing Element, which identifies a need for additional single-family and senior housing. However, due to the reduced size of this alternative, it would not maximize the infill development opportunity available on the residential development site.

Similar to the Proposed Project, this alternative would result in the annexation of City-owned parcel 505-151-009 into the City of Arcata. Upon annexation the parcel would be redesignated/rezoned as Public Facility (PF). Along with City-owned parcels 505-284-009 and 505-284-010, parcel 505-151-009 would be developed as parkland. These properties have been planned to be developed as a park (Ennes Park Expansion) by the City of Arcata for several decades. The existing City Park located in this area (Ennes Park) is relatively undersized for the number of residents that it serves. The development of the proposed park will provide the recreational facilities necessary to adequately serve the existing and proposed residential population in this area of Arcata.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *similar* impacts related to Land Use and Planning. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts related to Land Use and Planning.

Population and Housing

The Proposed Project was found to have Less than Significant Impacts related to Population and Housing. The No Assisted Living Facility Alternative would result in the development of single-family residential units, accessory dwelling units, and senior-restricted cottage units on the residential development site which would provide housing for approximately 169 residents. The No Assisted Living Facility Alternative would increase the City of Arcata's resident population (18,374 persons) by approximately 0.9 percent, as compared to the 1.5 percent that would occur from the Proposed Project. This alternative would assist in implementation of the City of Arcata Housing Element which identifies a need for additional single-family and senior housing. However, it would only provide housing for 33 seniors as opposed to the 100 additional care beds that would be provided by the Proposed Project. Similar to the Proposed Project, this alternative would not result in the removal of any housing or displace people.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Population and Housing. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts related to Population and Housing.

Public Services

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Public Services. The No Assisted Living Facility Alternative would result in the development of single-family residential units, accessory dwelling units, and senior-restricted cottage units on the residential development site, which would provide housing for approximately 169 residents. The No Assisted Living Facility Alternative has the potential to result in an increased demand for public services from new residents, but not to the extent that would occur from the Proposed Project, since it would provide housing for 100 fewer residents and would not include any employees. Similar to the Proposed Project, this alternative would not require the construction of new police stations, fire stations, schools, or other public facilities (e.g., public health and library services) to maintain acceptable service ratios.

The No Assisted Living Facility Alternative would require the payment of park in-lieu fees to the City of Arcata that would be used for the development of offsite park facilities on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (Ennes Park Expansion). The fees would be reduced based on the reduction in the estimated number of residents that will be provided housing by this alternative. Construction of parkland on these parcels will result in the permanent conversion of prime agricultural land. Similar to the Proposed Project, this alternative would require the dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001 to mitigate for the permanent conversion of prime agricultural land.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Public Services, but would still require mitigation to reduce impacts to a less than significant level. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Public Services.

Recreation

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Recreation. The No Assisted Living Facility Alternative would result in the development of single-family residential units, accessory dwelling units, and senior-restricted cottage units on the residential development site, which would provide housing for approximately 169 residents. This alternative has the potential to increase the use of nearby recreational facilities in the City of Arcata, but not to the extent that would occur from the Proposed Project, since it would provide housing for 100 fewer residents and would not include any employees. This alternative would also require the payment of park in-lieu fees to the City, but these fees would be reduced based on the reduction in the estimated number of residents that will be provided housing by this alternative. Similar to the Proposed Project, the fees will be used to build a portion of the proposed park on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (Ennes Park Expansion). Construction of parkland on these parcels will result in the permanent conversion of prime agricultural land. Similar to the Proposed Project, this alternative would require the dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001 to mitigate for the permanent conversion of prime agricultural land.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Recreation, but would still require mitigation to reduce impacts to a less than significant level. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Recreation.

Cultural Resources

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Cultural Resources. As indicated in the Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D), the project parcels do not contain any known historical or archaeological resources. The No Assisted Living Facility Alternative would result in ground disturbance similar to the Proposed Project, but to a lesser degree based on the reduced footprint of the proposed improvements that would be constructed under this alternative. Inadvertent discovery protocols for the protection of cultural resources would apply to any construction activity involving ground disturbance.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Cultural Resources. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts related to Cultural Resources.

Aesthetics

The Proposed Project was found to have Less than Significant Impacts related to Aesthetics. The No Assisted Living Facility Alternative would result in the development of new single-family units, accessory dwelling units, and senior-restricted cottage units on the vacant residential development site. Similar to the Proposed Project, this alternative would replace existing views of a vacant mill site with views of new residential development, which would improve the overall appearance of the site (see Section 2.6 [Aesthetics] for a description of the visual

condition of the residential development site). This alternative would extend the existing residential neighborhoods in the City of Arcata westward, but would provide a reduced density and smaller scale of development than the Proposed Project. This alternative would include the extension of Foster Avenue over Janes Creek, which would remove a section of the riparian corridor and provide new views of the Arcata Bottom area. This alternative would also include landscaping along the western boundary of the residential development site, which would screen views of the site from the west.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Aesthetics. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts related to Aesthetics.

Air Quality

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Air Quality. The No Assisted Living Facility Alternative would result in new single-family residential units, accessory dwelling units, and senior-restricted cottage units on the vacant residential development site. The additional residential units under this alternative would provide housing for approximately 169 residents, compared to the Proposed Project which would provide housing for 269 residents. Similar to the Proposed Project, this alternative would provide produce new sources of emissions during construction and operation. However, this alternative would generate fewer emissions than the Proposed Project during operation, since it would provide housing for 100 fewer residents and would not include any employees. This alternative would also include new pedestrian/bicycle pathways that would result in increased connectivity between the site and nearby trail systems and transit facilities. The connectivity provided by this alternative would encourage alternative modes of transportation and reduce vehicular emissions.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Air Quality. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts related to Air Quality.

Greenhouse Gas Emissions

The Proposed Project was found to have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Greenhouse Gas (GHG) Emissions. For this reason, the adoption of a Statement of Overriding Considerations related to GHG emissions impacts would be required for the Proposed Project (see Section 2.8 [Greenhouse Gas Emissions] and Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion).

The No Assisted Living Facility Alternative would result in new single-family residential units, accessory dwelling units, and senior-restricted cottage units on the vacant residential development site. The additional residential units under this alternative would provide housing for approximately 169 residents, compared to the Proposed Project which would provide housing for 269 residents. Similar to the Proposed Project, this alternative would result in additional GHG emissions from construction and operation. However, this alternative would generate

fewer GHG emissions than the Proposed Project during operation, since it would provide housing for 100 fewer residents and would not include any employees. Similar to the Proposed Project, this alternative would also include the following mitigations to reduce and offset per capita GHG emissions: 1) implementation of several GHG reduction measures including pedestrian/bicycle improvements, area source reductions, energy efficiency measures, water conservation measures, solid waste reductions, and landscaping, to mitigate GHG emissions; and 2) the purchase of carbon offsets to mitigate GHG emissions.

Similar to the Proposed Project, it cannot be found with certainty that this alternative would be consistent with the GHG reduction goals in SB 32 (i.e., 40 percent emissions reductions below 1990 level). Therefore, the No Assisted Living Facility Alternative is also conservatively assumed to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. As such, this alternative would also result in significant and unavoidable impacts.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Greenhouse Gas Emissions, but would still require mitigation to reduce per capita GHG emissions. As such, the No Assisted Living Facility Alternative would have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Greenhouse Gas Emissions.

Noise

The Proposed Project, as designed and in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Noise. The No Assisted Living Facility Alternative would result in new single-family residential units, accessory dwelling units, and senior-restricted cottage units on the vacant residential development site. Similar to the Proposed Project, compliance with the City of Arcata's standards for reducing construction noise levels would also apply to the proposed construction activity under this alternative. In addition, due to the reduced size of the development as compared to the Proposed Project, construction activity would occur for a shorter period of time and cause fewer noise impacts. Similar to the Proposed Project, noise at the site would continue to be dominated by traffic on Foster Avenue and Alliance Road, which exceeds any noise that would be generated by operation of this alternative.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Noise. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts related to Noise.

Hazards and Hazardous Materials

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Hazards and Hazardous Materials. Similar to the Proposed Project, this alternative would include mitigation requiring removal of hydrocarbon contamination on the residential development site under the remaining debarker slab. Under this alternative, mitigation would be included requiring implementation of the Site Development Contamination

Contingency and Site Safety Plan (Appendix O) during construction activities. Similar to the proposed project, the No Assisted Living Facility Alternative would result in the construction of new residential uses which do not involve the handling, transport, or use of significant quantities of hazardous materials. Similar to the Proposed Project, this alternative would not be located on a site that is in close proximity to a public airport or private airstrip, would not interfere with an emergency response or evacuation plan, and would not be located on a site that is subject to wildland fires.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *similar* impacts related to Hazards and Hazardous Materials and would require mitigation to reduce impacts to a less than significant level. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Hazards and Hazardous Materials.

Utilities and Service Systems

The Proposed Project was found to have Less than Significant Impacts related to Utilities and Service Systems. The No Assisted Living Facility Alternative would result in the development of new single-family residential units, accessory dwelling units, and senior-restricted cottage units. Similar to the Proposed Project, this alternative would result in increased water consumption, wastewater discharge, stormwater runoff, and solid waste generation. However, the increases in water use, wastewater discharge, and solid waste generation would be reduced, as compared to the Proposed Project, since this alternative would provide housing for 100 fewer residents and would not include any employees.

Similar to the Proposed Project, this alternative would receive water and wastewater services from the City of Arcata. As discussed in Section 2.11 (Utilities and Service Systems) of the EIR, the City of Arcata has determined there is adequate water supply and wastewater treatment capacity to serve the level of development that would occur from the Proposed Project. As such, there is also adequate capacity to serve the No Assisted Living Facility Alternative. Similar to the Proposed Project, connection to the City's water and wastewater systems would require the payment of standard water and sewer capital connection fees that would be used to fund some of the proposed improvements to the City's water storage facilities and wastewater treatment system.

Similar to the Proposed Project, the No Assisted Living Facility Alternative would be required to comply with local and State stormwater regulations to ensure that stormwater runoff is properly managed onsite and does not exceed the capacity of the City's stormwater system. Under this alternative, potential impacts related to solid waste disposal are anticipated to be less, due to the reduced size of this alternative relative to the Proposed Project.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Utilities and Service Systems. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts related to Utilities and Service Systems.

Tribal Cultural Resources

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Tribal Cultural Resources. As indicated in the Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D), the project parcels do not contain any known tribal cultural resources. The No Assisted Living Facility Alternative would result in ground disturbance similar to the Proposed Project, but to a lesser degree based on the reduced footprint of the proposed improvements that would be constructed under this alternative. Inadvertent discovery protocols for the protection of tribal cultural resources would apply to any construction activity involving ground disturbance.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Tribal Cultural Resources. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts related to Tribal Cultural Resources.

Transportation-Traffic

The Proposed Project was found to have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Transportation-Traffic, since the future transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1) may not be constructed for several years (see Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion). For this reason, the adoption of a Statement of Overriding Considerations related to traffic impacts would be required for the Proposed Project.

The No Assisted Living Facility Alternative would result in the development of new residential uses that would increase traffic levels to and from the residential development site. However, this alternative is estimated to result in fewer residents (169 instead of 269), which would generate fewer vehicle trips. Based on the trip generation rates provided in the W-Trans Traffic Study (Appendix T.1), the No Assisted Living Facility Alternative is estimated to generate approximately 847 vehicle trips per day. As noted in Chapter 3 (Transportation-Traffic) of the EIR, the Proposed Project is estimated to generate approximately 1,113 vehicle trips per day.

Although the No Assisted Living Facility Alternative would generate fewer vehicle trips than the Proposed Project, it still would result in a significant number of vehicle trips and has the potential to contribute to cumulative traffic impacts in combination with the other approved/planned projects listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. As such, this alternative would include the following mitigations required of the Proposed Project: 1) mitigation for the payment of a fair share contribution to the City of Arcata to improve nearby intersections in the City (e.g., Foster Ave/Alliance Rd and Sunset Ave/LK Wood Blvd); and 2) mitigation for the construction of pedestrian and bicycle improvements to provide connectivity with surrounding trail systems and transit facilities. However, since the timing of implementation of improvements cannot be guaranteed, impacts from this alternative would also be significant and unavoidable. For this reason, the adoption of a Statement of Overriding Considerations related to traffic impacts would be required for the No Assisted Living Facility Alternative.

Similar to the Proposed Project, this alternative would include the extension of Foster Avenue across Janes Creek, which would improve circulation by providing a direct route from Alliance Road to the residential development site. In addition, this alternative would improve circulation for emergency vehicles by providing emergency access to Stewart Avenue. Similar to the Proposed Project, this alternative would not conflict with an applicable congestion management program, result in a change in air traffic patterns, substantially increase hazards due to a design feature, or result in inadequate emergency access.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Transportation-Traffic and would require mitigation to reduce traffic impacts. As such, the No Assisted Living Facility Alternative would have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Transportation-Traffic.

Geology and Soils

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Geology and Soils. The No Assisted Living Facility Alternative would result in the development of new residential buildings and recreational facilities. However, the project footprint for this alternative would be reduced compared to the Proposed Project since it would not include the assisted living facility. All new buildings will be required to meet current building code standards for seismic hazards and local and State erosion control requirements, which will reduce impacts to a less than significant level. Since this alternative would also include the development of offsite parkland on properties containing prime agricultural soils, it would result in the loss of topsoil that could have otherwise been used for agricultural production. As such, this alternative would require mitigation for the permanent conversion of prime agricultural soils.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Geology and Soils, but would still require mitigation to reduce impacts to a less than significant level. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Geology and Soils.

Hydrology and Water Quality

The Proposed Project, as designed and in compliance with existing regulatory requirements, was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Hydrology and Water Quality. Similar to the Proposed Project, the No Assisted Living Facility Alternative would have the potential to improve water quality through mitigation requiring the removal of hydrocarbon contamination on the residential development site under the remaining debarker slab.

Similar to the Proposed Project, this alternative would receive water and wastewater services from the City of Arcata. As discussed in Section 2.11 (Utilities and Service Systems) of the EIR, the City of Arcata has determined there is adequate water supply and wastewater treatment capacity to serve the level of development that would occur from the Proposed Project. As such, there is also adequate capacity to serve the No Assisted Living Facility Alternative. Since this

alternative would receive water service from the City, it would not have the potential to deplete groundwater supplies. Since this alternative would be connected to the City's wastewater system, it would also require the payment of standard sewer capital connection fees for residential development that would be used to fund some of the proposed improvements to the City's wastewater treatment system.

The No Assisted Living Facility Alternative would result in the development of new impervious surfaces which has the potential to increase stormwater runoff. However, the new impervious surfaces that would result from this alternative would be reduced compared to the Proposed Project since it would not include the assisted living facility. Compliance with local and State stormwater regulations would also be required for this alternative, which would include the onsite management of stormwater runoff to ensure that pre-development runoff volumes are not exceeded. These regulations also address protecting water quality and preventing erosion during construction and operation of this alternative.

Similar to the Proposed Project, this alternative would not place the proposed residential structures within a 100-year flood hazard area. Similar to the Proposed Project, this alternative would include the replacement of culverts in Janes Creek. The Hydraulic Analysis completed for the Proposed Project (Appendix W) determined that replacement of the culverts in Janes Creek would result in minimal changes to the floodplain elevations upstream and downstream of the residential development site. Similar to the Proposed Project, this alternative would also include the construction of a wetland mitigation area, which has the potential to provide off-channel storage during flood events.

As noted in Section 4.2 (Hydrology and Water Quality), the residential development site is mapped in Humboldt Bay Municipal Water District's (HBMWD) "Emergency Action Plan for R.W. Mathews Dam" as being within anticipated maximum reach of floodwaters resulting from catastrophic failure of the dam, in conjunction with winter floods the size of those occurring in 1964. Since this alternative would include annexation of the residential development site into the City of Arcata, it would be subject to Arcata General Plan Policy PS-2f (*Failure of Matthews Dam*). This policy requires development of an early warning system and evacuation plan for all new buildings designed for human occupancy that are located in the area of potential inundation resulting from a catastrophic failure of Matthews Dam. The Arcata General Plan PEIR notes that compliance with General Plan Policy PS-2f will ensure no significant adverse impacts will result.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Hydrology and Water Quality, but would still require mitigation to reduce impacts to a less than significant level. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Hydrology and Water Quality.

Biological Resources

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Biological Resources. Similar to the Proposed Project, the No Assisted Living Facility Alternative would result in a residential development that would include physical

impacts to wetlands. However, the wetland impacts that would result from this alternative would be reduced compared to the Proposed Project since it would not include the assisted living facility. As such, this alternative would also include the following mitigations required of the Proposed Project: 1) construction of a wetland mitigation area along Janes Creek; 2) removal and control of invasive species; and 3) planting of native species in the buffer area for the wetland mitigation area. Similar to the Proposed Project, this alternative would have the potential to impact protected wildlife species using habitat on the residential development site during construction activities. As such, this alternative would include mitigation requiring biological surveys and operational restrictions, buffers, etc. if protected wildlife species are observed at the site.

This alternative also proposes the extension of Foster Avenue over Janes Creek, which will cause impacts to riparian vegetation. As such, mitigation will be included requiring riparian restoration (e.g., the planting of native species and the removal and control of invasive species along Janes Creek) and the payment of riparian impact fees to the City of Arcata to assist in the offsite restoration of portions of Jolly Giant Creek. Similar to the Proposed Project, this alternative would propose the replacement of two culverts in Janes Creek at the Foster Avenue crossing and the pathway crossing which is located mid-way along the eastern boundary of the residential development site. As such, it would include mitigation requiring implementation of applicable measures in the CDFW Salmonid Habitat Restoration Manual.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *lesser* impacts related to Biological Resources, but would still require mitigation to reduce impacts to a less than significant level. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Biological Resources.

Agriculture and Forestry Resources

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Agriculture and Forestry Resources. Similar to the Proposed Project, the No Assisted Living Facility Alternative proposes the development of an emergency access road on parcel 505-151-001 and the payment of park in-lieu fees for the development of parkland on parcels 505-151-009, 505-284-009, and 505-284-010. As such, this alternative will result in the permanent conversion of prime agricultural land and would also include mitigation requiring dedication of a conservation easement on parcel 505-151-001. Similar to the Proposed Project, this alternative would be located on properties that do not contain forestland.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *similar* impacts related to Agriculture and Forestry Resources and would require mitigation to reduce impacts to a less than significant level. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Agriculture and Forestry Resources.

Mineral Resources

The Proposed Project was found to have No Impacts related to Mineral Resources. As indicated in Section 4.5 (Mineral Resources) of the EIR, the project parcels do not contain mineral resources. As such, the No Assisted Living Facility Alternative would result in new single-family residential and senior housing development on a vacant property that does contain mineral resources.

Because there are no existing or potential mineral resources on the project parcels, compared to the Proposed Project, the No Assisted Living Facility Alternative would have *similar* impacts related to Mineral Resources. As such, the No Assisted Living Facility Alternative would have No Impacts related to Mineral Resources.

Energy Conservation

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Energy Conservation. The No Assisted Living Facility Alternative would result in new residential development on a vacant property and consume energy during construction and operation. This alternative would be subject to many of the same State regulations that require the implementation of energy efficiency measures as the Proposed Project. This alternative would also include mitigation that would require new pedestrian/bicycle pathways that would result in increased connectivity between the site and nearby trail systems and transit facilities. Due to this, the new residents would be more likely to walk or bike from the residential development site into the City or use mass transit. On a per capita basis, this could result in a decrease in vehicle miles traveled. Since this alternative would include the annexation of the residential development site into the City of Arcata, it would be subject to the energy efficiency requirements in City of Arcata Ordinance No. 1507 (Residential Reach Code), that requires new low-rise residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by a minimum of 20 percent. As such, per capita energy use during operation of this alternative would be similar to the Proposed Project.

Compared to the Proposed Project, the No Assisted Living Facility Alternative would have *similar* impacts related to Energy Conservation and would require mitigation to reduce impacts to a less than significant level. As such, the No Assisted Living Facility Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Energy Conservation.

Alternative 4: Single-Family Residential Development

DESCRIPTION

The Single-Family Residential Development Alternative would propose the annexation of the residential development site (APN 505-161-011) into the City of Arcata to be developed for single-family residential uses. Similar to the Proposed Project, this alternative would propose

the annexation of parcels 505-161-011, 505-151-009, and 506-161-009 into the City of Arcata and the redesignation/rezoning of parcel 505-161-011 to Residential Low Density (RL). The RL zone allows a maximum density of up to 7.25 units per acre and an average parcel size of 6,000 square feet. For this alternative, it is assumed that the residential development site would be subdivided into 55 parcels with an average size of 6,000 square feet as required by the Arcata Land Use Code. This would result in a density of approximately 3.4 units per acre. Similar to the Proposed Project, access and utilities for this alternative would also be extended from Foster Avenue. This alternative would provide 55 new single-family residential units and 55 accessory dwelling units that would provide housing for approximately 232 residents. Approximately 2 acres of the site along Janes Creek would be left as a remainder parcel which would contain the wetland mitigation area, stormwater facilities (e.g., bioswales), a pedestrian/bicycle pathway, and the 100-foot stream setback required by the City of Arcata Land Use Code. The layout of the parcels for this alternative would be similar to the design of the single-family residential parcels proposed by the Proposed Project (see Figure 1F [Site Plan] in Chapter 1 [Introduction] of the EIR).

Improvements, requirements, and mitigation measures applicable to the Proposed Project that would also be required for the Single-Family Residential Development Alternative include, but are not limited to, the following:

Improvements

- Foster Avenue Connection over Janes Creek that will include sidewalks and bike lanes to provide non-vehicular access from the residential development site to Alliance Road;
- All weather emergency access road (compacted gravel) to Stewart Avenue that will also function as a pedestrian/bicycle pathway;
- Pedestrian/Bicycle pathway through parcel 505-341-048 that would provide access from the eastern edge of the residential development site to Alliance Road;
- Annexation of parcel 505-161-009 into the City of Arcata for development as a section of the Hammond Trail along the southern boundary of the residential development site;
- A north-south pathway on the southeastern portion of the residential development site that will connect the Hammond Trail with the pedestrian/bicycle pathway to Alliance Road;
- Development of new park facilities on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (Ennes Park Expansion); and
- Replacement of two culverts in Janes Creek at the Foster Avenue crossing and the pathway crossing which is located mid-way along the eastern boundary of the residential development site.

Regulatory Requirements

- Payment of park in-lieu fees per Section 9.86.030 (Park Land Dedication and Fees) of the Arcata Land Use Code;

- Compliance with inadvertent discovery protocols during construction activities for the protection of historical, archaeological, paleontological, and tribal cultural resources including human remains;
- Compliance with the City's standard condition for controlling dust emissions during construction activities (Arcata General Plan Policy AQ-2f);
- Compliance with the City's standard condition for minimizing noise impacts during construction activities (Arcata Land Use Code Section 9.30.050.D.2);
- Payment of standard water capital connection fees that would be used to fund some of the proposed improvements to the City's water storage facilities;
- Payment of standard sewer capital connection fees to the City of Arcata for residential development that would be used to fund some of the proposed improvements to the City's wastewater treatment system; and
- Compliance with local and State stormwater regulations requiring the onsite management of stormwater runoff through low impact development site design measures.

Mitigation Measures

- Implementation of several GHG reduction measures including pedestrian/bicycle improvements, area source reductions, energy efficiency measures, water conservation measures, solid waste reductions, and landscaping, to mitigate GHG emissions;
- The purchase of carbon offsets to mitigate GHG emissions;
- Removal of the remaining petroleum hydrocarbon contamination under the debarker slab on the residential development site;
- Implementation of the Site Development Contingency and Site Safety Plan (Appendix O) during construction activities;
- Fair share contribution to the near-term and future transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1);
- Biological surveys and operational restrictions, buffers, etc. if protected wildlife species are observed at the site;
- Implementation of applicable measures in the CDFW Salmonid Habitat Restoration Manual during the replacement of culverts;
- Construction of a wetland mitigation area along Janes Creek for the filling of three-parameter wetlands on the residential development site;
- Riparian restoration (e.g., the planting of native species and the removal and control of invasive species along Janes Creek) and the payment of riparian impact fees to the City of Arcata to assist in the offsite restoration of portions of Jolly Giant Creek, for impacts to riparian vegetation from improvements such as the Foster Avenue Connection; and

- Dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001 to mitigate for the permanent conversion of prime agricultural land on parcels 505-151-001, -009, 505-284-009, and -010.

IMPACT EVALUATION

This section provides an evaluation of the potential environmental impacts of the Single-Family Residential Development Alternative as compared against the Proposed Project. There are numerous differences in the types and levels of impacts for each alternative. Where there is a change in the degree of severity of an impact (more or less severe) as compared to the Proposed Project, it is described as greater or lesser. Impacts which are relatively equal as compared to the Proposed Project are described as similar.

Land Use and Planning

The Proposed Project was found to have Less than Significant Impacts related to Land Use and Planning. The Single-Family Residential Development Alternative would result in the development of single-family residential units and accessory dwelling units on the residential development site consistent with the redesignation/rezoning (Residential Low Density) proposed as part of annexation of the site into the City of Arcata. Similar to the Proposed Project, the development of the site for residential uses under this alternative would provide greater land use compatibility with surrounding residential uses than a vacant, underutilized former industrial site. This alternative would assist in implementation of the City of Arcata Housing Element, which identifies a need for additional single-family residential housing and owner-occupancy opportunities.

Similar to the Proposed Project, this alternative would result in the annexation of City-owned parcel 505-151-009 into the City of Arcata. Upon annexation the parcel would be redesignated/rezoned as Public Facility (PF). Along with City-owned parcels 505-284-009 and 505-284-010, parcel 505-151-009 would be developed as parkland. These properties have been planned to be developed as a park (Ennes Park Expansion) by the City of Arcata for several decades. The existing City Park located in this area (Ennes Park) is relatively undersized for the number of residents that it serves. The development of the proposed park will provide the recreational facilities necessary to adequately serve the existing and proposed residential population in this area of Arcata.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *similar* impacts related to Land Use and Planning. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts related to Land Use and Planning.

Population and Housing

The Proposed Project was found to have Less than Significant Impacts related to Population and Housing. The Single-Family Residential Development Alternative would result in the development of single-family residential units and accessory dwelling units on the residential

development site which would provide housing for approximately 232 residents. This alternative would increase the City of Arcata's resident population (18,374 persons) by approximately 1.3 percent, as compared to the 1.5 percent that would occur from the Proposed Project. This alternative would assist in implementation of the City of Arcata Housing Element, which identifies a need for additional single-family residential housing and owner-occupancy opportunities. However, it would not provide housing for seniors, which is identified as an important housing need in the City. Similar to the Proposed Project, this alternative would not result in the removal of any housing or displace people.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Population and Housing. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts related to Population and Housing.

Public Services

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Public Services. The Single-Family Residential Development Alternative would result in the development of single-family residential units and accessory dwelling units on the residential development site which would provide housing for approximately 232 residents. The Single-Family Residential Development Alternative has the potential to result in an increased demand for public services from new residents, but to a lesser extent than would occur from the Proposed Project, since it would provide housing for 37 fewer residents and would not include any employees. Similar to the Proposed Project, this alternative would not require the construction of new police stations, fire stations, schools, or other public facilities (e.g., public health and library services) to maintain acceptable service ratios.

The Single-Family Residential Development Alternative would require the payment of park in-lieu fees to the City of Arcata that would be used for the development of offsite park facilities on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (Ennes Park Expansion). The fees would be reduced based on the reduction in the estimated number of residents that will be provided housing by this alternative. Construction of parkland on these parcels will result in the permanent conversion of prime agricultural land. Similar to the Proposed Project, this alternative would require the dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001 to mitigate for the permanent conversion of prime agricultural land.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Public Services, but would still require mitigation to reduce impacts to a less than significant level. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Public Services.

Recreation

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Recreation. The Single-Family Residential Development Alternative would result in the development of single-family residential units and accessory dwelling units on the residential development site which would provide housing for approximately 232 residents. This alternative has the potential to increase the use of nearby recreational facilities in the City of Arcata, but not to the extent that would occur from the Proposed Project, since it would provide housing for 37 fewer residents and would not include any employees. This alternative would also require the payment of park in-lieu fees to the City, but these fees would be reduced based on the reduction in the estimated number of residents that will be provided housing by this alternative. Similar to the Proposed Project, the fees will be used to build a portion of the proposed park on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (Ennes Park Expansion). Construction of parkland on these parcels will result in the permanent conversion of prime agricultural land. Similar to the Proposed Project, this alternative would require the dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001 to mitigate for the permanent conversion of prime agricultural land.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Recreation, but would still require mitigation to reduce impacts to a less than significant level. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Recreation.

Cultural Resources

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Cultural Resources. As indicated in the Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D), the project parcels do not contain any known historical or archaeological resources. The Single-Family Residential Development Alternative would result in ground disturbance similar to the Proposed Project, but to a lesser degree based on the reduced footprint of the proposed improvements that would be constructed under this alternative. Inadvertent discovery protocols for the protection of cultural resources would apply to any construction activity involving ground disturbance.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Cultural Resources. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts related to Cultural Resources.

Aesthetics

The Proposed Project was found to have Less than Significant Impacts related to Aesthetics. The Single-Family Residential Development Alternative would result in the development of new single-family residential units and accessory dwelling units on the vacant residential

development site. Similar to the Proposed Project, this alternative would replace existing views of a vacant mill site with views of new residential development, which would improve the overall appearance of the site (see Section 2.6 [Aesthetics] for a description of the visual condition of the residential development site). This alternative would extend the existing residential neighborhoods in the City of Arcata westward, but would provide a reduced density and smaller scale of development than the Proposed Project. This alternative would include the extension of Foster Avenue over Janes Creek, which would remove a section of the riparian corridor and provide new views of the Arcata Bottom area. This alternative would include landscaping along the western boundary of the residential development site, which would screen views of the site from the west.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Aesthetics. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts related to Aesthetics.

Air Quality

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Air Quality. The Single-Family Residential Development Alternative would result in new single-family residential units and accessory dwelling units on the vacant residential development site. The additional residential units under this alternative would provide housing for approximately 232 residents, compared to the Proposed Project which would provide housing for 269 residents. Similar to the proposed project, this alternative would produce new sources of emissions during construction and operation. However, this alternative would generate fewer emissions than the Proposed Project during operation, since it would provide housing for 37 fewer residents and would not include any employees. Due to the reduction in the estimated number of residents proposed by this alternative, it would generate fewer slightly fewer vehicular emissions than the Proposed Project during operation. This alternative would include new pedestrian/bicycle pathways that would result in increased connectivity between the site and nearby trail systems and transit facilities. The connectivity provided by this alternative would encourage alternative modes of transportation and reduce vehicular emissions.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Air Quality. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts related to Air Quality.

Greenhouse Gas Emissions

The Proposed Project was found to have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Greenhouse Gas Emissions. For this reason, the adoption of a Statement of Overriding Considerations related to GHG emissions impacts would be required for the Proposed Project (see Section 2.8 [Greenhouse Gas Emissions] and Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion).

The Single-Family Residential Development Alternative would result in new single-family residential development on the vacant residential development site. The additional residential units under this alternative would provide housing for approximately 232 residents, compared to the Proposed Project, which would provide housing for 269 residents. Similar to the Proposed Project, this alternative would result in additional GHG emissions from construction and operation. However, this alternative would generate fewer GHG emissions than the Proposed Project during operation, since it would provide housing for 37 fewer residents and would not include any employees. Similar to the Proposed Project, this alternative would also include the following mitigations to reduce and offset per capita GHG emissions: 1) implementation of several GHG reduction measures including pedestrian/bicycle improvements, area source reductions, energy efficiency measures, water conservation measures, solid waste reductions, and landscaping, to mitigate GHG emissions; and 2) the purchase of carbon offsets to mitigate GHG emissions.

Similar to the Proposed Project, it cannot be found with certainty that this alternative would be consistent with the GHG reduction goals in SB 32 (i.e., 40 percent emissions reductions below 1990 level). Therefore, the Single-Family Residential Development Alternative is also conservatively assumed to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. As such, this alternative would also result in significant and unavoidable impacts.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Greenhouse Gas Emissions, but would still require mitigation to reduce per capita GHG emissions. As such, the Single-Family Residential Development Alternative would have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Greenhouse Gas Emissions.

Noise

The Proposed Project, as designed and in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Noise. The Single-Family Residential Development Alternative would result in new single-family residential units and accessory dwelling units on the vacant residential development site. Similar to the Proposed Project, compliance with the City of Arcata's standards for reducing construction noise levels would apply to the proposed construction activity under this alternative. In addition, due to the reduced size of the development as compared to the Proposed Project, construction activity would occur for a shorter period of time and cause fewer noise impacts. Similar to the Proposed Project, noise at the site would continue to be dominated by traffic on Foster Avenue and Alliance Road, which exceeds any noise that would be generated by operation of this alternative.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Noise. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts related to Noise.

Hazards and Hazardous Materials

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Hazards and Hazardous Materials. Similar to the Proposed Project, this alternative would include mitigation requiring removal of hydrocarbon contamination on the residential development site under the remaining debarker slab. Under this alternative, mitigation would also be required for implementation of the Site Development Contamination Contingency and Site Safety Plan (Appendix O) during construction activities. Similar to the proposed project, the Single-Family Residential Development Alternative would result in the construction of new residential uses which do not involve the handling, transport, or use of significant quantities of hazardous materials. Similar to the Proposed Project, this alternative would not be located on a site that is in close proximity to a public airport or private airstrip, would not interfere with an emergency response or evacuation plan, and would not be located on a site that is subject to wildland fires.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *similar* impacts related to Hazards and Hazardous Materials and would require mitigation to reduce impacts to a less than significant level. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Hazards and Hazardous Materials.

Utilities and Service Systems

The Proposed Project was found to have Less than Significant Impacts related to Utilities and Service Systems. The Single-Family Residential Development Alternative would result in the development of new single-family residential units and accessory dwelling units. Similar to the Proposed Project, this alternative would result in increased water consumption, wastewater discharge, stormwater runoff, and solid waste generation. However, the increases in water use, wastewater discharge, and solid waste generation would be reduced, as compared to the Proposed Project, since this alternative would provide housing for 37 fewer residents and would not include any employees.

Similar to the Proposed Project, this alternative would receive water and wastewater services from the City of Arcata. As discussed in Section 2.11 (Utilities and Service Systems) of the EIR, the City of Arcata has determined there is adequate water supply and wastewater treatment capacity to serve the level of development that would occur from the Proposed Project. As such, there is also adequate capacity to serve the Single-Family Residential Development Alternative. Similar to the Proposed Project, connection to the City's water and wastewater systems would require the payment of standard water and sewer capital connection fees that would be used to fund some of the proposed improvements to the City's water storage facilities and wastewater treatment system.

Similar to the Proposed Project, the Single-Family Residential Development Alternative would be required to comply with local and State stormwater regulations to ensure that stormwater runoff is properly managed onsite and does not exceed the capacity of the City's stormwater system. Under this alternative, potential impacts related to solid waste disposal are anticipated to be less, due to the reduced size of this alternative relative to the Proposed Project.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Utilities and Service Systems. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts related to Utilities and Service Systems.

Tribal Cultural Resources

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Tribal Cultural Resources. As indicated in the Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D), the project parcels do not contain any known tribal cultural resources. The Single-Family Residential Development Alternative would result in ground disturbance similar to the Proposed Project, but to a lesser degree based on the reduced footprint of the proposed improvements that would be constructed under this alternative. Inadvertent discovery protocols for the protection of tribal cultural resources would apply to any construction activity involving ground disturbance.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Tribal Cultural Resources. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts related to Tribal Cultural Resources.

Transportation-Traffic

The Proposed Project was found to have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Transportation-Traffic, since the future transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1) may not be constructed for several years (see Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion). For this reason, the adoption of a Statement of Overriding Considerations related to traffic impacts would be required for the Proposed Project.

The Single-Family Residential Development Alternative would result in the development of new residential uses that would increase traffic levels to and from the residential development site. However, this alternative is estimated to result in fewer residents (232 instead of 269), which would generate fewer vehicle trips. Based on the trip generation rates developed by the Institute of Transportation Engineers (ITE), the Single-Family Residential Development Alternative is estimated to generate approximately 892 vehicle trips per day (ITE, 2008). This is based on using the trip generation rate for single-family residences (9.57 ADT) for the single-family units and the trip generation rate for apartments for the accessory dwelling units (6.65 ADT). As noted in Chapter 3 (Transportation-Traffic) of the EIR, the Proposed Project is estimated to generate approximately 1,113 vehicle trips per day.

Although the Single-Family Residential Development Alternative would generate fewer vehicle trips than the Proposed Project, it still would result in a significant number of vehicle trips and has the potential to contribute to cumulative traffic impacts in combination with the other approved/planned projects listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. As

such, this alternative would include the following mitigations required of the Proposed Project: 1) mitigation for the payment of a fair share contribution to the City of Arcata to improve nearby intersections in the City (e.g., Foster Ave/Alliance Rd and Sunset Ave/LK Wood Blvd); and 2) mitigation for the construction of pedestrian and bicycle improvements to provide connectivity with surrounding trail systems and transit facilities. However, since the timing of implementation of improvements cannot be guaranteed, impacts from this alternative would also be significant and unavoidable. For this reason, the adoption of a Statement of Overriding Considerations related to traffic impacts would be required for the Single-Family Residential Development Alternative.

Similar to the Proposed Project, this alternative would include the extension of Foster Avenue across Janes Creek, which would improve circulation by providing a direct route from Alliance Road to the residential development site. In addition, this alternative would improve circulation for emergency vehicles by providing emergency access to Stewart Avenue. Similar to the Proposed Project, this alternative would not conflict with an applicable congestion management program, result in a change in air traffic patterns, substantially increase hazards due to a design feature, or result in inadequate emergency access.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Transportation-Traffic and would require mitigation to reduce traffic impacts. As such, the Single-Family Residential Development Alternative would have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Transportation-Traffic.

Geology and Soils

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Geology and Soils. The Single-Family Residential Development Alternative would result in the development of new residential buildings and recreational facilities. However, the project footprint for this alternative would be reduced compared to the Proposed Project since it would include fewer residential units. All new buildings will be required to meet current building code standards for seismic hazards and local and State erosion control requirements, which will reduce impacts to a less than significant level. Since this alternative would also include the development of offsite parkland on properties containing prime agricultural soils, it would result in the loss of topsoil that could have otherwise been used for agricultural production. As such, this alternative would require mitigation for the permanent conversion of prime agricultural soils.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Geology and Soils, but would still require mitigation to reduce impacts to a less than significant level. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Geology and Soils.

Hydrology and Water Quality

The Proposed Project, as designed and in compliance with existing regulatory requirements, was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Hydrology and Water Quality. Similar to the Proposed Project, the Single-Family Residential Development Alternative would have the potential to improve water quality through mitigation requiring the removal of hydrocarbon contamination on the residential development site under the remaining debarker slab.

Similar to the Proposed Project, this alternative would receive water and wastewater services from the City of Arcata. As discussed in Section 2.11 (Utilities and Service Systems) of the EIR, the City of Arcata has determined there is adequate water supply and wastewater treatment capacity to serve the level of development that would occur from the Proposed Project. As such, there is also adequate capacity to serve the Single-Family Residential Development Alternative. Since this alternative would receive water service from the City, it would not have the potential to deplete groundwater supplies. Since this alternative would be connected to the City's wastewater system, it would also require the payment of standard sewer capital connection fees for residential development that would be used to fund some of the proposed improvements to the City's wastewater treatment system.

The Single-Family Residential Development Alternative would result in the development of new impervious surfaces which has the potential to increase stormwater runoff. However, the new impervious surfaces that would result from this alternative would be reduced compared to the Proposed Project since it would include fewer residential units. Compliance with local and State stormwater regulations would also be required for this alternative, which would include the onsite management of stormwater runoff to ensure that pre-development runoff volumes are not exceeded. These regulations also address protecting water quality and preventing erosion during construction and operation of this alternative.

Similar to the Proposed Project, this alternative would not place the proposed residential structures within a 100-year flood hazard area. Similar to the Proposed Project, this alternative would include the replacement of culverts in Janes Creek. The Hydraulic Analysis completed for the Proposed Project (Appendix W) determined that replacement of the culverts in Janes Creek would result in minimal changes to the floodplain elevations upstream and downstream of the residential development site. Similar to the Proposed Project, this alternative would also include the construction of a wetland mitigation area, which has the potential to provide off-channel storage during flood events.

As noted in Section 4.2 (Hydrology and Water Quality), the residential development site is mapped in Humboldt Bay Municipal Water District's (HBMWD) "Emergency Action Plan for R.W. Mathews Dam" as being within anticipated maximum reach of floodwaters resulting from catastrophic failure of the dam, in conjunction with winter floods the size of those occurring in 1964. Since this alternative would include annexation of the residential development site into the City of Arcata, it would be subject to Arcata General Plan Policy PS-2f (*Failure of Matthews Dam*). This policy requires development of an early warning system and evacuation plan for all new buildings designed for human occupancy that are located in the area of potential inundation

resulting from a catastrophic failure of Matthews Dam. The Arcata General Plan PEIR notes that compliance with General Plan Policy PS-2f will ensure no significant adverse impacts will result.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Hydrology and Water Quality, but would still require mitigation to reduce impacts to a less than significant level. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Hydrology and Water Quality.

Biological Resources

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Biological Resources. Similar to the Proposed Project, the Single-Family Residential Development Alternative would result in a residential development that would include physical impacts to wetlands. However, the wetland impacts that would result from this alternative would be reduced compared to the Proposed Project since it would include fewer residential units. As such, this alternative would also include the following mitigations required of the Proposed Project: 1) construction of a wetland mitigation area along Janes Creek; 2) removal and control of invasive species; and 3) planting of native species in the buffer area for the wetland mitigation area. Similar to the Proposed Project, this alternative would have the potential to impact protected wildlife species using habitat on the residential development site during construction activities. As such, this alternative would also include mitigation requiring biological surveys and operational restrictions, buffers, etc. if protected wildlife species are observed at the site.

This alternative also proposes the extension of Foster Avenue over Janes Creek, which will cause impacts to riparian vegetation. As such, mitigation will be included requiring riparian restoration (e.g., the planting of native species and the removal and control of invasive species along Janes Creek) and the payment of riparian impact fees to the City of Arcata to assist in the offsite restoration of portions of Jolly Giant Creek. Similar to the Proposed Project, this alternative would propose the replacement of two culverts in Janes Creek at the Foster Avenue crossing and the pathway crossing which is located mid-way along the eastern boundary of the residential development site. As such, it would include mitigation requiring implementation of applicable measures in the CDFW Salmonid Habitat Restoration Manual.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *lesser* impacts related to Biological Resources, but would still require mitigation to reduce impacts to a less than significant level. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Biological Resources.

Agriculture and Forestry Resources

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Agriculture and Forestry Resources. Similar to the Proposed Project, the Single-Family Residential Development Alternative proposes the development of an emergency

access road on parcel 505-151-001 and the payment of park in-lieu fees for the development of parkland on parcels 505-151-009, 505-284-009, and 505-284-010. As such, this alternative will result in the permanent conversion of prime agricultural land and would also include mitigation requiring dedication of a conservation easement on parcel 505-151-001. Similar to the Proposed Project, this alternative would be located on properties that do not contain forestland.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *similar* impacts related to Agriculture and Forestry Resources and would require mitigation to reduce impacts to a less than significant level. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Agriculture and Forestry Resources.

Mineral Resources

The Proposed Project was found to have No Impacts related to Mineral Resources. As indicated in Section 4.5 (Mineral Resources) of the EIR, the project parcels do not contain mineral resources. As such, the Single-Family Residential Development Alternative would result in new single-family residential units and accessory dwelling units on a vacant property that does contain mineral resources.

Because there are no existing or potential mineral resources on the project parcels, compared to the Proposed Project, the Single-Family Residential Development Alternative would have *similar* impacts related to Mineral Resources. As such, the Single-Family Residential Development Alternative would have No Impacts related to Mineral Resources.

Energy Conservation

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Energy Conservation. The Single-Family Residential Development Alternative would result in new residential development on a vacant property and consume energy during construction and operation. This alternative would be subject to many of the same State regulations that require the implementation of energy efficiency measures as the Proposed Project. This alternative would also include mitigation that would require new pedestrian/bicycle pathways that would result in increased connectivity between the site and nearby trail systems and transit facilities. Due to this, the new residents would be more likely to walk or bike from the residential development site into the City or use mass transit. On a per capita basis, this could result in a decrease in vehicle miles traveled. Since this alternative would include the annexation of the residential development site into the City of Arcata, it would be subject to the energy efficiency requirements in City of Arcata Ordinance No. 1507 (Residential Reach Code), that requires new low-rise residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by a minimum of 20 percent. As such, per capita energy use during operation of this alternative would be similar to the Proposed Project.

Compared to the Proposed Project, the Single-Family Residential Development Alternative would have *similar* impacts related to Energy Conservation and would require mitigation to reduce impacts to a less than significant level. As such, the Single-Family Residential Development Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Energy Conservation.

Alternative 5: No Foster Avenue Connection

DESCRIPTION

The No Foster Avenue Connection Alternative would exclude the proposed Foster Avenue Connection, which would construct a road crossing over Janes Creek to provide direct vehicular access from the residential development site (APN 505-161-011) to Alliance Road. This alternative would also exclude the new “T” type intersection at the intersection of Foster Avenue and Q Street. As such, vehicular access to the site from Alliance Road would occur via the 17th Street and Q Street connection to the section of Foster Avenue on the west side of Janes Creek. A smaller crossing, providing only pedestrian/bicycle access, would be constructed over Janes Creek to provide direct access to Alliance Road. The smaller crossing could include a multi-use trail or separated pathways for pedestrian and bicycle traffic (e.g., sidewalk and bike lane). Construction of the crossing would include replacement of the culvert at the existing railbed crossing over Janes Creek. The pedestrian/bicycle crossing will cause impacts to riparian vegetation in Janes Creek, but to a lesser degree since it will be narrower in width than the road crossing that would occur as part of the Proposed Project. All other aspects of the Proposed Project would occur under this alternative.

IMPACT EVALUATION

This section provides an evaluation of the potential environmental impacts of the No Foster Avenue Connection Alternative as compared against the Proposed Project. There are numerous differences in the types and levels of impacts for each alternative. Where there is a change in the degree of severity of an impact (more or less severe) as compared to the Proposed Project, it is described as greater or lesser. Impacts which are relatively equal as compared to the Proposed Project are described as similar.

Land Use and Planning

The Proposed Project was found to have Less than Significant Impacts related to Land Use and Planning. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in the development of single-family residential and senior housing on the residential development site consistent with the redesignation/rezoning (Residential Low Density) proposed as part of annexation of the site into the City of Arcata. Similar to the Proposed Project, the development of the site for residential uses under this alternative would provide greater land use compatibility with surrounding residential uses than a vacant, underutilized former industrial

site. This alternative would assist in implementation of the City of Arcata Housing Element, which identifies a need for additional single-family residential and senior housing.

Similar to the Proposed Project, this alternative would result in the annexation of City-owned parcel 505-151-009 into the City of Arcata. Upon annexation the parcel would be redesignated/rezoned as Public Facility (PF). Along with City-owned parcels 505-284-009 and 505-284-010, parcel 505-151-009 would be developed as parkland. These properties have been planned to be developed as a park (Ennes Park Expansion) by the City of Arcata for several decades. The existing City Park located in this area (Ennes Park) is relatively undersized for the number of residents that it serves. The development of the proposed park will provide the recreational facilities necessary to adequately serve the existing and proposed residential population in this area of Arcata.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *similar* impacts related to Land Use and Planning. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts related to Land Use and Planning.

Population and Housing

The Proposed Project was found to have Less than Significant Impacts related to Population and Housing. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in the development of single-family residential and senior housing on the residential development site which would provide housing for approximately 269 residents. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would increase the City of Arcata's resident population (18,374 persons) by approximately 1.5 percent. This alternative would assist in implementation of the City of Arcata Housing Element which identifies a need for additional single-family residential and senior housing. Similar to the proposed project, this alternative would not result in the removal of any housing or displace people. Similar to the Proposed Project, this alternative would not result in the removal of any housing or displace people.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *similar* impacts related to Population and Housing. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts related to Population and Housing.

Public Services

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Public Services. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in the development of single-family residential and senior housing on the residential development site, which would provide housing for approximately 269 residents. This alternative has the potential to result in a similar degree of demand for public services from new residents and employees as the Proposed Project. Similar to the Proposed Project, this alternative would not require the construction of new police stations, fire stations, schools, or other public facilities (e.g., public health and library services) to maintain acceptable service ratios.

The No Foster Avenue Connection Alternative would require the payment of a similar amount of park in-lieu fees to the City of Arcata as the Proposed Project, which would be used for the development of offsite park facilities on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (Ennes Park Expansion). Construction of parkland on these parcels will result in the permanent conversion of prime agricultural land. Similar to the Proposed Project, this alternative would require the dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001 to mitigate for the permanent conversion of prime agricultural land.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *similar* impacts related to Public Services and would require mitigation to reduce impacts to a less than significant level. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Public Services.

Recreation

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Recreation. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in the development of single-family residential and senior housing on the residential development site which would provide housing for approximately 269 residents. This alternative has the potential to increase the use of nearby recreational facilities in the City of Arcata, similar to the degree that would occur from the Proposed Project. This alternative would require the payment of a similar amount of park in-lieu fees to the City of Arcata as the Proposed Project, which would be used for the development of offsite park facilities on City-owned parcels 505-151-009, 505-284-009, and 505-284-010 (Ennes Park Expansion). Construction of parkland on these parcels will result in the permanent conversion of prime agricultural land. Similar to the Proposed Project, this alternative would require the dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001 to mitigate for the permanent conversion of prime agricultural land.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *similar* impacts related to Recreation and would require mitigation to reduce impacts to a less than significant level. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Recreation.

Cultural Resources

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Cultural Resources. As indicated in the Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D), the project parcels do not contain any known historical or archaeological resources. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in ground disturbance similar to the Proposed Project, but to a lesser degree since this alternative would not include the extension of a road crossing over Janes Creek and a new “T” type intersection at the

intersection of Foster Avenue and Q Street. Inadvertent discovery protocols for the protection of cultural resources would apply to any construction activity involving ground disturbance.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *lesser* impacts related to Cultural Resources. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts related to Cultural Resources.

Aesthetics

The Proposed Project was found to have Less than Significant Impacts related to Aesthetics. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in the development of new single-family residential and senior housing on the vacant residential development site. Similar to the Proposed Project, this alternative would replace existing views of a vacant mill site with views of new residential development, which would improve the overall appearance of the site (see Section 2.6 [Aesthetics] for a description of the visual condition of the residential development site). This alternative would extend the existing residential neighborhoods in the City of Arcata westward. This alternative would include the extension of a pedestrian/bicycle pathway over Janes Creek, which would remove a section of the riparian corridor and provide new views of the Arcata Bottom area. However, this crossing would be narrower in width than the road crossing proposed by the Proposed Project, and would provide more limited views of the Arcata Bottom area. Similar to the Proposed Project, this alternative would include landscaping along the western boundary of the residential development site, which would screen views of the site from the west.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *lesser* impacts related to Aesthetics. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts related to Aesthetics.

Air Quality

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Air Quality. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in new single-family residential and senior housing development on the vacant residential development site. The additional residential units under this alternative would also provide housing for approximately 269 residents. Similar to the proposed project, this alternative would produce new sources of emissions during construction and operation. Since this alternative would not include the extension of a road crossing over Janes Creek and a new “T” type intersection at the intersection of Foster Avenue and Q Street, it would result in fewer emissions during construction. Similar to the Proposed Project, this alternative would include new pedestrian/bicycle pathways that would result in increased connectivity between the site and nearby trail systems and transit facilities. The connectivity provided by this alternative would encourage alternative modes of transportation and reduce vehicular emissions.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *lesser* impacts related to Air Quality. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts related to Air Quality.

Greenhouse Gas Emissions

The Proposed Project was found to have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Greenhouse Gas Emissions. For this reason, the adoption of a Statement of Overriding Considerations related to GHG emissions impacts would be required for the Proposed Project (see Section 2.8 [Greenhouse Gas Emissions] and Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion).

Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in new single-family residential and senior housing development on the vacant residential development site. This alternative would result in the same number and type of residential units as the Proposed Project and would also provide housing for approximately 269 residents. Similar to the Proposed Project, this alternative would result in additional GHG emissions from construction and operation. Since this alternative would not include the extension of a road crossing over Janes Creek and a new “T” type intersection at the intersection of Foster Avenue and Q Street, it would result in fewer GHG emissions during construction. Similar to the Proposed Project, this alternative would also include the following mitigations to reduce and offset per capita GHG emissions: 1) implementation of several GHG reduction measures including pedestrian/bicycle improvements, area source reductions, energy efficiency measures, water conservation measures, solid waste reductions, and landscaping, to mitigate GHG emissions; and 2) the purchase of carbon offsets to mitigate GHG emissions.

Similar to the Proposed Project, it cannot be found with certainty that this alternative would be consistent with the GHG reduction goals in SB 32 (i.e., 40 percent emissions reductions below 1990 level). Therefore, the No Foster Avenue Connection Alternative is also conservatively assumed to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. As such, this alternative would also result in significant and unavoidable impacts.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *lesser* impacts related to Greenhouse Gas Emissions and would require mitigation to reduce per capita GHG emissions. As such, the No Foster Avenue Connection Alternative would have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Greenhouse Gas Emissions.

Noise

The Proposed Project, as designed and in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Noise. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in new single-family residential and senior housing development. Similar to the Proposed Project, compliance with the City of Arcata’s standards for reducing construction noise levels would apply to the proposed

construction activity under this alternative. Since this alternative would not include the extension of a road crossing over Janes Creek and a new “T” type intersection at the intersection of Foster Avenue and Q Street, construction activity would occur for a shorter period of time and cause fewer noise impacts. Similar to the Proposed Project, noise at the site would continue to be dominated by traffic on Foster Avenue and Alliance Road, which exceeds any noise that would be generated by operation of this alternative.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *lesser* impacts related to Noise. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts related to Noise.

Hazards and Hazardous Materials

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Hazards and Hazardous Materials. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would include mitigation requiring removal of hydrocarbon contamination on the residential development site under the remaining debarker slab. Under this alternative, mitigation would also be required for implementation of the Site Development Contamination Contingency and Site Safety Plan (Appendix O) during construction activities. Similar to the proposed project, the No Foster Avenue Connection Alternative would result in the construction of new residential uses which do not involve the handling, transport, or use of significant quantities of hazardous materials. Similar to the Proposed Project, this alternative would not be located on a site that is in close proximity to a public airport or private airstrip, would not interfere with an emergency response or evacuation plan, and would not be located on a site that is subject to wildland fires.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *similar* impacts related to Hazards and Hazardous Materials and would require mitigation to reduce impacts to a less than significant level. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Hazards and Hazardous Materials.

Utilities and Service Systems

The Proposed Project was found to have Less than Significant Impacts related to Utilities and Service Systems. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in new single-family residential and senior housing development. This alternative would result in increased water consumption, wastewater discharge, stormwater runoff, and solid waste generation as the Proposed Project.

Similar to the Proposed Project, this alternative would receive water and wastewater services from the City of Arcata. As discussed in Section 2.11 (Utilities and Service Systems) of the EIR, the City of Arcata has determined there is adequate water supply and wastewater treatment capacity to serve the level of development that would occur from the Proposed Project. As such, there is also adequate capacity to serve the No Foster Avenue Connection Alternative. Similar to the Proposed Project, connection to the City’s water and wastewater systems would require the

payment of standard water and sewer capital connection fees that would be used to fund some of the proposed improvements to the City's water storage facilities and wastewater treatment system.

Similar to the Proposed Project, the No Foster Avenue Connection Alternative would be required to comply with local and State stormwater regulations to ensure that stormwater runoff is properly managed onsite and does not exceed the capacity of the City's stormwater system. Under this alternative, potential impacts related to solid waste disposal would be similar to the Proposed Project.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *similar* impacts related to Utilities and Service Systems. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts related to Utilities and Service Systems.

Tribal Cultural Resources

The Proposed Project, in compliance with existing regulatory requirements, was found to have Less than Significant Impacts related to Tribal Cultural Resources. As indicated in the Cultural Resources Investigation (Appendix C) and Geo-Archaeological Assessment (Appendix D), the project parcels do not contain any known tribal cultural resources. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in ground disturbance, but to a lesser degree since this alternative would not include the extension of a road crossing over Janes Creek and a new "T" type intersection at the intersection of Foster Avenue and Q Street. Inadvertent discovery protocols for the protection of tribal cultural resources would apply to any construction activity involving ground disturbance.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *lesser* impacts related to Tribal Cultural Resources. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts related to Tribal Cultural Resources.

Transportation-Traffic

The Proposed Project was found to have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Transportation-Traffic, since the future transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1) may not be constructed for several years (see Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion). For this reason, the adoption of a Statement of Overriding Considerations related to traffic impacts would be required for the Proposed Project.

The No Foster Avenue Connection Alternative would result in the development of new residential uses that would increase traffic levels to and from the residential development site. This alternative would result in the same number and type of residential units as the Proposed Project and would also provide housing for approximately 269 residents. Therefore, this alternative would result in the same amount of vehicle trips as the Proposed Project. As noted in

Chapter 3 (Transportation-Traffic) of the EIR, the Proposed Project is estimated to generate approximately 1,113 vehicle trips per day.

Since the No Foster Avenue Connection Alternative would generate the same number of vehicle trips as the Proposed Project, it has the potential to contribute to cumulative traffic impacts in combination with the other approved/planned projects listed in Chapter 7 (Cumulative Impact Analysis) of the EIR. As such, this alternative would include the following mitigations required of the Proposed Project: 1) mitigation for the payment of a fair share contribution to the City of Arcata to improve nearby intersections in the City (e.g., Foster Ave/Alliance Rd and Sunset Ave/LK Wood Blvd); and 2) mitigation for the construction of pedestrian and bicycle improvements to provide connectivity with surrounding trail systems and transit facilities. However, since the timing of implementation of improvements cannot be guaranteed, impacts from this alternative would also be significant and unavoidable. For this reason, the adoption of a Statement of Overriding Considerations related to traffic impacts would be required for the Single-Family Residential Development Alternative.

The No Foster Avenue Connection Alternative would not include the extension of Foster Avenue across Janes Creek or the new “T” type intersection at the intersection of Foster Avenue and Q Street. As such, vehicular access to the site from Alliance Road would occur via the 17th Street and Q Street connection to the section of Foster Avenue on the west side of Janes Creek. A smaller crossing, providing only pedestrian/bicycle access, would be constructed over Janes Creek to provide direct access to Alliance Road. This alternative would provide an increase in traffic levels on Q Street and 17th Street and result in a reduced level of service at the intersection of 17th Street/Alliance Road. As discussed in the W-Trans Traffic Study (Appendix T.1), if the Foster Avenue Connection were not constructed, the same near-term and future transportation improvements would be recommended. The recommendation for the future transportation improvements, with and without the Foster Avenue Connection, includes roundabouts at the intersections of Foster Avenue/Alliance Road and Sunset Avenue/LK Wood Boulevard.

Similar to the Proposed Project, the No Foster Avenue Connection Alternative would include mitigation requiring the construction of pedestrian and bicycle improvements to provide connectivity with surrounding trail systems. In addition, this alternative would improve circulation for emergency vehicles by providing emergency access to Stewart Avenue. Similar to the Proposed Project, this alternative would not conflict with an applicable congestion management program, result in a change in air traffic patterns, substantially increase hazards due to a design feature, or result in inadequate emergency access.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *greater* impacts related to Transportation-Traffic and would require mitigation to reduce traffic impacts. As such, the No Foster Avenue Connection Alternative would have Significant and Unavoidable Impacts with the Incorporation of Mitigation related to Transportation-Traffic.

Geology and Soils

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Geology and Soils. Similar to the Proposed Project, the No Foster Avenue

Connection Alternative would result in the development of new residential buildings and recreational facilities. However, the project footprint for this alternative would be reduced compared to the Proposed Project since it would not include the extension of a road crossing over Janes Creek and a new “T” type intersection at the intersection of Foster Avenue and Q Street. All new buildings will be required to meet current building code standards for seismic hazards and local and State erosion control requirements, which will reduce impacts to a less than significant level. Since this alternative would also include the development of offsite parkland on properties containing prime agricultural soils, it would result in the loss of topsoil that could have otherwise been used for agricultural production. As such, this alternative would require mitigation for the permanent conversion of prime agricultural soils.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *lesser* impacts related to Geology and Soils, but would still require mitigation to reduce impacts to a less than significant level. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Geology and Soils.

Hydrology and Water Quality

The Proposed Project, as designed and in compliance with existing regulatory requirements, was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Hydrology and Water Quality. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would have the potential to improve water quality through mitigation requiring the removal of hydrocarbon contamination on the residential development site under the remaining debarker slab.

Similar to the Proposed Project, this alternative would receive water and wastewater services from the City of Arcata. As discussed in Section 2.11 (Utilities and Service Systems) of the EIR, the City of Arcata has determined there is adequate water supply and wastewater treatment capacity to serve the level of development that would occur from the Proposed Project. As such, there is also adequate capacity to serve the No Foster Avenue Connection Alternative. Since this alternative would receive water service from the City, it would not have the potential to deplete groundwater supplies. Since this alternative would be connected to the City’s wastewater system, it would also require the payment of standard sewer capital connection fees for residential development that would be used to fund some of the proposed improvements to the City’s wastewater treatment system.

The No Foster Avenue Connection Alternative would result in the development of new impervious surfaces which has the potential to increase stormwater runoff. However, the new impervious surfaces that would result from this alternative would be reduced compared to the Proposed Project since it would not include the extension of a road crossing over Janes Creek and a new “T” type intersection at the intersection of Foster Avenue and Q Street. Compliance with local and State stormwater regulations would also be required for this alternative, which would include the onsite management of stormwater runoff to ensure that pre-development runoff volumes are not exceeded. These regulations also address protecting water quality and preventing erosion during construction and operation of this alternative.

Similar to the Proposed Project, this alternative would not place the proposed residential structures within a 100-year flood hazard area. Similar to the Proposed Project, this alternative would include the replacement of culverts in Janes Creek. The Hydraulic Analysis completed for the Proposed Project (Appendix W) determined that replacement of the culverts in Janes Creek would result in minimal changes to the floodplain elevations upstream and downstream of the residential development site. Similar to the Proposed Project, this alternative would also include the construction of a wetland mitigation area, which has the potential to provide off-channel storage during flood events.

As noted in Section 4.2 (Hydrology and Water Quality), the residential development site is mapped in Humboldt Bay Municipal Water District's (HBMWD) "Emergency Action Plan for R.W. Mathews Dam" as being within anticipated maximum reach of floodwaters resulting from catastrophic failure of the dam, in conjunction with winter floods the size of those occurring in 1964. Since this alternative would include annexation of the residential development site into the City of Arcata, it would be subject to Arcata General Plan Policy PS-2f (*Failure of Matthews Dam*). This policy requires development of an early warning system and evacuation plan for all new buildings designed for human occupancy that are located in the area of potential inundation resulting from a catastrophic failure of Matthews Dam. The Arcata General Plan PEIR notes that compliance with General Plan Policy PS-2f will ensure no significant adverse impacts will result.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *lesser* impacts related to Hydrology and Water Quality, but would still require mitigation to reduce impacts to a less than significant level. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Hydrology and Water Quality.

Biological Resources

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Biological Resources. Similar to the Proposed Project, the No Foster Avenue Connection Alternative would result in a residential development that would include physical impacts to wetlands and the Janes Creek riparian corridor. As such, this alternative would also include the following mitigations required of the Proposed Project: 1) construction of a wetland mitigation area along Janes Creek; 2) removal and control of invasive species; and 3) planting of native species in the buffer area for the wetland mitigation area. Similar to the Proposed Project, this alternative would have the potential to impact protected wildlife species using habitat on the residential development site during construction activities. As such, this alternative would also include mitigation requiring biological surveys and operational restrictions, buffers, etc. if protected wildlife species are observed at the site.

This alternative proposes a pedestrian/bicycle pathway crossing over Janes Creek at the existing Foster Avenue railbed crossing, instead of an extension of Foster Avenue as proposed by the Proposed Project. This improvement will cause impacts to riparian vegetation in Janes Creek, but to a lesser degree since it will be narrower in width than the road crossing that would occur as part of the Proposed Project. Similar to the Proposed Project, this alternative will include

mitigation requiring riparian restoration (e.g., the planting of native species and the removal and control of invasive species along Janes Creek) and the payment of riparian impact fees to the City of Arcata to assist in the offsite restoration of portions of Jolly Giant Creek. However, the amount of riparian restoration that would occur, and fees that would be required, under this alternative would be reduced proportionate to the reduction in impacts to the Janes Creek riparian corridor.

Similar to the Proposed Project, this alternative would propose the replacement of two culverts in Janes Creek at the Foster Avenue crossing and the pathway crossing which is located mid-way along the eastern boundary of the residential development site. As such, it would include mitigation requiring implementation of applicable measures in the CDFW Salmonid Habitat Restoration Manual.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *lesser* impacts related to Biological Resources, but would still require mitigation to reduce impacts to a less than significant level. As such, the Foster Avenue Connection Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Biological Resources.

Agriculture and Forestry Resources

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Agriculture and Forestry Resources. Similar to the Proposed Project, the No Foster Avenue Connection Alternative proposes the development of an emergency access road on parcel 505-151-001 and the payment of park in-lieu fees for the development of parkland on parcels 505-151-009, 505-284-009, and 505-284-010. As such, this alternative will result in the permanent conversion of prime agricultural land and would also include mitigation requiring dedication of a conservation easement on parcel 505-151-001. Similar to the Proposed Project, this alternative would be located on properties that do not contain forestland.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *similar* impacts related to Agriculture and Forestry Resources and would require mitigation to reduce impacts to a less than significant level. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Agriculture and Forestry Resources.

Mineral Resources

The Proposed Project was found to have No Impacts related to Mineral Resources. As indicated in Section 4.5 (Mineral Resources) of the EIR, the project parcels do not contain mineral resources. As such, the No Foster Avenue Connection Alternative would result in new single-family residential and senior housing development on a vacant property that does contain mineral resources.

Because there are no existing or potential mineral resources on the project parcels, compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *similar* impacts

related to Mineral Resources. As such, the No Foster Avenue Connection Alternative would have No Impacts related to Mineral Resources.

Energy Conservation

The Proposed Project was found to have Less than Significant Impacts with the Incorporation of Mitigation related to Energy Conservation. The No Foster Avenue Connection Alternative would result in new residential development on a vacant property and consume energy during construction and operation. This alternative would be subject to many of the same State regulations that require the implementation of energy efficiency measures as the Proposed Project. This alternative would also include mitigation that would require new pedestrian/bicycle pathways that would result in increased connectivity between the site and nearby trail systems and transit facilities. Due to this, the new residents would be more likely to walk or bike from the residential development site into the City or use mass transit. On a per capita basis, this could result in a decrease in vehicle miles traveled. Since this alternative would include the annexation of the residential development site into the City of Arcata, it would be subject to the energy efficiency requirements in City of Arcata Ordinance No. 1507 (Residential Reach Code), that requires new low-rise residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by a minimum of 20 percent. As such, per capita energy use during operation of this alternative would be similar to the Proposed Project.

Compared to the Proposed Project, the No Foster Avenue Connection Alternative would have *similar* impacts related to Energy Conservation and would require mitigation to reduce impacts to a less than significant level. As such, the No Foster Avenue Connection Alternative would have Less Than Significant Impacts with the Incorporation of Mitigation related to Energy Conservation.

COMPARISON OF ALTERNATIVES ANALYZED

In addition to the Proposed Project, the alternatives analyzed in the EIR are the following:

- **Alternative 1: No Project**
- **Alternative 2: County General Plan Update**
- **Alternative 3: No Assisted Living Facility**
- **Alternative 4: Single-Family Residential Development**
- **Alternative 5: No Foster Avenue Connection**

Table 6-1 summarizes the environmental advantages and disadvantages associated with the Proposed Project and the five alternatives analyzed above. Impacts that are greater than the Proposed Project are indicated with a "+" sign, impacts that are lesser are indicated with a "-" sign, and impacts that are similar are indicated with a "=" sign.

Table 6-1 Comparison of Project Alternatives

| Environmental Factors | Proposed Project | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
|---------------------------------|---------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Land Use and Planning | Less Than Significant | = | = | = | = | = |
| Population and Housing | Less Than Significant | - | - | - | - | = |
| Public Services | Less Than Significant | - | - | - | - | = |
| Recreation | Less Than Significant | - | - | - | - | = |
| Cultural Resources | Less Than Significant | - | - | - | - | - |
| Aesthetics | Less Than Significant | + | - | - | - | - |
| Air Quality | Less Than Significant | - | - | - | - | - |
| Greenhouse Gas Emissions | Less Than Significant | - | - | - | - | - |
| Noise | Less Than Significant | - | - | - | - | - |
| Hazards and Hazardous Materials | Less Than Significant With Mitigation | - | = | = | = | = |
| Utilities and Service Systems | Less Than Significant | - | - | - | - | = |

| Environmental Factors | Proposed Project | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 |
|------------------------------------|---------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Tribal Cultural Resources | Less Than Significant | - | - | - | - | - |
| Transportation-Traffic | Less Than Significant With Mitigation | - | - | - | - | + |
| Geology and Soils | Less Than Significant | - | - | - | - | - |
| Hydrology and Water Quality | Less Than Significant | - | - | - | - | - |
| Biological Resources | Less Than Significant With Mitigation | - | - | - | - | - |
| Agriculture and Forestry Resources | Less Than Significant With Mitigation | - | - | = | = | = |
| Mineral Resources | No Impact | = | = | = | = | = |
| Energy Conservation | Less Than Significant With Mitigation | - | + | = | = | = |

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The environmentally superior alternative is that alternative that causes the least damage to the environment and best protects community and natural resources. For development projects, the environmentally superior alternative is usually the alternative with the least amount of surface disturbance, especially disturbance in areas where there are potential impacts on unique or prime agricultural soils, sensitive plant and animal species, or historic and archaeological resources. Surface disturbance also generally equates with noise and dust generation during construction.

In addition to the direct and indirect impacts from surface disturbance, the environmentally superior alternative is determined by considering human factors, such as an action's compatibility with existing and planned land uses, aesthetics, and recreation opportunities. Non-environmental factors, such as engineering, cost, schedule, and contract issues are not considered, even though they may be important to the development of the project.

Of the six scenarios presented for The Creek Side Homes Project (i.e., the Proposed Project and the five alternatives); Alternative 1 (No Project Alternative) would have the least environmental impacts. CEQA Guidelines Section 15126.6(e)(2) states, "If the environmentally superior alternative is the No Project Alternative, then the EIR shall also identify an environmentally superior alternative from among the other alternatives." The No Project Alternative would have the least impacts; however, it would fail to meet most of the project objectives.

Among the other alternatives, Alternative 2 (County General Plan Update Alternative) would be the next Environmentally Superior Alternative. Alternative 2 (County General Plan Update Alternative) would have lesser impacts compared to the Proposed Project, but would still require hazardous materials remediation, contribute to cumulative traffic impacts, and cause physical impacts to wetlands. Similar to the Proposed Project, Alternative 2 would include mitigation requiring removal of hydrocarbon contamination on the residential development site under the remaining debarker slab (see Mitigation Measure 2.10.2a in Section 2.10 [Hazards and Hazardous Materials] of the EIR). Under this alternative, mitigation would be required for implementation of the Site Development Contamination Contingency and Site Safety Plan (Appendix O) during construction activities (see Mitigation Measure 2.10.2b in Section 2.10 [Hazards and Hazardous Materials] of the EIR). Alternative 2 would require biological surveys prior to any new development at the site and operational restrictions, buffers, etc. if protected wildlife species are observed (see Mitigation Measure 4.3.1a in Section 4.3 [Biological Resources] of the EIR). Similar to the Proposed Project, the County General Plan Update Alternative would result in development that would include physical impacts to wetlands on the residential development site. As such, this alternative would include mitigation requiring construction of a wetland mitigation area along Janes Creek, which would occur on the proposed remainder parcel (see Mitigation Measure 4.3.3a in Section 4.3 [Biological Resources] of the EIR).

Alternative 2 would ultimately result in a lesser scale of development than the other alternatives, due the density limitations for onsite septic systems and community water systems. However, this alternative would develop the site for a much lower density than planned for by County of Humboldt and the City of Arcata. This alternative would provide a density of development that

is appropriate for more rural parts of the County, but not an area located within the City of Arcata Sphere of Influence and Urban Services Boundary. Alternative 2 would ultimately result in fewer vehicle trips, less criteria air pollutants and greenhouse gas emissions, less use of nearby recreational facilities, fewer impacts to the Janes Creek riparian corridor, a reduced demand for public services, and would not permanently convert prime agricultural soils. However, similar to the No Project Alternative (Alternative 1), Alternative 2 would fail to meet many of the project objectives including:

- 3) Assist the City in implementation of the General Plan Housing Element goals by developing single-family and senior housing;
- 6) Create a strong sense of community by providing new connections between neighborhoods on the western edge of the City;
- 7) Provide a mix of housing types;
- 8) Develop trails connecting the residential development site to the existing City trail system, transit facilities, parks, neighborhoods, and schools; and
- 10) Create enhanced streetscape and a walkable community.

Since Alternative 2 would only provide single-family and accessory dwelling units, it would not provide as great of a mix of housing types as the Proposed Project. It also would not assist in implementation of the policies in the County of Humboldt and City of Arcata Housing Elements, which identify a need for additional senior housing. Alternative 2 would not include pedestrian/bicycle pathways to Alliance Road and Stewart Avenue, which would not provide new connections between neighborhoods, help create a walkable community, and provide connections to the existing City trail system, transit facilities, parks, neighborhoods, and schools.

In addition, Alternative 2 would not be subject to the energy efficiency requirements in City of Arcata Ordinance No. 1507 (Residential Reach Code), that requires new low-rise residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by a minimum of 20 percent. As such per capita energy use during operation of Alternative 2 would be greater than the Proposed Project.

As discussed in Chapters 2 through 4 of the EIR, the majority of impacts resulting from the Proposed Project can be satisfactorily mitigated to less than significant levels based on applicable impact thresholds. The two exceptions are Transportation-Traffic and Greenhouse Gas Emissions. Due to the fact that some of the proposed transportation infrastructure improvements may not be constructed for several years, there is the potential for significant and unavoidable traffic impacts. As discussed in Chapter 7 (Cumulative Impact Analysis) of the EIR, cumulative traffic impacts may occur if the approved/planned projects in the Sunset Area of Arcata become operational prior to the construction of the needed transportation improvements. However, this potential cumulative traffic impact could occur for any of the project alternatives, except for the No Project Alternative. Due to the small scale of Alternative 2 (14 single-family residential units and 14 accessory dwelling units), it is below the project-level screening criteria used by most air districts in the State and is not anticipated to result in significant impacts related to greenhouse gas emissions.

REFERENCES

Bay Area Air Quality Management District (BAAQMD). 2017. *CEQA Air Quality Guidelines*. May.

City of Arcata. 2000. *Draft Final Program EIR (PEIR) for the Arcata General Plan and Local Coastal Land Use Plan*. SCH# 98072069.

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W-Trans. 2017. *Central Arcata Areawide Traffic Impact Study*. March 13.



CHAPTER 7.

CUMULATIVE IMPACT ANALYSIS

The following Sections are included in this Chapter:

Introduction

Other Projects

Proposed Project Cumulative Impacts

References

Chapter 7

CUMULATIVE IMPACT ANALYSIS

INTRODUCTION

CEQA Guidelines Section 15130 requires an EIR to “...discuss cumulative impacts of a project when the project’s incremental effect is cumulatively considerable, as defined in Section 15065 (a)(3).” The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide the detail as is provided for the effects attributable to the project alone.

CEQA defines cumulative impacts as two or more individual effects, when considered together, are considerable or which compound or increase other environmental impacts (Section 15130). Conversely, when the cumulative impacts are determined to not to be significant, CEQA only requires that the rationale be briefly discussed. Additionally, CEQA defines the following elements that are necessary for an adequate discussion of significant cumulative impacts (Section 15130(b)):

- A. A list of past, present, and probable future projects producing related or cumulative impacts; or
- B. A summary of projections contained in an adopted general plan, or a related planning document, or in a prior certified environmental document which addressed conditions contributing to the cumulative impact.

The EIR for The Creek Side Homes (Foster Avenue Annexation) project utilizes the “list of past, present, and probable future projects” approach. The cumulative impacts analysis is based on the list of related projects identified below under “Other Projects.”

OTHER PROJECTS

Past, Present, or Probable Future Projects

The following discussion reflects information (available at the City of Arcata) as well as observed development trends in the general area of the proposed project. The following list summarizes potential projects and observed trends, which, along with the proposed project, may contribute to cumulative impacts. This list contains information provided by the City of Arcata and projects from the State Office of Planning and Research CEQANet Database. Each project’s Lead Agency is indicated in parentheses after the project title.

Under Construction

- Sunset Terrace (City of Arcata): 142-unit multi-family residential development between Foster Avenue and Sunset Avenue on an approximately 3.56-acre parcel (1301 Sunset Avenue/APN 505-121-034). The proposed units will be all 1-bedroom apartments. This would result in a density of approximately 40 residential units per acre and would provide housing for a minimum of 142 residents.
- Twin Parks (City of Arcata): 40-unit multi-family residential project on the southeast corner of Foster Avenue and Alliance Road on an approximately 1.02-acre parcel (1301 Foster Avenue/APN 505-131-018). The proposed units will be a mix of 1-bedroom and studio apartments. This would result in a density of approximately 39 residential units per acre and would provide housing for a minimum of 40 residents.

Planned/In-Process

- Canyon Creek Apartments (City of Arcata): 89-unit multi-family residential development, on Todd Court adjacent to Larson Park, on two parcels totaling approximately 1.84 acres (2545 Todd Court/APNs 505-051-022 and 505-042-018). The proposed units will be a mix of 1-bedroom, 2-bedroom, and studio apartments. This would provide a residential density of approximately 48 residential units per acre and would provide housing for a minimum of 101 residents.
- Open Door Community Health Center (City of Arcata): A community health center between Foster Avenue and Sunset Avenue on an approximately 1.82-acre parcel (APN 505-121-031).

Previously Proposed/Not Approved

- The Village Student Housing (City of Arcata): Student housing community off of St. Louis Road on a former lumber mill site that currently contains the Craftsman's Mall and several residential units. The project was proposed on an approximately 11-acre site that consisted of 7 parcels (APNs 505-022-011, 505-022-012, 503-372-002, 503-372-003, 503-372-004, 503-372-005, and 503-372-006) and a portion of St. Louis Road. This project originally proposed 240 residential units that would provide housing for 800 students. Through the City's discretionary review process, the applicant agreed to reduce the size of the project to 152 residential units that would provide housing for 602 students. Ultimately, the City Council arrived at a split vote (two for, two abstaining, and one absence) on the project and it was effectively denied in August 2018.

Although this project was not approved by the City of Arcata, it is still reasonably foreseeable that the Craftsman's Mall site could be rezoned to Residential High Density (RH) and developed with a project at the maximum density allowed in the RH zone. Per Arcata Land Use Code Section 9.24.040 (Residential District Parcel and Density Standards), the RH zone allows a maximum density of 32 dwelling units per acre. As noted above, the entire project site proposed for development under the Village Student Housing Project was approximately 11 acres, which included the abandonment of St. Louis Road by the City of

Arcata and incorporation into the development site. Development of an 11-acre site at 32 dwelling units per acre, would allow approximately 352 residential units. The most recent estimate of persons per household from the California Department of Finance is 2.11 for the City of Arcata (DOF, 2017). Based on this information, development of the Craftsman’s Mall site at the maximum density allowed in the RH zone is estimated to provide housing for approximately 742 residents. Therefore, the maximum development scenario under the RH zone is only estimated to provide housing for 58 fewer residents than the original proposal for the Village Student Housing Project. For this reason, the cumulative impact analysis in the EIR conservatively assumes a development on the Craftsman’s Mall site similar to the original proposal for the Village Student Housing Project (i.e., 240 units and 800 residents).

Figure 7A below shows the proximity of the approved/planned projects listed above to the Creek Side Homes (Foster Avenue Annexation) residential development site. The City of Arcata refers to these projects as the “Sunset Area housing projects.”

Figure 7A Location of Sunset Area Approved/Planned Projects (City of Arcata, 2017)



PROPOSED PROJECT CUMULATIVE IMPACTS

Foster Ave, LLC is proposing Creek Side Homes (Project), a single-family residential and senior housing project on the property located at 2000 Foster Avenue (APN 505-161-011). The project will provide typical single-family residential development on the northern portion of the parcel,

an assisted living and memory care facility in the central portion, and senior-restricted cottage units on the southern portion. As currently proposed by the applicant, the project will generally consist of 32 single-family residential units and 32 accessory dwelling units, an assisted living and memory care facility with 100 care beds, and 25 senior-restricted neighborhood cottage units. The proposed residential uses will provide housing for approximately 269 residents. Offsite improvements for the project will include development of a park to the northwest of the residential development site, an emergency access road to Stewart Avenue, a section of the Hammond Trail, a pedestrian/bicycle pathway accessing to Alliance Road, and the connection of Foster Avenue over Janes Creek which will include sidewalks, bike lanes, and a “T” type intersection at Q Street and Foster Avenue (see Figure 1G [Site Plan] and Figure 1H [Parcels Proposed for Development] of Chapter 1 [Introduction] of the EIR). Refer to Chapter 1 (Introduction) for a complete description of the proposed project. The applicant generally estimates that construction of the project will occur in several phases over approximately 6 years and would be fully operational in approximately 2025.

For most resource categories, operation of the proposed project, as designed and mitigated, would not result in cumulative impacts in combination with the other approved/planned projects listed above. The one resource category that has the potential for significant cumulative environmental impacts is Transportation-Traffic. The City of Arcata commissioned W-Trans to conduct a comprehensive traffic study (Appendix T.1) to address the cumulative impacts associated with the potential development of the approved/planned projects shown in Figure 7A (Location of Sunset Area Approved/Planned Projects). The City of Arcata refers to these projects as the “Sunset Area housing projects.” The Traffic Study concluded with recommendations for several near-term and future transportation improvements that would ultimately reduce the impacts of the projects to a less than significant level. Mitigation has been included in Chapter 3 (Transportation-Traffic) of the EIR requiring the applicant to pay a fair share proportion of the transportation improvements.

As discussed in Chapter 3 (Transportation/Traffic) of the EIR, the recommended future transportation improvements in the W-Trans Traffic Study may not be constructed for several years. During this time, there is the potential that several of the Sunset Area housing projects may be constructed and become operational. If this scenario were to happen, there is the potential for significant and unavoidable cumulative traffic impacts to occur until the transportation improvements are installed. Because the EIR identifies traffic as an impact that cannot be reduced to a less than significant level until the transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1) are constructed, a Statement of Overriding Considerations would need to be adopted by the City of Arcata for the Creek Side Homes Project (see Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion).

Chapter 2 – Community Environment

Land Use and Planning (Section 2.1)

As shown in Figure 7A (Location of Sunset Area Approved/Planned Projects), the Sunset Area housing projects consist of infill residential development that will not physically divide a community. Each of these projects will be required to comply with the Arcata General Plan and Municipal Code, and will be subject to review under the California Environmental Quality Act (CEQA). Compliance with the City's General Plan and Municipal Code, and environmental review under CEQA, will ensure that these projects will not conflict with application plans, policies, or regulations adopted for the purpose of avoiding or mitigating environmental impacts. There are no Habitat Conservation Plans or Natural Community Conservation Plans that apply to the City of Arcata.

As such, the cumulative impacts related to land use and planning are considered less than significant.

Population and Housing (Section 2.2)

The Sunset Area housing projects will provide 700 units of a variety of housing types including single-family residential, multi-family residential, and senior housing. These projects are estimated to provide housing for a minimum of 1,352 residents. In relation to the City of Arcata's residential population of 18,374 (DOF, 2017), the increase from these projects would provide an approximately 7.4 percent increase in population. These projects will be developed over the next several years and are not anticipated to induce substantial population growth in the City of Arcata.

The City of Arcata prepared a memorandum (dated June 23, 2017) which analyzed the potential water and wastewater impacts of the Sunset Area housing projects including the Creek Side Homes project (Appendix S). The memorandum contains an analysis that estimates the increase in population and residential units that will occur from buildout of available land in the City in combination with upzoning and annexation proposed by the Sunset Area housing projects. The analysis estimated the residential buildout by adding the feasible residential development potential to the residential development proposed by the Sunset Area housing projects. The City is projected, with all of these projects included, to reach a population just over 20,000 by 2020. The population projected in the General Plan is 20,000.

Though the Sunset Area housing projects represent a significant short-term increase in the population relative to background growth rates, it is in part the result of the latent demand and the lack of housing production in recent years. Generally, the City has been lagging behind in the development of its share of the regional housing need for the last few Housing Element planning cycles. For the current planning cycle, the City has issued 118 construction permits towards the 363-unit planning cycle goal, leaving 245 (or 67%) remaining units that are needed to meet the Regional Housing Needs Allocation (RHNA) (CA HCD, 2018). For the fourth planning cycle, the City issued 207 construction permits towards the 811-unit planning cycle goal, leaving 604 (or 74%) remaining units that were needed to meet the RHNA. Therefore, the City of Arcata has a significant demand for additional housing, and these projects will assist the City in implementation of the General Plan Housing Element by providing needed housing types including multi-family housing, senior housing, and single-family residential units.

Most of the Sunset Area housing projects are proposed to occur on vacant properties, with the exception of the Craftsman's Mall site. The Craftsman's Mall site contains existing industrial and residential structures that are anticipated to be demolished as part of development of the site. Demolition of the residential structures is estimated to eliminate housing for approximately four persons. This does not constitute a substantial number of people and it is anticipated that these residents would be able to find housing elsewhere in the City or surrounding communities.

Workers associated with the Sunset Area housing projects would come from local communities and from out of the area. Any new workers to the area are presumed to find housing in the City or surrounding communities.

As such, the cumulative impacts related to population and housing are considered less than significant.

Public Services (Section 2.3)

The Sunset Area housing projects will provide 700 units of a variety of housing types that will provide housing for approximately 1,352 residents. As indicated by comments from the representatives of the various public service agencies in the City, the development of the Sunset Area housing projects would not result in the need for new or physically-altered governmental facilities (such as new fire stations, police stations, or schools), 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.

The Arcata General Plan PEIR (2000, Pg. 3-34) states that buildout under the General Plan will require additional personnel and equipment for local service providers, but will not require additional facilities. This is attributed to the fact that the projected growth in the General Plan is primarily infill development within the City's Urban Services Boundary. In addition, the PEIR (2000, Pg. 3-34) states that no significant decrease in response time is expected since the distance to public facilities is not expected to increase for the majority of the projected population.

As discussed under Recreation (Section 2.4) of this Chapter, some of the Sunset Area housing projects will provide onsite recreation facilities that would reduce the impact on nearby offsite facilities. For projects that do not provide adequate onsite recreational facilities, the City typically collects recreation fees or park in-lieu fees from the applicant, which will be used for either park acquisition or the improvement of existing parks in the project area. Therefore, with the development of onsite recreation facilities or the contribution of fees by these projects for the development of offsite recreation facilities, there will be adequate recreational facilities to meet the needs of the future residents.

CEQA review is required for all of the Sunset Area housing projects. If potentially significant impacts are identified due to the construction of onsite recreational facilities from these projects, mitigation will be required to reduce impacts to less than significant levels. The future development of offsite recreational facilities for most of the Sunset Area housing projects is not analyzed in the EIR, as it is currently unknown how the park in-lieu fees provided by these

projects will be used. The one exception is the proposed project. As discussed in Sections 2.3 (Public Services), 2.4 (Recreation), and 4.4 (Agriculture and Forestry Resources) of the EIR, the proposed project will pay park-in lieu fees that will be used to build a portion of the Ennes Park Expansion on City-owned parcels 505-151-009, 505-284-009, and 505-284-010. Construction of this parkland will result in the permanent conversion of prime agricultural land. To mitigate this impact to a less than significant level, the proposed project will require the dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001.

As such, the cumulative impacts related to public services are considered less than significant.

Recreation (Section 2.4)

The development of the Sunset Area housing projects will place additional demand on the nearby recreational facilities in the City of Arcata. Some of these projects will provide onsite recreational facilities that would reduce the impact on nearby offsite facilities.

The City of Arcata Municipal Code requires the payment of recreation fees for all new construction (Section 9.70.050 [Recreation Fees for New Construction]) or the dedication of land or park in-lieu fees for subdivisions (Section 9.86.030 [Parkland Dedication and Fees]), which may be reduced by the provision of onsite recreation facilities. For projects that do not provide adequate onsite recreational facilities, the City typically collects recreation fees or park in-lieu fees from the applicant, which will be used for either park acquisition or the improvement of existing parks in the project area in accordance with the City's Parks and Recreation Master Plan. Therefore, with the development of onsite recreation facilities or the contribution of fees by these projects for the development of offsite recreation facilities, there will be adequate recreational facilities to meet the needs of the future residents.

CEQA review is required for all of the Sunset Area housing projects. If potentially significant impacts are identified due to the construction of onsite recreational facilities from these projects, mitigation will be required to reduce impacts to less than significant levels. The future development of offsite recreational facilities for most of the Sunset Area housing projects is not analyzed in the EIR, as it is currently unknown how the park in-lieu fees provided by these projects will be used. The one exception is the proposed project. As discussed in Sections 2.3 (Public Services), 2.4 (Recreation), and 4.4 (Agriculture and Forestry Resources) of the EIR, the proposed project will pay park-in lieu fees that will be used to build a portion of the Ennes Park Expansion on City-owned parcels 505-151-009, 505-284-009, and 505-284-010. Construction of parkland on these parcels will result in the permanent conversion of prime agricultural land. To mitigate this impact to a less than significant level, the proposed project will require the dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001.

As such, the cumulative impacts related to recreation are considered less than significant.

Cultural Resources (Section 2.5)

All of the Sunset Area housing projects will be subject to local, State, and federal laws requiring the protection of cultural resources. Most, if not all, of these projects will require tribal consultation and the preparation of cultural resource investigations, which will assist in the

determination of whether any cultural resources exist on the proposed development sites. As is typically required, inadvertent discovery protocols will apply to any ground disturbance that occurs as part of these projects.

As such, the cumulative impacts related to cultural resources are considered less than significant.

Aesthetics (Section 2.6)

The Sunset Area housing projects are proposed to occur on properties that are vacant or underutilized and are adjacent to residential neighborhoods. Several of these properties were used for industrial activities in the past and are currently in a blighted condition with low visually quality. The removal of remnants of former industrial uses, and the development of these properties with new residential structures, will improve the overall aesthetic character of the Sunset Area. All of the approved/planned projects will provide greater aesthetic compatibility with existing residential neighborhoods in the Sunset Area than the current aesthetic baseline. In addition, these projects will be subject to the City's Design Review Process. Through the Design Review process, the City has the ability to recommend revisions to a project's design that will provide greater consistency with the policies in the General Plan Design Element and reduce potential aesthetic impacts. In addition, all of these projects will occur within existing developed areas and will not create islands of development in the natural environment.

As described in Section 2.6 (Aesthetics) of the EIR, there are no scenic designated highways in the vicinity of the Sunset Area housing projects. Highways 101 and 299 are listed as "Eligible State Scenic Highways-Not Officially Designated" (Caltrans, 2016). It is not anticipated that the development of these projects will have an impact on any future potential designation (e.g., designated state scenic highway) for these roadways.

All of the Sunset Area housing projects will be required to install lighting in compliance with Section 9.30.070 (Outdoor Lighting) of the Arcata Land Use Code, and the recommendations of the International Dark-Sky Association (IDA), which includes standards for fixtures, shielding, wattage, placement, height, and illumination levels. To comply with these requirements, lighting for these projects will be the minimum lumens necessary, directed downward, shielded, and pedestrian level when feasible. This will ensure lighting is contained within these properties and does not cause significant lighting and glare impacts for surrounding land uses.

As such, the cumulative impacts related to aesthetics are considered less than significant.

Air Quality (Section 2.7)

No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards for regional criteria pollutants. Air pollution, by nature, is mostly a cumulative impact. The analysis applicable to the construction and operational aspects of a project represent the levels at which a project's individual emissions of criteria pollutants and precursors would result in a cumulatively considerable contribution to the region's air quality conditions.

As described in Section 2.7 (Air Quality) of the EIR, the North Coast Air Basin does not meet the State ambient air quality standards for PM₁₀. The Air Basin is considered in attainment or unclassified for all other criteria air pollutants. Any project with daily emissions that exceeds the threshold of significance for PM₁₀ should be considered as having an individually and cumulatively significant air quality impact. Conversely, projects that are below the threshold of significance for PM₁₀ would have a less than significant impact on both a direct and cumulative basis. Based on the analysis contained in Section 2.7 (Air Quality) of the EIR, the proposed project will not exceed the threshold of significance for particulate matter during both construction and operation. It is not anticipated that any of the projects in the Sunset Area will individually exceed applicable thresholds of significance for particulate matter. As such, the cumulative air quality impacts of these projects are considered less than significant.

During both construction and operation, the Sunset Area housing projects have the potential to generate additional particulate matter in the project area. The City's standard condition for controlling dust emissions during construction (General Plan Policy AQ-2f [Control Measures 1-10], Pgs. 4-47 and 4-48) will be included by the City of Arcata as a condition of approval for all of these projects. Compliance with these dust control measures during construction will reduce the generation of particulate matter during construction to a less than significant level.

Several of the Sunset Area housing projects have sensitive receptors (e.g., children and senior citizens) adjacent to the proposed development sites that could potentially be impacted by emissions from construction equipment and particulate matter during construction activity. The City's standard condition for minimizing impacts to sensitive receptors from construction emissions (General Plan Policy AQ-2f [Control Measures 11-14], Pg. 4-48) will be included by the City of Arcata as a condition of approval for all of these projects. The Arcata General Plan PEIR (Pg. 5-32) concludes that Control Measures 11-14 in Air Quality Element Policy AQ-2f are similar to the most stringent adopted by other agencies in the State, and when implemented, would provide adequate protection to sensitive receptors.

There are no known existing stationary sources or reasonably foreseeable projects, which would include stationary sources, within 1,000 feet of the Sunset Area that could contribute to a cumulative health risk impact.

Residential development is not a type of land use that would generate objectionable odors during long-term operation. The Sunset Area is not located within close proximity (< 0.5 miles) to any land uses generating significant odors such as a wastewater treatment plant, landfill, feedlot, asphalt batch plant, fish processing plant, or rendering plant. The Creek Side Homes project will be located adjacent to agricultural operations that have the potential to generate odors that could be objectionable to future residents. However, this would primarily impact one project that will be designed to minimize these potential impacts.

As such, the cumulative impacts related to air quality are considered less than significant.

Greenhouse Gas Emissions (Section 2.8)

Greenhouse gas (GHG) emissions, by their nature, represent a cumulative impact. No single project could generate enough GHG emissions to noticeably change the global average

temperature. Instead, GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change.

As described in Section 2.8 (Greenhouse Gas Emissions) of the EIR, residential housing projects in California are subject to a myriad of local, regional, and state regulations applicable to project design, construction, and operation that would reduce GHG emissions, increase energy efficiency, and provide compliance with the CARB Climate Change Scoping Plan (CARB, 2017). The State of California has the most comprehensive GHG regulatory requirements in the United States, with laws and regulations requiring reductions that affect project emissions. Legal mandates to reduce GHG emissions from vehicles, for example, reduce project-related vehicular emissions. Legal mandates to reduce GHG emissions from the energy production sector that will serve the proposed project would also reduce project-related GHG emissions from electricity consumption. Legal mandates to reduce per capita and per household water consumption, improve household and appliance energy efficiency, and impose waste management standards to reduce methane and other GHGs from solid wastes, are all examples of mandates that reduce GHGs.

Based on the proposed development locations, residential densities, project design measures, mitigation measures, and existing regulatory requirements, it is not anticipated that the Sunset Area housing projects will individually produce significant quantities of greenhouse gas emissions. There are several features of these projects that will reduce potential greenhouse gas emissions. All of these projects will be infill residential development that is located within walking and biking distance of nearby commercial, employment, and educational centers. Several of the projects propose new pedestrian/bicycle pathways that will provide connectivity to other trail systems in the City and result in a reduction in vehicle miles traveled. All of the projects will be required to comply with California's Energy Efficiency Standards for Residential Buildings, none of these projects are proposing woodstove or fireplaces, and most of the projects are proposing water efficient landscaping.

The Sunset Area housing projects that were approved prior to September 2018 were also subject to the energy efficiency requirements in the Arcata Land Use Code, which requires new residential buildings to be designed and constructed to achieve a minimum of 15 percent greater energy efficiency than otherwise required by the current California Code of Regulations, Title 24. For projects approved after September 2018, they will be subject to the City of Arcata Ordinance No. 1507 (Residential Reach Code), which requires new low-rise residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by at least 20 percent.

As described in Section 2.8 (Greenhouse Gas Emissions) of the EIR, electricity service for the City of Arcata was transitioned to the Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) program in May 2017. The CCE program procures approximately 44% of its power from renewable and carbon-free sources, which is approximately 9% more renewable energy than the power sources previously provided by PG&E (RCEA, 2019). The Sunset Area housing projects will be automatically enrolled in the RCEA CCE program and will contribute towards increasing the amount of renewable power placed on California's grid, which has the

effect of reducing greenhouse gas emissions and stimulating new renewable development in our region and State.

Further, the Sunset Area housing projects are consistent with the HCAOG 20-Year RTP (2014), since they are infill residential developments within the City of Arcata Sphere of Influence and Urban Services Boundary, and propose pedestrian and bicycle improvements to encourage alternative modes of transportation. The HCAOG prepared an EIR to evaluate the potential impacts of implementation of the HCAOG 20-Year RTP, which is the long-range planning, policy, action, and financial document for the Humboldt County Region, covering an approximately 20-year period through 2035 (HCAOG, 2014). The EIR concludes that GHG impacts from implementation of the RTP would be less than significant.

However, as described in Section 2.8 (Greenhouse Gas Emission) of the EIR, it cannot be found with certainty that the Creek Side Homes project would be consistent with the GHG reduction goals in SB 32 (i.e., 40 percent emissions reductions below 1990 level). Therefore, the proposed project is conservatively assumed to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Since the other Sunset Area housing projects are multi-family developments that propose significantly higher residential densities (32 to 48 residential units per acre) than the Creek Side Homes project, it is not anticipated that these other projects would exceed any applicable GHG project-level efficiency thresholds developed to demonstrate compliance with AB 32 (e.g., 4.6 MT CO₂e per service population [residents + employees] per year [CO₂e/SP/yr]) and SB 32 (e.g., threshold below 4.6 MT CO₂e/SP/yr based on the year in which the project would become operational after 2020).

Therefore, these projects will not have a considerable contribution to the cumulative impacts related to greenhouse gases.

Noise (Section 2.9)

For noise and vibration, the geographic scope of potential cumulative impacts is limited to the immediate vicinity of the Sunset Area housing projects and areas adjacent to any routes designated for access and hauling.

As analyzed in Section 2.9 (Noise) of the EIR, noise-related impacts would be potentially significant during construction activities. There is the potential for a cumulative impact if all of the Sunset Area housing projects were constructed at the same time. However, that scenario is unlikely and the projects will be conditioned to comply with the requirements contained in the Arcata General Plan Noise Element (Policies N-5d and N-5e) and the Arcata Land Use Code (Section 9.30.050[D][2]). This section of the Land Use Code places restrictions on the hours and days of construction activities and requires the proper maintenance of construction equipment. The Arcata General Plan PEIR (Pg. 5-54) concludes that implementation of Noise Element Policies N-5d (Construction site tool or equipment noise) and N-5e (Stationary and construction equipment noise), will reduce potential construction noise impacts to a less than significant level. As such, compliance with these requirements will result in less than significant cumulative noise impacts from construction activities.

Potential noise sources generated during long-term operation of these projects include noise produced by the residents within and outside of the proposed structures (e.g., conversation, music, etc.), traffic noise, stationary equipment noise (e.g., HVAC units), and mobile equipment noise (e.g., lawn mowers). Residential development is typically considered to be a noise-sensitive land use, as opposed to a land use that generates significant noise levels. City and County noise standards traditionally have lower noise thresholds for more sensitive receiving land uses such as residential development. Therefore, long-term operation of the residential units proposed by these projects is not expected to generate significant noise levels that will exceed the Arcata General Plan Noise Element standards or generate significant cumulative noise impacts.

The proposed projects would contribute to an overall increase in traffic noise levels in the City of Arcata. However, based on the estimated traffic levels in the W-Trans Traffic Study (Appendix T.1), potential noise impacts would likely not be considered cumulatively considerable. Some of the Sunset Area housing projects are located close to Highway 101 and could potentially be subject to elevated transportation noise levels. However, this would occur on a project-specific basis and would not result in cumulative impacts. In addition, pursuant to the California Supreme Court's decision in *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, impacts of the environment on a project are generally not considered CEQA impacts and, therefore, analysis of such impacts is not required.

Therefore, the cumulative impacts related to noise are considered less than significant.

Hazards and Hazardous Materials (Section 2.10)

The Sunset Area housing projects propose a type of land use (residential) that is not typically associated with the routine transport, use, or disposal of hazardous materials during long-term operation. During construction activities for these projects, the storage, use, disposal, and transport of hazardous materials associated with the proposed project could result in potential spills and accidents. All construction activities for these projects would be subject to compliance with existing hazardous materials regulations. Future development would be required to evaluate their respective hazards and hazardous materials impacts on a project-by-project basis. Compliance with all federal, State, and local regulations during the construction and operation of new developments would ensure that there are no cumulatively considerable significant hazards to the public or the environment associated with the routine transportation, use, disposal, or release of hazardous materials.

Several of the Sunset Area housing projects are proposed to occur on properties that were used for industrial activities in the past and may contain residual hazardous materials contamination. For this reason, some of these projects will require the implementation of Site Development Contingency Plans during construction activities. Any remaining hazardous materials on these development sites must be remediated to the satisfaction of regulatory agencies (e.g., North Coast Regional Water Quality Control Board, California Department of Toxic Substances Control, and Humboldt County Division of Environment Health) prior to completion of construction and occupancy of the proposed residential units.

Based on the location of the Sunset Area housing projects and review by City departments and other agencies (e.g., Police Department, City Engineer, Fire District, etc.), these projects would not be located on sites in close proximity to a public airport or private airstrip, would not interfere with an emergency response or evacuation plan, and would not be located on a site that is subject to wildland fires.

As such, the cumulative impacts to hazards and hazardous materials are considered less than significant.

Utility and Service Systems (Section 2.11)

The geographic area for cumulative utility and service systems impacts consists of the service area of the City of Arcata. The Sunset Area housing projects will be served by the City of Arcata public potable water system and wastewater treatment plant.

During the review of the Sunset Area housing projects, the City of Arcata has indicated that they have ample water supply capacity to serve the City through the buildout projected in the General Plan and beyond. This includes the upzoning and annexation that is proposed by the Sunset Area housing projects. To connect to the City's water system, each of these projects will be required to pay standard water capital connection fees for residential development. These fees will be used to make some of the planned improvements to the City's water system such as increasing storage capacity in Zone 1 of the system.

In June 2017, the City of Arcata completed an analysis of the capacity of the wastewater treatment system (Appendix S), which determined there is sufficient capacity for the current potential and planned residential development projects in the City. The analysis included the proposed Sunset Area housing projects. However, the facilities must be improved to meet the demand of both current and future population. These projects, which include upzoning and annexation, will be required to pay standard sewer capital connection fees and may be required to pay additional fees negotiated through development agreements with the City. The standard sewer capital connection fees that will be paid by these projects will be used to implement the City's Facility Plan for the wastewater treatment plant, as will occur for all new development in the City that will have wastewater discharge. Any additional fees that will be paid by these projects through development agreements would be an amenity of these projects and are not needed to ensure the City's wastewater treatment plant has capacity to serve the projects. Since the City has determined there is adequate wastewater treatment capacity to serve the Sunset Area housing projects, any improvements to the wastewater treatment plant that occur using the sewer capital connection fees and additional fees paid through development agreements, will be analyzed by the City as part of implementation of the City's Facility Plan.

All of the Sunset Area housing projects will be subject to State and local stormwater regulations which will require the construction of onsite facilities for the management of stormwater runoff. The installation of the onsite stormwater drainage facilities would result in physical impacts to the surface and subsurface of the project sites. These impacts are considered to be part of the construction phase for these projects. CEQA review is required for all of the Sunset Area housing projects. If potentially significant impacts are identified due to the construction of

onsite stormwater facilities from these projects, mitigation will be required to reduce impacts to less than significant levels.

All of the Sunset Area housing projects will be served by the same landfills which have sufficient capacity to accommodate the current and future solid waste disposal needs of the City of Arcata. Based on current local efforts to reduce solid waste generation and encourage recycling, the City of Arcata is in compliance with State waste diversion requirements. All of the multi-family units proposed by these projects will be required to provide adequate areas for collecting and loading recyclable materials, which will contribute to meeting the City's waste diversion goals.

As such, the cumulative impacts related to utility and service systems are considered less than significant.

Tribal Cultural Resources (Section 2.12)

All of the Sunset Area housing projects will be subject local, State, and federal laws requiring the protection of tribal cultural resources. Most, if not all, of these projects will require tribal consultation and the preparation of cultural resource investigations, which will assist in the determination of whether any tribal cultural resources exist on the proposed development sites. As is typically required, inadvertent discovery protocols will apply to any ground disturbance that occurs as part of these projects.

As such, the cumulative impacts related to tribal cultural resources are considered less than significant.

Chapter 3 – Transportation/Traffic

Transportation/Traffic

The City of Arcata commissioned W-Trans to conduct a comprehensive traffic study (Appendix T.1) to address the cumulative impacts associated with the potential development of the Sunset Area housing projects. The geographic scope for the analysis of cumulative impacts on transportation/traffic consists of the study intersections and road segments included in the W-Trans Traffic Study. As determined in the Traffic Study, the Sunset Area housing projects would generate an estimated 4,613 additional trips per day. Of this amount, the Creek Side Homes project is estimated to generate approximately 24 percent of these additional trips once fully operational, or 1,113 trips per day.

As described in Chapter 3 (Transportation/Traffic) of the EIR, the Traffic Study concluded that potentially significant cumulative traffic impacts may occur from these projects, and recommended several near-term and future transportation infrastructure improvements that would reduce the impacts of the projects to a less than significant level. The “near-term” improvements were completed in Summer 2017. The “future” transportation improvements may

not be constructed for a decade or longer since the design of some of these improvements need to be coordinated with Caltrans and/or Humboldt State University (HSU). All of the Sunset Area housing projects will be required to pay a fair share proportion of the transportation improvements recommended in the Traffic Study or an alternative design developed in cooperation with Caltrans and HSU.

Since the Creek Side Homes project is estimated to generate approximately 24 percent of the additional trips that would be generated by the Sunset Area housing projects, the contribution of the proposed project to this traffic impact would be cumulatively considerable. To address this impact, Mitigation Measure 3.1a has been included in Chapter 3 (Transportation/Traffic) of the EIR for the proposed project, requiring the applicant to pay a fair share proportion of the near-term and future transportation improvements.

As discussed in Chapter 3 (Transportation/Traffic) of the EIR, the two future transportation improvements recommended in the W-Trans Traffic Study that may not be constructed for several years include the roundabout at the Sunset Ave/LK Wood Blvd intersection and the roundabout at the Foster Ave/Alliance Road intersection (Appendix T.1). Prior to installation of these traffic improvements, there is the potential that several of the Sunset Area housing projects may be constructed and become operational. If this scenario were to happen, there is the potential for significant and unavoidable cumulative traffic impacts to occur until the two roundabouts are installed. Because the EIR identifies traffic as an impact that cannot be reduced to a less than significant level until the transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1) are constructed, a Statement of Overriding Considerations would need to be adopted by the City of Arcata for the Creek Side Homes project (see Chapter 8 [Other CEQA Considerations] of the EIR for additional discussion). This may also be required for some of the other Sunset Area housing projects.

The W-Trans Traffic Study also considered potential impacts relative to access to pedestrian, bicycle, and transit facilities. The Study concluded that existing facilities are not adequate to accommodate several of the Sunset Area housing projects. Recommendations were made for improvements that would ensure that these projects will not decrease the performance or safety of public transit, bicycle, and pedestrian facilities (Appendix T.1). These projects will be required to construct the improvements recommended in the Traffic Study, or as required by the City of Arcata, to increase the capacity for alternative modes of transportation. The recommendations for pedestrian/bicycle improvements will be included as mitigation measures for the Sunset Area housing projects and will reduce impacts to a less than significant level.

The Sunset Area housing projects will be required to comply with City of Arcata policies and regulations concerning designing access improvements for efficient vehicular and non-vehicular circulation and emergency access, and preventing hazardous design features. As summarized in Chapter 3 (Transportation/Traffic) of the EIR, project construction and operational activities would not conflict with applicable plans, ordinances and polices related to circulation in the City of Arcata, would not increase hazards due to a design feature or incompatible use, and would not interfere with emergency response to the residential development site or surrounding areas.

As such, cumulative impacts related to transportation/traffic will be significant and unavoidable until construction of the future transportation improvements at the intersections of Sunset Avenue/LK Wood Blvd and Foster Avenue/Alliance Road.

Chapter 4 – Natural Environment

Geology and Soils (Section 4.1)

The City of Arcata is located in a seismically active region with multiple nearby seismic sources. Therefore, the region is likely to experience strong seismic shaking during the lifespan of the Sunset Area housing projects.

The nature of geologic impacts is largely site-specific. Therefore, geologic hazards do not accumulate as do impacts on other resources. These projects are proposed to be located on properties that are relatively flat, are not subject to landslide or significant erosion, and are not located within Alquist-Priolo Zones or on unstable geologic units. According to Figure PS-a (*Hazards Map*) of the Arcata General Plan, portions of the Sunset Area of Arcata are located in moderate liquefaction zones. Similar to all development in the City of Arcata, these projects would comply with State and local regulations and policies, including California Building Code standards, which would reduce the risk to life and property from potential geologic hazards. All of these projects will be connected to the City's wastewater system and will not result in any impacts related to onsite wastewater disposal systems.

As discussed under Recreation (Section 2.4) of this Chapter, some of the Sunset Area housing projects will provide onsite recreation facilities and some will pay fees to the City that will be used for either park acquisition or the improvement of existing parks in the project area. CEQA review is required for all of the Sunset Area housing projects. If potentially significant impacts are identified due to the construction of onsite recreational facilities from these projects, mitigation will be required to reduce impacts to less than significant levels. The future development of offsite recreational facilities for most of the Sunset Area housing projects is not analyzed in the EIR, as it is currently unknown how the park in-lieu fees provided by these projects will be used. The one exception is the proposed project. As discussed in several sections of the EIR, the proposed project will pay park-in lieu fees that will be used to build a portion of the Ennes Park Expansion. Construction of this parkland will result in the permanent conversion of prime agricultural land and would result in the loss of topsoil that could have otherwise been used for agricultural production. To mitigate this impact to a less than significant level, the proposed project will require the dedication of a conservation easement to the benefit of the City of Arcata on parcel 505-151-001.

As such, the cumulative impacts related to geology and soils are considered less than significant.

Hydrology and Water Quality (Section 4.2)

All of the Sunset Area housing projects will be connected to the City's wastewater treatment system. The City is required to adhere to the discharge requirements of the North Coast Regional Water Quality Board (NCRWQCB) for its wastewater treatment plant. In 2012, the City's wastewater treatment system began operating under a new National Pollution Discharge Elimination System (NPDES) permit that specifically addressed several long-term issues regarding disinfection, treatment units, and outfalls. The new permit enabled changes to be made to improve wastewater treatment, protect beneficial uses, increase energy efficiency, reduce chemical usage, and reduce the potential for permit violations. As described in Section 2.11 (Utilities and Service Systems) of the EIR, the City initiated a Facility Plan and Plant Improvement Project (2016), which proposes a variety of improvements to the wastewater treatment system, to increase treatment capacity and prevent the exceedance of discharge limitations.

In June 2017, the City of Arcata completed an analysis of the capacity of the wastewater treatment system (Appendix S), which determined there is sufficient capacity for the current potential and planned residential development projects in the City. The analysis included the proposed Sunset Area housing projects. However, the facilities must be improved to meet the demand of both current and future population. These projects, which include upzoning and annexation, will be required to pay standard sewer capital connection fees and may be required to pay additional fees negotiated through Development Agreements with the City. The standard sewer capital connection fees that will be paid by these projects will be used to implement the City's Facility Plan for the wastewater treatment plant, as will occur for all new development in the City that will have wastewater discharge. Any additional fees that will be paid by these projects through development agreements would be an amenity of these projects and are not needed to ensure the City's wastewater treatment plant has capacity to serve the projects. Since the City has determined there is adequate wastewater treatment capacity to serve the Sunset Area housing projects, any improvements to the wastewater treatment plant that occur using the sewer capital connection fees and additional fees paid through development agreements, will be analyzed by the City as part of implementation of the City's Facility Plan. These improvements to the City of Arcata wastewater treatment plant will reduce the occurrence of exceedances of discharge limitations and ultimately improve water quality in Humboldt Bay.

All of the Sunset Area housing projects will be subject to State and local stormwater regulations which will require the construction of onsite facilities for the management of stormwater runoff. In compliance with these requirements, stormwater runoff will be adequately managed on the residential development site and will not exceed the capacity of the City's stormwater system, cause significant erosion, or substantially degrade water quality.

Some of the Sunset Area housing project sites have existing seasonal flooding conditions that will be addressed through implementation of the City's Long-Term Drainage Maintenance Program (LTDMP). This City program proposes maintenance and drainage improvements on some of the project sites that will reduce existing flooding conditions. A Mitigated Negative Declaration was adopted by the City of Arcata for the Drainage Maintenance Program in March 2017 (SCH# 2017022003). Any improvements proposed to reduce existing flooding on the Sunset Area housing project sites, will not be analyzed in the CEQA documents prepared for these projects. The LTDMP is a separate project with independent utility. A proposal that is

related to a project but has independent utility and is not necessary for the project to proceed need not be included as part of the project description and may be reviewed in its own CEQA document, as a separate project. (See *Del Mar Terrace Conservancy, Inc. v City Council* (1992) 10 Cal.App.4th 712, 736 [court held that an EIR for one section of a proposed freeway need not include a potential later extension of that freeway because the proposed section served its own purpose by connecting two logical terminus points]; *Banning Ranch Conservancy v City of Newport Beach* (2012) 211 Cal.App.4th 1209, 1224 [court held that a proposed park and access road project was independent from a large residential development project that would use the same access road, so the EIR's project description was not required to include the residential project]). With the proposed onsite stormwater systems and improvements to the City's existing stormwater infrastructure, these projects will not result in additional on or offsite flooding.

Some of the Sunset Area housing projects are located near stream courses including Janes Creek and Jolly Giant Creek. However, none of the projects propose to locate new structures within the 100-year special flood hazard area for these creeks. Several of the projects are located within the inundation area for the failure of Matthews Dam. Arcata General Plan Policy PS-2f (*Failure of Matthews Dam*) (Pgs. 6-7) requires development of an early warning system and evacuation plan for all new buildings designed for human occupancy that are located in the area of potential inundation resulting from a catastrophic failure of Matthews Dam. The Arcata General Plan PEIR notes that compliance with General Plan Policy PS-2f will ensure no significant adverse impacts will result. Based on their locations, none of the Sunset Area housing project sites are located within areas that are subject to inundation by seiche, tsunami, or mudflow.

As such, the cumulative impacts related to hydrology and water quality are considered less than significant.

Biological Resources (Section 4.3)

The Sunset Area housing projects have the potential to impact protected species, degrade plant and animal habitat, fill wetlands, remove native vegetation, and introduce non-native plant species. Several of these projects are proposed to occur on properties that were used for industrial activities in the past and are therefore in a disturbed condition with limited remaining habitat area. However, some of the project sites are located along Janes Creek or have wetlands, which are identified by the City as Environmentally Sensitive Habitat Areas (ESHAs).

Projects sites with these sensitive habitat areas will be required to comply the Arcata General Plan and Land Use Code which contains creek setback requirements, a "no net loss" policy for impacts to wetlands, and mitigation requirements for impacts to riparian areas. These projects will be required to delineate ESHAs in special studies and on the project plans and comply with the City's creek and wetland setbacks or mitigation requirements if physical impacts will occur to these habitat areas. Biological surveys will also be required to determine whether protected plant or wildlife species exist on the project sites. Some of the projects may include mitigation measures requiring biological surveys to be conducted at a seasonally appropriate time or prior to construction activities. If protected species are detected on any of the sites, operational restrictions, buffers, etc. will be required to ensure they are not significantly impacted by construction activities. In addition, outdoor lighting proposed by these projects will be designed

in compliance with the Arcata Land Use Code to minimize lighting spillover onto ESHAs such as the Janes Creek riparian corridor. Compliance with the requirements of the City's General Plan and Land Use Code, as well the existing regulatory requirements of other State and federal agencies, will ensure less than significant impacts to biological resources from the Sunset Area housing projects.

As such, the cumulative impacts related to biological resources are considered less than significant.

Agriculture and Forestry Resources (Section 4.4)

Most of the Sunset Area housing projects are located on properties that are not zoned for agricultural and forestry production, are not subject to Williamson Act contracts, and do not contain prime agricultural land or forestland.

However, the proposed project will permanently convert prime agricultural land from the development of an emergency access road and offsite parkland (Ennes Park Expansion). This project will be required to dedicate a conservation easement on adjacent agricultural land, in the City's Sphere of Influence, as mitigation for the permanent conversion of prime agricultural land. As determined in Section 4.4 (Agriculture and Forestry Resources) of the EIR, this mitigation measure will reduce impacts to prime agricultural land from the proposed project to a less than significant level. None of the other Sunset Area housing projects will result in the conversion of prime agricultural land.

As such, the cumulative impacts to agricultural and forestry resources are considered less than significant.

Mineral Resources (Section 4.5)

The Sunset Area of Arcata is not known to have minerals of importance to the region or the State of California, and these projects do not propose to develop the properties for mineral-related production. The mineral resources in the City of Arcata planning area are primarily aggregate deposits found along the Mad River and in the Arcata Bottom.

As such, potential impacts to mineral resources are not expected to be cumulatively considerable.

Chapter 5 – Energy Conservation

Energy Conservation

The Sunset Area housing projects will result in the consumption of energy during construction and long-term operation. As described in Section 2.8 (Greenhouse Gas Emissions) of the EIR, residential housing projects in California are subject to a myriad of local, regional, and state

regulations applicable to project design, construction, and operation that would increase energy efficiency.

During construction of the Sunset Area housing projects, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project sites, construction worker travel to and from the project sites, as well as delivery truck trips; and to operate generators to provide temporary power for lighting and electronic equipment. There are no unusual project characteristics for these projects that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or State. As such, it is expected that construction fuel consumption associated with these projects would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

Based on the proposed development locations, residential densities, project design measures, mitigation measures, and existing regulatory requirements, it is not anticipated that the Sunset Area housing projects will result in the wasteful and inefficient use of nonrenewable resources during long-term operation. There are several features of these projects that will reduce the use of energy. All of these projects will be infill residential development that is located within walking and biking distance of nearby commercial, employment, and educational centers. Several of the projects propose new pedestrian/bicycle pathways that will provide connectivity to other trail systems in the City and transit facilities. Due to this, the new residents in the Sunset Area would be more likely to walk or bike from these development sites into the City or use mass transit. On a per capita basis, this could result in a decrease in vehicle miles traveled. All of the projects will be required to comply with California's Energy Efficiency Standards for Residential Buildings and most of the projects are proposing water efficient landscaping.

The Sunset Area housing projects that were approved prior to September 2018 were also subject to the energy efficiency requirements in the Arcata Land Use Code, which requires new residential buildings to be designed and constructed to achieve a minimum of 15 percent greater energy efficiency than otherwise required by the current California Code of Regulations, Title 24. For projects approved after September 2018, they will be subject to the City of Arcata Ordinance No. 1507 (Residential Reach Code), which requires new low-rise residential buildings to be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by at least 20 percent.

CEQA Guidelines Appendix F indicates that "increasing reliance on renewable energy sources" is one of the means of achieving the goal of energy conservation (see Appendix F [I][3] and [II][D][4]). As described in Chapter 5 (Energy Conservation) of the EIR, electricity service for the City of Arcata was transitioned to the Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) program in May 2017. The CCE program procures approximately 44% of its power from renewable and carbon-free sources, which is approximately 9% more renewable energy than the power sources previously provided by PG&E (RCEA, 2019). Accordingly, the electricity provider for the Sunset Area housing projects is increasingly relying on renewable energy sources.

Therefore, the Sunset Area housing projects propose structures that would be energy efficient and by virtue of their locations and design features, such as pedestrian and bicycle facilities and convenient access to transit, these projects would minimize petroleum-based fuel use and would not involve the inefficient, wasteful, and unnecessary use of energy during long-term operation.

As such, the cumulative impacts related to energy conservation are considered less than significant.

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CHAPTER 8.

OTHER CEQA CONSIDERATIONS

The following Sections are included in this Chapter:

Growth Inducing Impacts

Significant Irreversible Environmental Changes

Significant Environmental Effects Which Cannot Be Avoided

References

Chapter 8

OTHER CEQA CONSIDERATIONS

This chapter addresses other CEQA considerations related to:

- Growth Inducing Impacts
- Significant Irreversible Environmental Changes
- Significant Environmental Effects Which Cannot Be Avoided

GROWTH INDUCING IMPACTS

A proposed project's growth inducing impacts are analyzed in accordance with the following CEQA Guideline:

15126.2 (d) Growth Inducing Impacts of the Proposed Project. Discuss the 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 (a major expansion of a waste water treatment plant, might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

The project proposes the annexation, redesignation/rezoning, and subdivision of parcel 505-161-011 for single-family, multi-family, and assisted living residential development that would provide housing for approximately 269 residents. The proposed development of parcel 505-161-011 will generally consists of 32 single-family residential units and 32 second units, an assisted living and memory care facility with 100 care beds, and 25 senior-restricted neighborhood cottage units. The single-family units, accessory dwelling units, and senior-restricted neighborhood cottage units would provide housing for approximately 169 residents, and the assisted living facility would provide housing for 100 residents.

In relation to the City of Arcata's resident population of 18,374 (DOF, 2017), the potential increase from the proposed project (~269 persons) would be approximately ~1.5%. The City of Arcata prepared a memorandum (Appendix S) that analyzed the potential water and wastewater impacts of the approved/planned Sunset Area housing projects, which contains an analysis that

estimates the increase in population and residential units that will occur from buildout of available land in the City in combination with the upzoning and annexation proposed by the Sunset Area housing projects. The analysis estimated the residential buildout by adding the feasible residential development potential to the residential development proposed by the Sunset Area housing projects. The City is projected, with all of these projects included, to reach a population just over 20,000 by 2020. The population projected in the General Plan is 20,000.

Though the projects represent a significant short-term increase in the population relative to background growth rates, it is in part the result of the latent demand and the lack of housing production in recent years. Generally, the City has been lagging behind in the development of its share of the regional housing need for the last few Housing Element planning cycles. For the current planning cycle, the City has issued 118 construction permits towards the 363-unit planning cycle goal, leaving 245 (or 67%) remaining units that are needed to meet the Regional Housing Needs Allocation (RHNA) (HCD, 5th Annual Progress Report Permit Summary, available here <http://www.hcd.ca.gov/community-development/housing-element/index.shtml>). For the fourth planning cycle, the City issued 207 construction permits towards the 811-unit planning cycle goal, leaving 604 (or 74%) remaining units that were needed to meet the RHNA.

As discussed in Section 2.2 (Population and Housing) of the EIR, this project will assist the City in meeting its RHNA. Section 3.3 (Summary of Future Housing Needs) of the Arcata Housing Element (2014) identifies the following housing needs:

- Senior housing is needed to accommodate that growing population.
- Need more senior housing options of all types for all income levels.
- Need additional owner occupancy opportunities.

The proposed project will provide infill residential development on a former mill site within the City's Sphere of Influence and Urban Services Boundary. As discussed in Section 2.3 (Public Services) of the EIR, the ability for public service providers to provide services will not be significantly reduced by the proposed project and would not result in the need for new or physically altered governmental facilities (such as new fire or police stations).

The project includes all necessary improvements to the existing infrastructure, and no excess capacity that could induce growth will be provided. Although utility infrastructure will be extended to serve the residential development site, parcels to the west and south of the site are outside of the City's Urban Services Boundary and parcels to the north and east are existing developed properties within City limits. In addition, as described in Section 4.4 (Agriculture and Forestry Resources) of the EIR, the agricultural parcel (APN 505-151-001) to the west of the residential development site is proposed to be placed within a conservation easement to mitigate for the permanent conversion of prime agricultural land from the proposed project and the City proposed Ennes Park Expansion. As such, the extension of utility infrastructure to serve the project will not indirectly induce population growth in the project area.

There are no features of the project that would be expected to cause secondary or growth-inducing impacts. Therefore, the proposed project would not be growth-inducing.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

A proposed project's significant irreversible effects are analyzed in accordance with the following CEQA Guideline:

15126.2 (c) Significant Irreversible Environmental Changes Which Would be Caused by the Proposed Project Should it be Implemented. 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. Irrecoverable commitments of resources should be evaluated to assure that such current consumption is justified.

Implementation of the Creek Side Homes project will commit non-renewable resources during construction and operation. During construction, the use of building materials (e.g., lumber and forest products, sand and gravel, asphalt, cement, steel, glass, etc.) and energy resources (e.g., gasoline, diesel fuel, electricity) largely would be irreversible and irretrievable. Energy will be consumed in processing building materials and for transporting these materials and construction workers to the project parcels. The project facilities can be expected to have a minimum life span of 30 years, prior to the first major renovation. Resources consumed during construction of the project, (such as fuel and building materials) will be used in quantities proportional to similar housing development in the State and are not considered a wasteful use of resources. The nonrenewable resources consumed for this project are comparable to the use of resources for single-family residential and senior housing throughout the region and the country.

SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

A proposed project's significant environmental effects which cannot be avoided are analyzed in accordance with the following CEQA Guideline:

15126.2 (b) Significant Environmental Effects Which Cannot be Avoided if the Proposed Project is Implemented. Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.

Under the proposed project, most project related actions will result in either “Less Than Significant Impacts” or “No Impact” to the various resource areas investigated. Detailed mitigation measures have been identified in Chapter 2 (Community Environment), Chapter 3 (Transportation/Traffic), Chapter 4 (Natural Environment), Chapter 5 (Energy Conservation), and Chapter 7 (Cumulative Impact Analysis) of the EIR and are intended to avoid or minimize project effects to the extent feasible. These mitigation measures are summarized in Tables 1-8 through 1-12 of Chapter 1 (Introduction) of the EIR. The two resource categories that are determined to result in significant and unavoidable impacts from the proposed project include Transportation-Traffic and Greenhouse Gas Emissions. The impacts related to these resource categories are discussed in further detail below.

Transportation-Traffic

The City of Arcata commissioned W-Trans to conduct a comprehensive Traffic Study (Appendix T.1) to address the cumulative impacts associated with the potential development of the approved/planned projects shown in Figure 7A (Location of Sunset Area Approved/Planned Projects) of the EIR. The City of Arcata refers to these projects as the “Sunset Area housing projects.” The Traffic Study concluded with recommendations for several near-term and future transportation infrastructure improvements that would reduce the impacts of the projects to a less than significant level. Mitigation has been included in Chapter 3 (Transportation/Traffic) of the EIR requiring the applicant to pay a fair share proportion of the transportation improvements. The future transportation improvements recommended in the Traffic Study may not be constructed prior to the operation of several of the Sunset Area housing projects. Some of the projects may be delayed in obtaining all necessary entitlements for several years. Nonetheless, there is the potential that significant and unavoidable traffic impacts may occur until these transportation improvements are in place.

Because the EIR identifies traffic as an impact that cannot be reduced to a less than significant level until the transportation improvements recommended in the W-Trans Traffic Study (Appendix T.1) are constructed, a Statement of Overriding Considerations would need to be adopted by the City of Arcata for the Creek Side Homes Project.

Greenhouse Gas Emissions

As indicated in Section 2.8 (Greenhouse Gas Emissions) of the EIR, greenhouse gas (GHG) emissions from construction and operation of the proposed project would be mitigated to below the MCAQMD project-level efficiency threshold (4.6 MT CO₂e/SP/yr). This would result in a 34.5 percent reduction in GHG emissions from the project and would provide consistency with the GHG reduction goals set out in AB 32 (i.e. 1990 levels by 2020). Mitigation for the project includes several onsite design features such as pedestrian/bicycle improvements, area source reductions, energy efficiency measures, water conservation measures, solid waste reductions, and landscaping (see Mitigation Measure 2.8-1). It also includes the purchase of carbon offsets to offset 8,100 metric tons of GHG emissions (see Mitigation Measure 2.8-2). As such, the proposed project would incorporate several design features that would reduce long-term operational GHG emissions in compliance with the guidance of the 2017 Scoping Plan, which outlines the pathway to meeting the State’s 2030 and 2050 GHG reduction goals.

As described in the 2017 Climate Change Scoping Plan, the California Air Resources Board recommends statewide targets of no more than 6 metric tons CO₂e per capita by 2030. The applicant anticipates the proposed project being fully operational by 2025, and as mitigated will result in the emissions of approximately 4.5 MT CO₂e/SP/yr. The per capita emissions that would result from the proposed project would be well below the target recommended for 2030 in the Climate Change Scoping Plan.

In addition, the proposed project would receive electricity from the Redwood Coast Energy Authority (RCEA) Community Choice Energy (CCE) program. The CCE program procures approximately 44% of its power from renewable and carbon-free sources, which is approximately 9% more renewable energy than the power sources previously provided by PG&E (RCEA, 2019). Due to the limitations of the California Emissions Estimator Model (CalEEMod), the project was not given credit for GHG emissions reductions that would result from participating in the RCEA CCE program.

Further, the project is consistent with the HCAOG 20-Year RTP (2014), as discussed in Section 2.8 (Greenhouse Gas Emission). The HCAOG prepared an EIR to evaluate the potential impacts of implementation of the HCAOG 20-Year RTP, which is the long-range planning, policy, action, and financial document for the Humboldt County Region, covering an approximately 20-year period through 2035 (HCAOG, 2014). The EIR concludes that GHG impacts from implementation of the RTP would be less than significant.

Lastly, as indicated in Table 2.8-3 (GHG Laws and Regulations Applicable to the Proposed Project) of the EIR, the project is subject to numerous local, regional, and state regulations that would reduce GHG emissions. Due to the limitations of the California Emissions Estimator Model (CalEEMod), and the information available at the time that the GHG emissions estimates were calculated, compliance with some of these existing regulatory requirements were not factored into the emissions estimates. Although not quantified, it is anticipated that the project's compliance with the existing regulatory requirements listed in Table 2.8-3, in combination with the proposed mitigation measures (see Mitigation Measures 3.1b, 2.8.1a, and 2.8.1b), would provide consistency with the State's 2030 and 2050 GHG reduction goals.

However, as described in Section 2.8 (Greenhouse Gas Emissions) of the EIR, the proposed project has been mitigated to reduce GHG emissions below a project-level efficiency threshold that was developed to provide consistency with AB 32. Typically, to demonstrate consistency with SB 32, a reduced project-level efficiency threshold (i.e., less than 4.6 MT CO₂e/SP/yr) is developed based on the year in which the project would become operational after 2020. Since a GHG project-level efficiency threshold methodology designed to provide consistency with SB 32 has not been adopted for use in the North Coast Air Basin, there is no applicable threshold available to arrive at a significance determination. As such, it is conservatively assumed that the proposed project would conflict with the GHG reduction goal in SB 32 (i.e., 40 percent emissions reductions below 1990 level), and the impact is found to be significant and unavoidable.

Because the EIR identifies greenhouse gas emissions as an impact that cannot be reduced to a less than significant level, a Statement of Overriding Considerations would need to be adopted by the City of Arcata for the Creek Side Homes project.

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CHAPTER 9.

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

The following Sections are included in this Chapter:

Introduction

Mitigation Measures

Chapter 9

MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

INTRODUCTION

Where the lead agency requires implementation of mitigation measures as a condition of approval, it is required to adopt a mitigation monitoring and reporting program when it prepares its findings on significant effects identified in the EIR. The program must address how it will monitor all the mitigation measures that were adopted or made conditions of project approval (Pub. Res. Code Section 21081.6(a); CEQA Guidelines Section 15091(d), 15097).

This section provides the mitigation measures identified to reduce or eliminate potentially significant environmental effects of the proposed project and its alternatives.

MITIGATION MEASURES

Section 2.8 – Greenhouse Gas Emissions

Mitigation Measure 2.8.1a. GHG Emissions Reduction Measures.

The project shall include, but not be limited to, the following minimization measures, which shall be incorporated into the project site plans and construction plans to ensure consistency with adopted statewide plans and programs. The project applicant shall demonstrate compliance with these measures prior to either the issuance of the building permit or the certificate of occupancy for each phase of the proposed project:

Transportation

- Same as *Mitigation Measure 3.1b (Pedestrian/Bicycle Improvements)*. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.

Area Sources

- The project would not include any hearths, woodstoves, or fireplaces. The proposed residential units and assisted living facility will use forced-air gas or electric heating. Compliance with this measure shall be verified prior to issuance of building permits for each phase of the project.

- Low VOC paints would be used for the project that have a maximum VOC standard of 50 g/L. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.

Energy Efficiency

- The proposed residential structures will be designed and constructed to exceed minimum 2016 Title 24, Part 6 Building Energy Efficiency Standards by at least 20 percent. Compliance with this measure shall be verified prior to issuance of building permits for each phase of the project.

Water Conservation and Efficiency

- To reduce indoor water use it is proposed to install low flow plumbing fixtures (e.g., low-flow faucets, toilets, showers, etc.) in the proposed residential units and assisted living facility. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.
- To reduce outdoor water use for landscaping, it is proposed to install native and drought tolerant plant species that do not require irrigation at the assisted living facility and senior-restricted cottage units. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.

Solid Waste

- Divert at least 35 percent of solid waste to be recycled. Per the City of Arcata Municipal Code (Section 5425), the single-family residences and accessory dwelling units would be required to participate in the City's curbside recycling program. Per State law (SB 1018), the assisted living facility and senior-restricted cottage units would be required to provide adequate areas for collecting and loading recyclable materials where solid waste is collected. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.

Landscaping

- A minimum of 300 trees of various species would be planted throughout the residential development site. Compliance with this measure shall be verified prior to issuance of the certificate of occupancy for each phase of the project.

Timing for Implementation/Compliance: Prior to receiving a building permit or certificate of occupancy from the City of Arcata for each phase of the project.

Person/Agency Responsible for Monitoring: City of Arcata.

Monitoring Frequency: Prior to issuance of building permits or the certificate of occupancy by the City of Arcata for each phase of the project.

Evidence of Compliance: Issuance of building permits or the certificate of occupancy by the City of Arcata for each phase of the project.

Mitigation Measure 2.8.1b. Purchase of Carbon Offsets.

Prior to the City’s issuance of the certificate of occupancy for each phase of the project, the project applicant shall provide evidence to the satisfaction of the Director of Environmental Services that it has purchased and retired carbon offsets for the incremental portion of the project in a quantity sufficient to offset, for a 30-year period, the GHG emissions from that incremental amount of development. This will ensure that at full build-out the proposed project will generate GHG emissions that are below the Mendocino County Air Quality Management District (MCAQMD) project-level efficiency threshold of 4.6 MT CO₂e/SP/yr. The purchase of carbon offsets for the proposed project shall occur according to the following criteria:

- “Carbon Offset” shall mean an instrument issued by any of the following: 1) the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard; 2) any registry approved by CARB to act as a registry under the State’s cap-and-trade program; or 3) if no registry is in existence as identified in options 1) and 2), above, then any other reputable registry or entity that issues carbon offsets.
- Any carbon offset that is used to reduce the project’s GHG emissions shall be a carbon offset that represents the past reduction of sequestration of one metric ton of carbon dioxide equivalent that is “not otherwise required” (CEQA Guidelines section 15126.4(c)(3)).
- For the purpose of purchasing carbon offsets, the “project life” time frame is assumed to be 30 years. This methodology is consistent with the 30-year “project life” time frame used by the South Coast Air Quality Management District’s GHG guidance (SCAQMD, 2008).
- For each phase of the project, the incremental portion of carbon offsets required will be calculated on a per unit basis. Based on the proposed number of units (189 residential units) and the carbon offsets required to reduce the project’s GHG emissions below the MCAQMD threshold over a 30-year period (8,100 metric tons), the applicant will be required to purchase approximately 43 metric tons of carbon offsets per unit.

Timing for Implementation/Compliance: Prior to issuance of the certificate of occupancy by the City of Arcata for each phase of the project,

Person/Agency Responsible for Monitoring: City of Arcata.

Monitoring Frequency: Prior to issuance of the certificate of occupancy by the City of Arcata for each phase of the project.

Evidence of Compliance: Issuance of the certificate of occupancy by the City of Arcata for each phase of the project.

Section 2.10 – Hazard and Hazardous Materials

Mitigation Measure 2.10.2a. Hazardous Materials Remediation.

Prior to receiving a grading permit from the City of Arcata for the first phase of the project, the applicant shall submit a plan for soil removal and cleanup in the debarker slab area to the

Humboldt County Division of Environmental Health (HCDEH) and the North Coast Regional Water Quality Control Board (NCRWQCB) for review and approval. The applicant shall conduct the soil remediation activities in the debarker slab area according to the plan approved by the HCDEH and the NCRWQCB. Prior to issuance of the certificate of occupancy by the City of Arcata for the first phase of the project, the HCDEH and the NCRWQCB must certify the site cleanup.

Timing for Implementation/Compliance: Prior to receiving a grading permit from the City of Arcata for the first phase of the project, the applicant shall submit a soil removal and cleanup plan to Humboldt County DEH and the NCRWQCB for review and approval. Prior to issuance of the certificate of occupancy by the City of Arcata for the first phase of the project, HCDEH and the NCRWQCB must certify the site cleanup.

Person/Agency Responsible for Monitoring: City of Arcata, HCDEH, and the NCRWQCB.

Monitoring Frequency: Prior to issuance of a grading permit by the City of Arcata for the first phase of the project and prior to the issuance of a certificate of occupancy by the City of Arcata for the first phase of the project.

Evidence of Compliance: Issuance of a grading permit by the City of Arcata prior to remediation activities and issuance of a certificate of occupancy by the City of Arcata after remediation activities.

Mitigation Measure 2.10.2b. Site Development Contingency Plan.

The applicant shall implement the Site Development Contamination Contingency and Site Safety Plan (Appendix O; SHN, 1998) during site development to minimize impacts to workers and future residents from development of parcel 505-161-011 for residential uses. Following the identification of any contaminated soils at the site during construction, construction activities shall cease and an investigation shall occur to identify the extent and magnitude of contamination following procedures outlined in the Safety Plan. Any contaminated soils exceeding regulatory screening levels for residential development shall be remediated to the satisfaction of regulatory agencies. Prior to the completion of construction and occupation of the site for residential uses, the Humboldt County Division of Environmental Health (HCDEH) and North Coast Regional Water Quality Control Board (NCRWQCB) must certify the site cleanup.

Timing for Implementation/Compliance: Prior to and during ground-disturbing project construction activities.

Person/Agency Responsible for Monitoring: Applicant (DANCO Communities), contractors, City of Arcata, HCDEH, and NCRWCB.

Monitoring Frequency: Prior to and ongoing during ground-disturbing project construction activities.

Evidence of Compliance: Issuance of the certificate of occupancy by the City of Arcata for each phase of the project.

Chapter 3 – Transportation/Traffic

Mitigation Measure 3.1a. Transportation Improvements.

To minimize the traffic impacts of the proposed project, the applicant will be responsible for paying a fair-share proportion for the following near-term and future transportation improvements to the City of Arcata:

- Sunset Avenue/LK Wood Boulevard Re-Striping (Near-term)
- Re-Stripe Alliance Road & Foster Avenue Approaches (Near-term)
- Roundabout at Sunset Avenue/LK Wood Boulevard Intersection (Future)
- Roundabout at Foster Avenue/Alliance Road Intersection (Future)

The “near-term” improvements were completed in Summer 2017. The “future” transportation improvements may not be constructed for a decade or longer since the design of some of these improvements need to be coordinated with Caltrans and/or Humboldt State University. In order to fund these transportation improvement projects, a Traffic Impact Mitigation Fee Collection Program or equivalent will be established by the City of Arcata. The anticipated total cost of these improvements will be approximately \$3,627,700. The amount of the total cost of the improvements that will be funded by the six projects analyzed in the W-Trans Traffic Study is \$911,900. Of this amount, the Creek Side Homes project is estimated to be responsible for approximately 20.5%. Detailed information about the Traffic Impact Mitigation Fee Collection Program is included on Pgs. 67-69 and in Appendix E of the W-Trans Central Arcata Areawide Traffic Study (Appendix T).

Timing for Implementation/Compliance: The applicant shall pay 50 percent of the fair-share proportion prior to the effective date of the City permit approvals for the project. The applicant shall pay the remaining 50 percent of the fair-share proportion prior to the issuance of the certificate of occupancy by the City of Arcata for the first phase of the project, or at such time as the City is prepared to install the traffic improvements (e.g., Roundabout at Foster Avenue/Alliance Road Intersection).

Person/Agency Responsible for Monitoring: City of Arcata.

Monitoring Frequency: By the effective date of the City permit approvals for the project. At the time of issuance of the certificate of occupancy for the first phase of the project, or at such other time as determined by the City.

Evidence of Compliance: Issuance of the building permit and certificate of occupancy by the City of Arcata for the first phase of the project, or for subsequent phases as determined by the City.

Mitigation Measure 3.1b. Pedestrian/Bicycle Improvements.

To comply with Policy T-5 (Bicycle and Pedestrian Facilities) of the Arcata General Plan Transportation Element, the Arcata Pedestrian & Bicycle Master Plan (2010), and the recommendations of the W-Trans Central Arcata Areawide Traffic Study (Appendix T), the proposed project will construct new pedestrian/bicycle improvements to serve the development. This includes the following pedestrian/bicycle trails:

- A pedestrian/bicycle pathway through parcel 505-341-048 is proposed for access to Alliance Road that would include a crossing over Janes Creek. The proposed crossing would include the replacement of an existing overcrossing located mid-way along the eastern boundary of the residential development site. This pathway would connect the

eastern edge of the residential development site to an existing paved access road that connects to Alliance Road adjacent to the Janes Creek Townhouses (South).

- A portion of the Hammond Trail is proposed to be constructed on parcel 505-161-009 along the southern boundary of the residential development site directly south of the proposed cottage units. This Class I shared-use pathway will be a minimum of 10 feet wide.
- A north-south pathway is proposed on the southeastern portion of the residential development site that will connect the Hammond Trail with the pedestrian/bicycle pathway to Alliance Road.
- Sidewalks and bike lanes will be developed within the Foster Avenue Connection to provide non-vehicular access from the residential development site to Alliance Road.
- The all-weather emergency access proposed to connect the residential development site (APN 505-161-011) with Stewart Avenue will also function as a pedestrian/bicycle pathway.

Timing for Implementation/Compliance: Prior to the issuance of the certificate of occupancy by the City of Arcata for each phase of the project.

Person/Agency Responsible for Monitoring: City of Arcata.

Monitoring Frequency: During construction activities and prior to the issuance of the certificate of occupancy for each phase of the project.

Evidence of Compliance: Issuance of the certificate of occupancy by the City of Arcata for each phase of the project.

Section 4.3 – Biological Resources

Mitigation Measure 4.3.1a. Biological Surveys.

Prior to construction activities for each phase of the proposed project, the applicant shall have a qualified biologist conduct a focused survey for protected wildlife species identified in the Mad River Biologists Biological Assessment (Appendix Y) and Streamline Planning Consultants Biological Report (Appendix Z) as having potential habitat on the residential development site, including birds, mammals, amphibians, and fish. Surveys shall be performed within 30 days of the beginning of construction activity. If construction is delayed for more than 30 days from the date of the survey, and is to then commence during the nesting season (March 1 to September 15) an additional survey shall be conducted. The results of the survey shall be submitted to the City of Arcata for review and approval. If protected wildlife species are observed, the qualified biologist shall design appropriate project activity buffer widths and operational restrictions. Project-related activities shall only commence when the City of Arcata has approved the report in writing, and the buffer widths and operational restrictions are applied.

Timing for Implementation/Compliance: Prior to the issuance of grading and building permits by the City of Arcata for each phase of the project.

Person/Agency Responsible for Monitoring: City of Arcata.

Monitoring Frequency: Prior to construction activities for each phase of the project.

Evidence of Compliance: Issuance of grading and building permits by the City of Arcata for each phase of the project.

Mitigation Measure 4.3.1b. Culvert Replacement.

The project applicant shall implement applicable measures from the California Department of Fish & Wildlife (CDFW) “Salmonid Stream Habitat Restoration Manual” for guidance to minimize impacts during stream crossing construction. The CDFW Guidance details how to minimize impacts to aquatic species and their habitat during crossing replacement and/or construction activities. This could include measures such as exclusion fencing upstream and downstream of the work area and the relocation of sensitive fish species to another section of Janes Creek outside of the work area.

Timing for Implementation/Compliance: Prior to and during construction activities.

Person/Agency Responsible for Monitoring: City of Arcata and CDFW.

Monitoring Frequency: Prior to and during construction activities.

Evidence of Compliance: Issuance of the certificate of occupancy by the City of Arcata for each phase of the project.

Mitigation Measure 4.3.2a. Off- Site Riparian Enhancement.

To mitigate for the permanent affect to 8,000 s.f. of riparian vegetation from construction of the Foster Avenue connection, the applicant proposes riparian mitigation at a ratio of 2:1 or 16,000 s.f. Due to the fact that there are limited opportunities for riparian mitigation on the residential development site (APN 505-161-011), the applicant shall contribute towards City of Arcata riparian enhancement projects along Jolly Giant Creek within and adjacent to the Arcata Community Forest. Prior to the issuance of grading and building permits by the City of Arcata for construction of the Foster Avenue connection, the applicant shall provide the City with a riparian impact fee of \$26,500 that will be used towards riparian enhancement activities on parcels 020-201-012 and 503-291-017. In addition to these two sites, the City may use some of these funds for similar riparian enhancement activities in other stream sections. Riparian enhancement activities proposed by the City on parcel 020-201-012 include, but are not limited to, removal of invasive species, replacement of an undersized culvert, planting of 2,250 additional trees, and the implementation of erosion control measures. Riparian enhancement activities proposed by the City on parcel 503-291-017 would include additional riparian planting along Jolly Giant Creek and the replacement of a failing culvert with a bridge crossing.

Timing for Implementation/Compliance: Prior to the issuance of grading and building permits by the City of Arcata for construction of the Foster Avenue connection.

Person/Agency Responsible for Monitoring: City of Arcata.

Monitoring Frequency: Prior to construction activities for construction of the Foster Avenue connection.

Evidence of Compliance: Issuance of the grading and building permits by the City of Arcata for construction of the Foster Avenue connection.

Mitigation Measure 4.3.3a. Mitigation Wetland.

To mitigate the impacts of grading and filling 0.47 acres (20,285 s.f.) of two- and three-parameter wetlands on the residential development site, the applicant shall create a three-parameter (wetland hydrology, hydric soils, and hydrophytic vegetation) mitigation wetland at the site that will be 0.85 acres (37,026 s.f.) in size, or a 1.8 mitigation ratio. The mitigation wetland will be constructed according to the design and recommendations in the Wetland Mitigation and Monitoring Plan prepared by Winzler & Kelly (Appendix CC) and the recommendations of the City of Arcata and other regulatory agencies (e.g., CDFW, RWQCB, and USACE). A planting plan and long-term enhancement plan for the wetland mitigation area shall be developed to the satisfaction of the City of Arcata.

Timing for Implementation/Compliance: Prior to receiving grading and building permits from the City of Arcata for the first phase of the project, the applicant shall submit a revised Wetland Mitigation and Monitoring Plan, including a planting plan and long-term enhancement plan for the wetland mitigation area, for review and approval. The wetland mitigation area shall be constructed according to the approved Wetland Mitigation and Monitoring Plan prior to issuance of the certificate of occupancy by the City of Arcata for the first phase of the project.

Person/Agency Responsible for Monitoring: City of Arcata, CDFW, RWQCB, and USACE.

Monitoring Frequency: Prior to and during construction activities for the first phase of the project.

Evidence of Compliance: Issuance of grading and building permits by the City of Arcata prior to construction of the wetland mitigation area and issuance of a certificate of occupancy by the City of Arcata after construction of the wetland mitigation area.

Mitigation Measure 4.3.3b. Native Plantings in Wetland Setback Area.

The applicant shall plant the variable 50-foot wetland setback area for the mitigation wetland with regionally-appropriate evergreen native trees and shrubs. This will serve as a vegetative “screen” (i.e., natural visual screen) between the wetland mitigation area and the proposed residential development, extend the Janes Creek riparian corridor, and provide additional habitat on the residential development site. A schematic diagram of the planting plan showing individual plant species placement and spacing within the wetland setback area shall be included in the Wetland Mitigation and Monitoring Plan.

Timing for Implementation/Compliance: Prior to receiving grading and building permits from the City of Arcata for the first phase of the project, the applicant shall submit a revised Wetland Mitigation and Monitoring Plan, including a schematic diagram of the planting plan for the wetland buffer area, for review and approval. The variable 50-foot wetland setback area shall be planted according to the approved Wetland Mitigation and Monitoring Plan prior to issuance of the certificate of occupancy by the City of Arcata for the first phase of the project.

Person/Agency Responsible for Monitoring: City of Arcata.

Monitoring Frequency: Prior to and during construction activities for the first phase of the project.

Evidence of Compliance: Issuance of grading and building permits by the City of Arcata prior to construction of the wetland mitigation area and issuance of a certificate of occupancy by the City of Arcata after construction of the wetland mitigation area.

Mitigation Measure 4.3.3c. Invasive Species Removal/Control.

The applicant shall include measures for the control of invasive species in the Wetland Mitigation and Monitoring Plan. Invasive species removal shall occur within the wetland mitigation area and its corresponding 50-foot setback required by Section 9.59.060 (Wetland Conservation and Management) of the Arcata Land Use Code. Invasive species that will be targeted include English ivy (*Hedera helix*), Himalayan blackberry (*Rubus armeniacus*), poison hemlock (*Conium maculatum*), teasel (*Dipsacus fullonum*), English holly (*Ilex aquifolium*), Cotoneaster (*Cotoneaster lacteus*), Canary reedgrass (*Phalaris arundinacea*), and mayten tree (*Maytenus boaria*). Annual performance criteria for invasive species control shall be specified in the Monitoring Plan. The applicant shall conduct invasive species removal during construction of the wetland mitigation area and shall conduct long-term control of invasive species as specified in the Monitoring Plan.

Timing for Implementation/Compliance: Prior to receiving grading and building permits from the City of Arcata for the first phase of the project, the applicant shall submit a revised Wetland Mitigation and Monitoring Plan, including measures for the removal and control of invasive species, for review and approval. The removal of invasive species shall be conducted according to the approved Wetland Mitigation and Monitoring Plan prior to issuance of the certificate of occupancy by the City of Arcata for the first phase of the project.

Person/Agency Responsible for Monitoring: City of Arcata.

Monitoring Frequency: Prior to and during construction activities for the first phase of the project.

Evidence of Compliance: Issuance of grading and building permits by the City of Arcata prior to construction of the wetland mitigation area and issuance of a certificate of occupancy by the City of Arcata after construction of the wetland mitigation area.

Section 4.4 – Agriculture and Forestry Resources

Mitigation Measure 4.4.1a. Conservation Easement.

To mitigate for the permanent conversion of 5.03 acres of prime agricultural land from the proposed project and City proposed Ennes Park Expansion, the applicant shall dedicate a conservation easement to the benefit of the City of Arcata, on approximately 22.65 acres of parcel 505-151-001, which would result in a 4.5:1 mitigation ratio. Although the proposed project would only result in the conversion of 1.69 acres of prime agricultural land (1.35 acres for parkland and 0.34 acres for the emergency access road), the EIR analyzes and provides mitigation for the conversion of an additional 3.34 acres from the City's proposed Ennes Park Expansion.

Timing for Implementation/Compliance: Prior to the issuance of the certificate of occupancy by the City of Arcata for the first phase of the project.

Person/Agency Responsible for Monitoring: City of Arcata.

Monitoring Frequency: Prior to the issuance of the certificate occupancy by the City of Arcata for the first phase of the project.

Evidence of Compliance: Issuance of the certificate of occupancy by the City of Arcata for the first phase of the project.



CHAPTER 10.

LIST OF PREPARERS

EIR Authors

City of Arcata

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EIR Technical Reports

California Engineering Company

Engineering Plans

Domenichelli & Associates

Hydraulic Analysis

Freshwater Environmental Services

Additional Site Investigation Report

Dioxin Assessment Report

Disposal Documentation

K. Boodjeh Architects

Site Plan

Kelly-O'Hern Associates

Tentative Parcel Map

Topographic Survey

LACO Associates

Soils Report

Mad River Biologists

Biological Assessment

Streamline Planning Consultants

Biological Report

Wetland Delineation

Wetland Assessment – Ennes Park Expansion

CalEEMod Air Emissions Modeling

SHN Consulting Engineers & Geologists, Inc.

Phase I Environmental Assessment

Initial Report of Findings

Work Plan for Hydro-geologic Investigations and Remedial Action

Initial Groundwater Investigation Report of Findings

Quarterly Groundwater Monitoring Reports

Subsurface Investigation Report of Findings

Remedial Action Plan

Soil Excavation Report of Findings

Site Development Contamination Contingency and Site Safety Plan

Noise Study

Wetland Assessment – Hammond Trail Section

Stormwater Management Assessment

W & S Solutions, LLC

Vehicle Miles Traveled Analysis

William Rich & Associates
Cultural Resources Investigation
Geo-Archaeological Assessment

Winzler & Kelly
Wetland Mitigation and Monitoring Plan

W-Trans
Central Arcata Areawide Traffic Study