

North McKay Ranch Subdivision Project
Partial Recirculation - Draft Environmental Impact Report
Humboldt County Record No. PLN-9902-GPA

SCH #: 2019049166

Prepared for:

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North McKay Ranch Subdivision Project Partial Recirculation - Draft EIR

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- Appendix J: Water Supply Analysis
- Appendix K: VMT Assessment



ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
APN	assessor parcel numbers
Applicant	Kramer Properties, Inc.
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
County	Humboldt County
EIR	Environmental Impact Report
GHG	greenhouse gas
GO	greenway and open space
HCSD	Humboldt Community Services District
LAFCo	Local Agency Formation Commission
LOS	Level of Service
NOP	Notice of Preparation
OPR	Governor's Office of Planning and Research
PG&E	Pacific Gas and Electric Company
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SWPPP	Stormwater Pollution Prevention Plan
TAZ	Traffic Analysis Zone
THP	Timber Harvest Plan
TPZ	Timberland Production Zone
USACE	United States Army Corps of Engineers
USCB	United States Census Bureau
USFWS	United States Fish and Wildlife Service
VMT	vehicle miles traveled



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1.0 INTRODUCTION

1.1 BACKGROUND

On May 15, 2020, Humboldt County (County) released the Draft Environmental Impact Report (Draft EIR) for the North McKay Ranch Subdivision Project. The Draft EIR evaluated the environmental impacts associated with the construction and operation of the project. The Draft EIR public review period ended on June 29, 2020. A number of comments were received during the public review period that will be addressed in the Final EIR. On July 1, 2020, the provisions of the new CEQA Guidelines Section 15064.3 Determining the Significance of Transportation Impacts became effective. Section 15064.3 was added to the CEQA Guidelines in response to Senate Bill 743.

Before July 1, 2020, traffic congestion levels (known as level of service, or LOS) were the main measurement to determine the negative environmental impacts of development and transportation projects. Under SB 743, these effects are now measured according to the overall amount that people drive (known as vehicle-miles traveled, or VMT). VMT is calculated as part of a building or transportation project's CEQA environmental review process.

Because of this shift in determining the significance of transportation impacts, Humboldt County has decided to recirculate two environmental impact analysis sections that have been impacted by this shift from LOS to VMT: the Land Use and Planning section and the Transportation section as well as provide an update to the Project Description.

1.2 DRAFT EIR RECIRCULATION

In accordance with Public Resources Code Section 21092.1 and State California Environmental Quality Act (CEQA) Guidelines Section 15088.5, Humboldt County is recirculating portions of the North McKay Ranch Subdivision Project Draft EIR (Partial Recirculated Draft EIR) in response to shift in determining the significance of transportation impacts.

CEQA Guidelines Section 15088.5 sets forth the legal standards and principles governing the recirculation of Draft EIRs. Subdivision (a) of that provision states that recirculation of an EIR should occur if:

... significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term 'information' can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not 'significant' unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project ...

Humboldt County is recirculating affected sections the document to provide the public with a meaningful opportunity to comment on the additional information. The recirculation is "partial" (meaning that only chapters or portions of the prior Draft EIR with new information have been revised and reissued) rather than "full" (meaning that the entire document has been revised and reissued).



Recirculation of an EIR requires notice pursuant to CEQA Guidelines Section 15087, and consultation pursuant to Section 15086 [see State CEQA Guidelines, Section 15088.5, subd.(d)].

1.3 RECIRCULATION DRAFT EIR PROCESS

The Recirculated Draft EIR will be subject to review and comment by the public, as well as all responsible agencies and other interested parties, agencies, and organizations for a period of 45 days. Comments on the Recirculated Draft EIR should be submitted to:

Desmond Johnston, Senior Planner
Humboldt County Planning and Building Department
3015 H Street
Eureka, CA 95501
(707) 445-7541
CEQAResponses@co.humboldt.ca.us

The Recirculated Draft EIR is available for public review at the County's office, identified above, between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday.

Subdivision (f)(2) of Section 15088.5 describes the specific procedural and noticing requirements associated with the partial recirculation of the Draft EIR:

When the EIR is revised only in part and the lead agency is recirculating only the revised chapters or portions of the EIR, the lead agency may request that reviewers limit their comments to the revised chapters or portions. The lead agency need only respond to (i) comments received during the initial circulation period that relate to chapters or portions of the document that were not revised and recirculated, and (ii) comments received during the recirculation period that relate to the chapters or portions of the earlier EIR that were revised and recirculated. The lead agency's request that reviewers limit the scope of their comments shall be included either within the text of the revised Draft EIR or by an attachment to the revised Draft EIR.

Therefore, pursuant to CEQA, commenters are asked to limit their comments to the revised sections of the Draft EIR. As limited to the topics of the recirculation, Humboldt County will respond in writing to significant environmental points raised by the reviewers in their comments on the Recirculated Draft EIR. The comments and responses will be included in the Final EIR. The Final EIR shall consist of the Draft EIR, the Recirculated Draft EIR, comments received on both the Draft EIR and Recirculated Draft EIR, and the responses to those comments. After a public hearing on the project, the lead agency decision-making body (that is, the Humboldt County Board of Supervisors) will review the Final EIR and any public testimony and decide whether to certify the Final EIR and whether to approve or deny the project.

1.4 SUMMARY OF REVISIONS TO DRAFT EIR

The State CEQA Guidelines state that “[w]hen recirculating a revised EIR, either in whole or in part, the lead agency shall, in the revised EIR or by an attachment to the revised EIR, summarize the revisions made to the previously circulated draft EIR” [see CEQA Guidelines, Section 15088.5, subd. (g)]. The revisions to the Draft EIR include revised environmental impact analysis for Land Use and Planning and



Transportation. These revisions of this Recirculated Draft EIR are provided as Chapter 2, Chapter 3.11 and Chapter 3.16, to follow the document numbering convention of the Draft EIR.

The Executive Summary, specifically Table ES-1 Executive Summary of Impacts and Mitigation Measures will be updated to include revised impact determinations for the Final EIR. No other changes would be made to the following chapters of the Draft EIR: Chapter 1: Introduction, Chapter 4, Cumulative Effects, Chapter 5, Alternatives, Chapter 6, Other CEQA Considerations, Chapter 7 Effects Found Not To Be Significant, Chapter 8, Preparers and Organizations Consulted, and Chapter 9, References. Therefore, these sections have not been reproduced in this Partial Recirculated Draft EIR.

After circulation of the Draft EIR, a Water Supply Analysis was completed in October 2020, which confirmed the need for a water storage tank and potential upsizing of a water main. In addition, a VMT Analysis was completed for the project in September 2021. The Water Supply Analysis and VMT Analysis have been provided as Appendix J and K of this Partial Recirculated EIR to follow the document numbering convention of the Draft EIR.

1.5 RECIRCULATION DRAFT EIR

Three chapters, the Chapter 2, Project Descriptions, Chapter 3.11 Land Use and Planning, and Chapter 3.16 Transportation Changes have been revised to reflect updates to the project based on the water supply analysis completed post circulation of the Draft EIR, and changes to the regulatory environment that resulted in how the significance of transportation impacts are evaluated because of SB 743 and updates to the CEQA Guidelines Section 15064.3, which became effective July 1, 2020. In addition, two new appendices: Appendix J: Water Supply Analysis and Appendix K: VMT Analysis have been provided.



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2.0 PROJECT DESCRIPTION

This chapter describes the proposed North McKay Ranch Subdivision Project (proposed project) that is evaluated in this Draft EIR. This chapter provides information on the proposed project's location, objectives, existing and proposed facilities, construction techniques, maintenance, and permitting and entitlement requirements.

2.1 PROPOSED PROJECT OVERVIEW

The project site is in the unincorporated community of Cutten in Humboldt County (County), California, and comprises two discontinuous areas: the proposed development area and the off-site water storage tank. The proposed project would include the resubdivision of seven legal parcels, consisting of seven assessor parcel numbers (APN), for a total of approximately 81 acres, into mixed-use lots to develop up to 320 residential units, approximately 22,000 square feet of commercial development, an off-water storage tank on approximately 0.3 acre, located 2.5 miles to the south. In addition, an off-site sewer line would be constructed. The proposed land uses would include single-family dwellings, multi-family dwellings, and neighborhood commercial. The residential mix would include 146 single-family houses, and 174 multi-family units on six lots. Two proposed commercial parcels would contain approximately 22,000 square feet of commercial space on two parcels. Approximately 21.73 acres would remain as undeveloped open space that would be dedicated to the County for future trail management or conveyed in fee. The off-site water storage tank would be owned and managed by the HCSD and would support the proposed development. The proposed project is anticipated to be developed in nine phases over a period of 20 years, but a final phasing plan would be based on market conditions. Several on-site and off-site improvements are planned as part of the proposed project development. The proposed project would require annexation into HCDE for the provision of utilities.

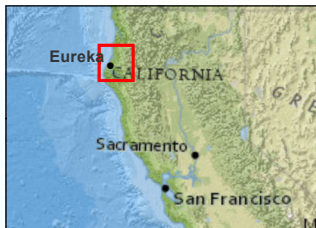
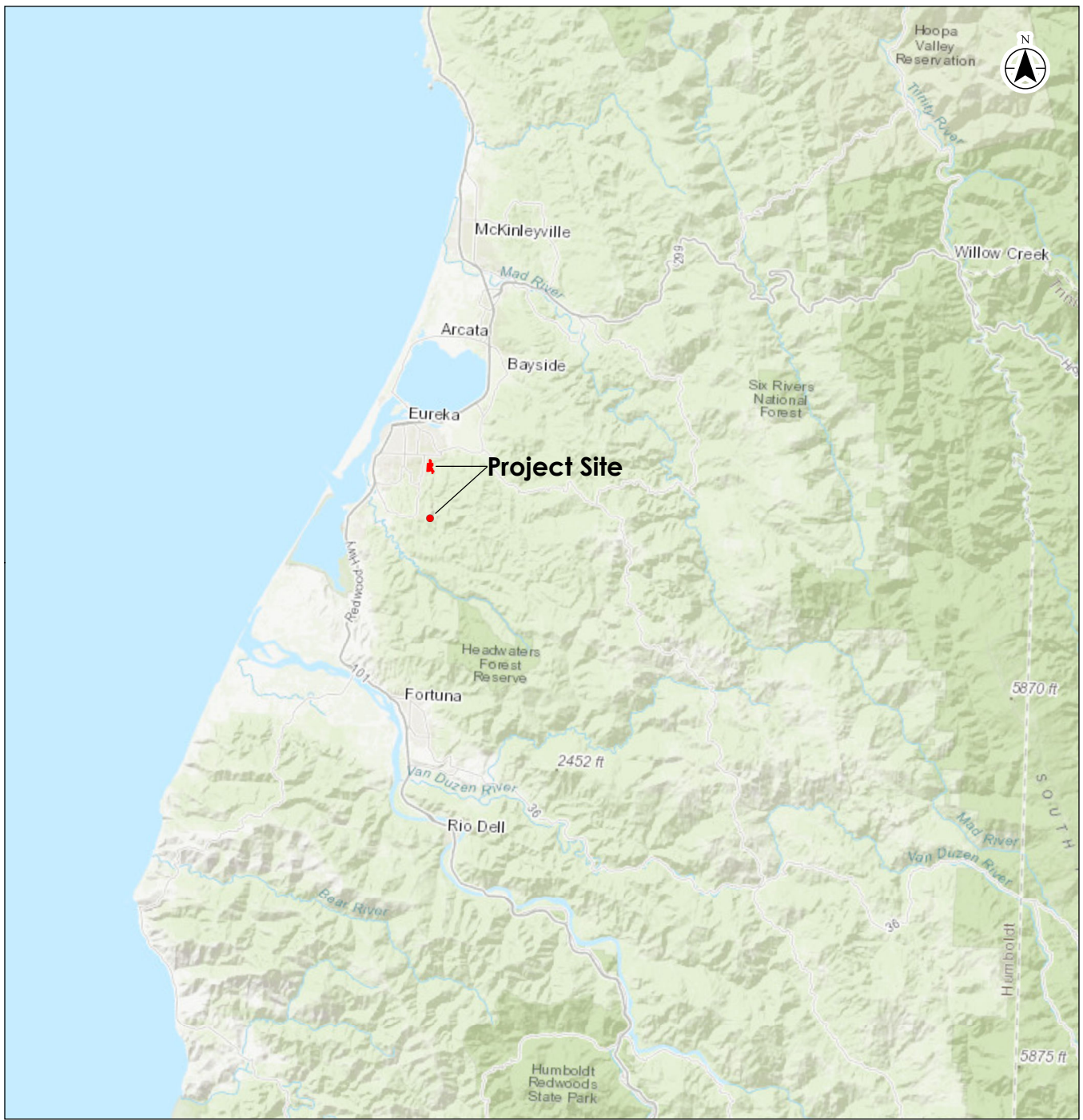
2.1.1 Location

The project site is located in Cutten, California, an unincorporated community within the County, immediately south of the southern boundary of the City of Eureka (Figure 2-1). The proposed development would be on the seven APNs located approximately 2.5 miles south of Humboldt Bay, 2.5 miles southeast of downtown Eureka and U.S. Highway 101, and less than 0.5 mile southeast of Sequoia Park. The associated APNs are 017-032-003, 017-071-004, 017-071-009, 017-072-002, 017-072-003, 017-073-007, 017-073-009 (Figure 2-2). The proposed water storage tank would be located approximately 2.5 miles south, near Ridgewood, California, in proximity to HCSD's existing water storage tank (Figure 2-2). The associated APN is 303-012-020. The project site is generally located on U.S. Geological Survey Eureka 7.5-minute Quadrangle, Township 5 North, Range 1 West, Section 36, Humboldt Meridian.

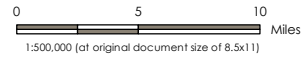


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 Project Site



Project Location Humboldt County, California Prepared by PG on 2020-04-06 Technical Review by ZP on 2020-04-06

Client/Project North McKay Ranch Subdivision Project

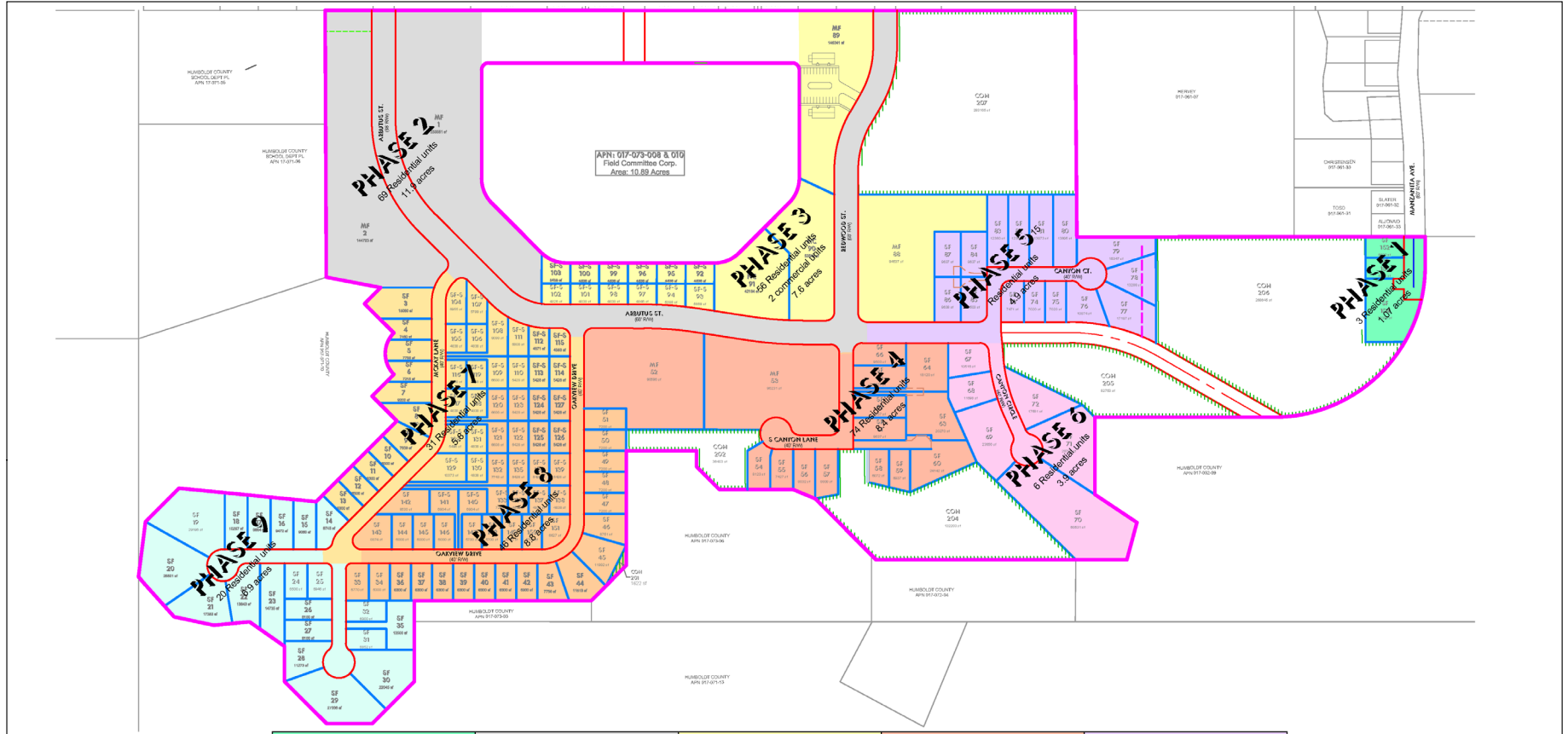
Figure No. 2-1
Title

Regional Location

Notes
 1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
 2. Background Imagery: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
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PHASE 1 3 Single-Family House Lots (SF) 3 TOTAL RESIDENTIAL UNITS	PHASE 2 69 Multi-Family (MF) 69 TOTAL RESIDENTIAL UNITS	PHASE 3 12 Small Lot Single-Family Houses (SF) 44 Multi-Family (MF) 56 TOTAL RESIDENTIAL UNITS 2 NEIGHBORHOOD COMMERCIAL UNIT	PHASE 4 13 Single-Family House Lots (SF) 61 Multi-Family (MFF) 74 TOTAL RESIDENTIAL UNITS	PHASE 5 15 Single-Family House Lots (SF) 15 TOTAL RESIDENTIAL UNITS
PHASE 6 6 Single-Family House Lots (SF) 6 TOTAL RESIDENTIAL UNITS	PHASE 7 11 Single-Family House Lots (SF) 20 Small Lot Single-Family Houses (SF) 31 TOTAL RESIDENTIAL UNITS	PHASE 8 28 Single-Family House Lots (SF) 18 Affordable Single-Family Houses (AH) 46 TOTAL RESIDENTIAL UNITS	PHASE 9 20 Single-Family House Lots (SF) 20 TOTAL RESIDENTIAL UNITS	PROJECT TOTAL 96 Single-Family House Lots (SF) 174 Multi-Family (MF) 50 Small Lot Single Family (SF) 320 TOTAL RESIDENTIAL UNITS 2 TOTAL COMMERCIAL UNITS

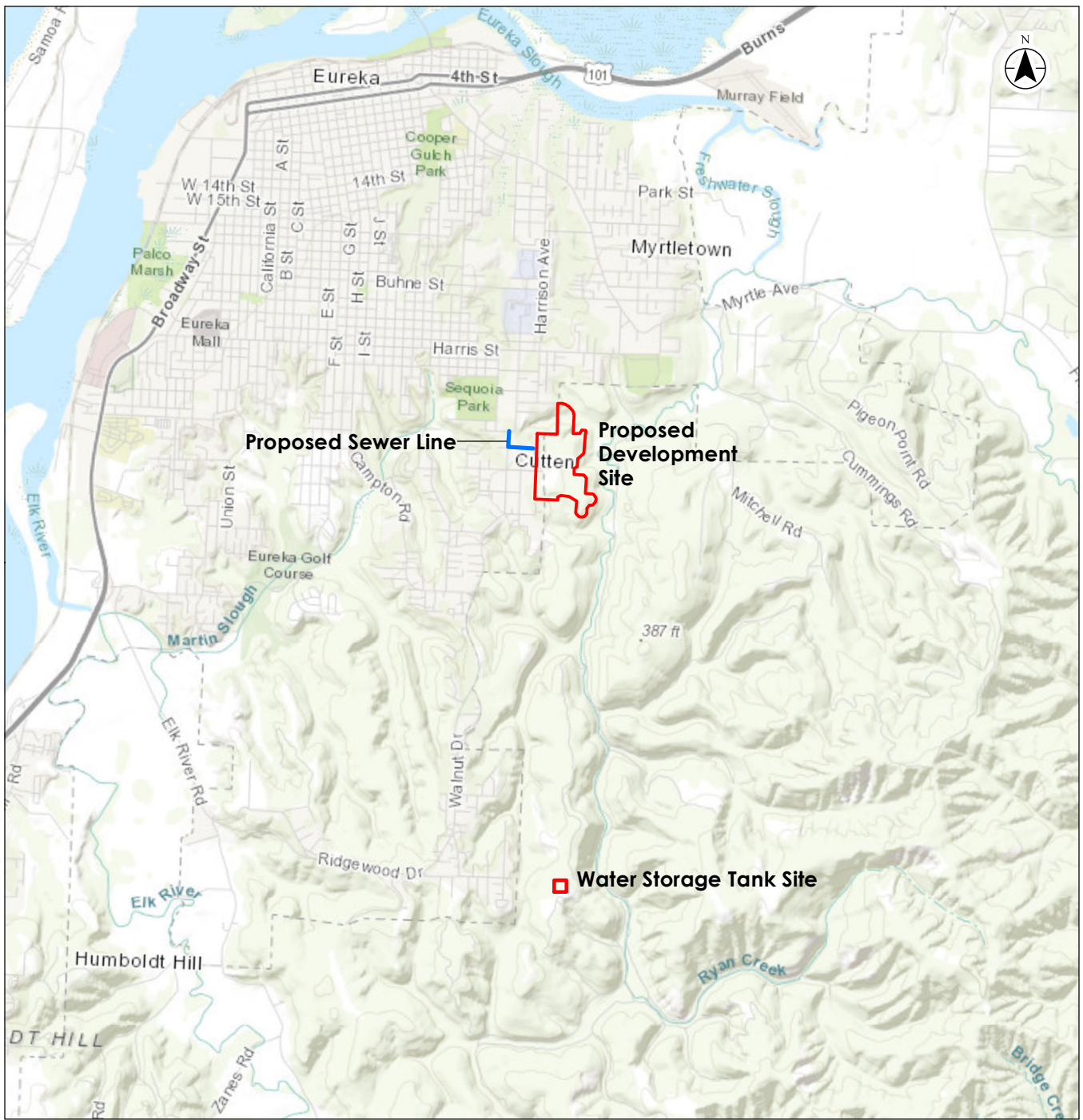
Source: Ontiveros & Associates, May 2019



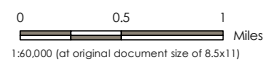
Project Location
 Humboldt County, CA
 Prepared by KJ on 2020-04-28
 IR by TG on 2020-04-28

Client/Project
 North McKay Ranch Subdivision Project

Figure No.
2-5
 Title
Proposed Phasing Plan



- Proposed Development Site
- Proposed Sewer Line
- Water Storage Tank Site



Project Location Humboldt County, California Prepared by PG on 2020-03-17 Technical Review by ZP on 2020-03-18

Client/Project North McKay Ranch Subdivision Project

Figure No. 2-2
Title

Local Project Location

Notes
 1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
 2. Background Imagery: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
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2.1.2 Project Site History

During the historical period, the primary forests of the Ryan Slough area were harvested by Ryan and Duff Company and then the McKay & Company, who owned this section after 1875. This creek valley was the main artery of the McKay & Company land holdings and facilitated an early logging railroad along the flat canyon bottom, which conveyed logs to the Occidental Mill near the bottom of Freshwater Channel. Several early Eureka City maps show a "trail" in the project vicinity, which was used by McKay & Company workers to reach the streetcar station near Sequoia Park (Rohde 2014). Through the 1900s, pieces of the McKay Tract property were sold to the Pacific Conservation Company. For 35 years, the Pacific Conservation Company allowed the forest to regrow in the area (Rohde 2014). In 1967, the Georgia Pacific Corporation acquired the property and built truck roads through the tract, in place of the old railroad grades.

Georgia Pacific resumed logging operations in the area at that time. The ownership then changed to Green Diamond Resource Company, which continues timber production in the project area. The proposed development is located on a portion of the McKay Tract timber property, and Kramer Properties, Inc. (Applicant) proposes a new subdivision referred to as the North McKay Ranch Subdivision. The proposed development would border the existing Redwood Fields Park, which is a cut-out within the western portion of the project site that is owned by the Field Committee Corporation. Between 1998 and 2007, multiple applications were submitted to develop the project site that did not meet the General Plan requirement for housing units. The Applicant's most recent application proposed 320 units in four phases of 80 units each. The Applicant has since revised the project to what is analyzed in this EIR.

2.1.3 Existing Conditions

The project site is situated between an approximately 150- to 200-foot elevation above mean sea level (amsl). The upper portion of the project site is generally flat on the westerly side, with a gentle grade that increasingly slopes to the east, and eventually falls off with steep grades into the various natural gulches surrounding the property. Currently, no drainage infrastructure exists on the site. Stormwater runoff sheet flows across the project site in an easterly direction, gathering in the various channels on the easterly side, then eventually flowing onto the neighboring parcels currently owned by the County and known as the McKay Community Forest.

The site has been used for commercial timber harvest and has remained undeveloped. The entire site has been harvested at least two times, beginning with the old-growth forest, and more recently, the second-growth forest. The last timber harvest appears to have occurred approximately 30 years ago, according to historical aerial photography (Google Earth), and the uniform size and age of trees across the site. Currently, the entire site is dominated by dense third-growth redwood and mixed conifer forest, with drainages occasionally dominated by red alder. Most of the project area is located atop a marine terrace with steep slopes down to Ryan Slough. Several logging roads traverse through the project site. High voltage power lines cross the site along Redwood Street in the east-west direction. The project area contains seasonal drainages, and first order streams originate within the flat elevated portions of the terrace and have eroded steep drainages into the terrace.



There is one residence within the project area, located at the end of Manzanita Avenue. Two more residences that would be constructed as part of Phase 1. Manzanita Avenue was extended previously and a “will serve” letter was received on November 5, 2018 from HCSD, which provides water and sewer service to this residence.

The proposed water storage tank location currently consists of an open area with surrounding dense vegetation. There is an existing HCSD water storage tank on the site, and one access road to and from this location that can be accessed via Briarwood Circle.

2.1.4 Surrounding Land Uses

The project site is surrounded by the following land uses:

- North: Timber forests, gulch occupied by Ryan Creek, and residential development at the end of Manzanita Avenue
- East: Ryan Slough, Pacific Gas and Electric Company (PG&E) powerline, the McKay Community Forest (owned by the County), and Green Diamond Industrial Timberland
- South: Timber forests and Glen Paul School
- West: Redwood Fields Park and residential development farther west

The proposed water storage tank location is surrounded on all sides by dense vegetation and undeveloped areas.

2.1.5 Land Use Designations

- **Existing Humboldt County General Plan Designation:** The proposed development parcels are designated Residential Low Density (RL) 1-7 units/acre (Humboldt County 2017a). The RL designation is used for areas suitable for residential use where urban services are available or are anticipated to be available. Single-family units on individual lots are the dominant use, but the designation can accommodate a mix of housing types, including townhouses and common-wall clustered units (Humboldt County 2017a). The project site also lies within the Eureka Community Plan Planning Area Boundary. The water storage tank location is designated as Timberland (T).
- **Existing Zoning:** The proposed development parcels are zoned Residential One-Family (R-1), with combining zones indicating Planned Unit Development (P), Recreation (R), and Greenway and Open Space (GO). The water storage tank location is zoned as a Timberland Production Zone (TPZ).

2.2 PROPOSED PROJECT OBJECTIVES

The County has established the following objectives for the proposed project for the purposes of the CEQA:

- Comply with the Humboldt County Local Agency Formation Commission (LAFCo) policy to create a more logical service boundary and provide more effective delivery of municipal services by annexing all existing unincorporated islands zoned for development in the HCSD.
- Ensure new residents receive the same level of service as current residents.



- Ensure existing service levels to current County residents are not reduced in order to provide services to the HCSD service area.
- Promote economic vitality by maintaining and expanding small businesses and local services for residents.
- Assist County in meeting housing needs to accommodate forecasted population growth.
- Incorporate parks and open space, including trails, into the project design in a manner that would provide community connectivity and is aesthetically pleasing.
- Promote economic growth through new capital investment for an expanded population and increased tax base.
- Provide a diversity of housing choices in one development that would cater to various segments of the community, including low-cost, single-family homes.

2.3 PROPOSED PROJECT CHARACTERISTICS

The proposed project would require the approval of land use and zoning designation changes in order to allow the development of the proposed residences and commercial lots. This section will discuss the land use designation changes, followed by the proposed development characteristics.

2.3.1 Proposed Land Use Designation Changes

The proposed project would require the following land use designation changes (Figure 2-3):

- **Humboldt County General Plan:** A General Plan Amendment is proposed to change the land use designation from RL 1-7 units/acre to RL 1-7 units/acre, Residential Medium Density (RM) 7-30 units/acre, and Commercial General (CG). The water storage tank location would maintain the land use designation of T.
- **Zoning:** The project site would require rezoning from Residential One-Family (R-1), with combining zones indicating Planned Unit Development (P), Recreation (R), and Greenway and Open Space (GO) to R-1, R, GO, Apartment Professional (R-4), and Neighborhood Commercial (C-1) with a P overlay. The water storage tank location would remain zoned as TPZ.



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2.3.2 Population Increase

Based on the U.S. Census Bureau’s (USCB) average household size for Humboldt County of 2.43 persons per household, the proposed project’s 320 units would result in an increase in population in the County of approximately 778 people (USCB 2018). This increase conservatively assumes that the new housing units associated with the proposed project would be 100 percent occupied; this conservative population assumption is carried throughout the analyses included this Draft EIR.

2.3.3 Annexation

The proposed project would require annexation into HCSD for the provision of utilities. The Applicant would initiate annexation by petition with the Humboldt County LAFCo, the responsible agency that would be required to approve the annexation. It is anticipated that the Humboldt County LAFCo would use this EIR in considering the annexation application. LAFCo’s policies and procedures are discussed in Section 3.11, Land Use and Planning. The project site would be annexed all at once, except for the parcel for the water storage tank site as it is already owned by HCSD.

2.3.4 Development Agreements

The County and the Applicant intend on entering into one or more development agreements to implement the proposed project. Development agreements allow developers to complete long-term development projects as approved, regardless of intervening changes in local regulations. The development agreement(s) would include commitments to project entitlements and development standards consistent with a Development Plan to be submitted by the Applicant, as well as other administrative and/or financial aspects of building out the proposed project. An initial draft development agreement would be negotiated prior to project approval and presented to the County for its approval, along with all other entitlements.

2.3.5 Proposed Development and Land Use Activities

The proposed project would develop a variety of residential uses at different densities. Table 2.2-1 summarizes the residential and commercial uses and densities. As shown in Table 2.2-1, 146 single-family residences, 174 multi-family residences, and 22,000 square feet of commercial development on two lots would be built. The preliminary site plan is shown on Figure 2-4. Project components are further described in detail below.

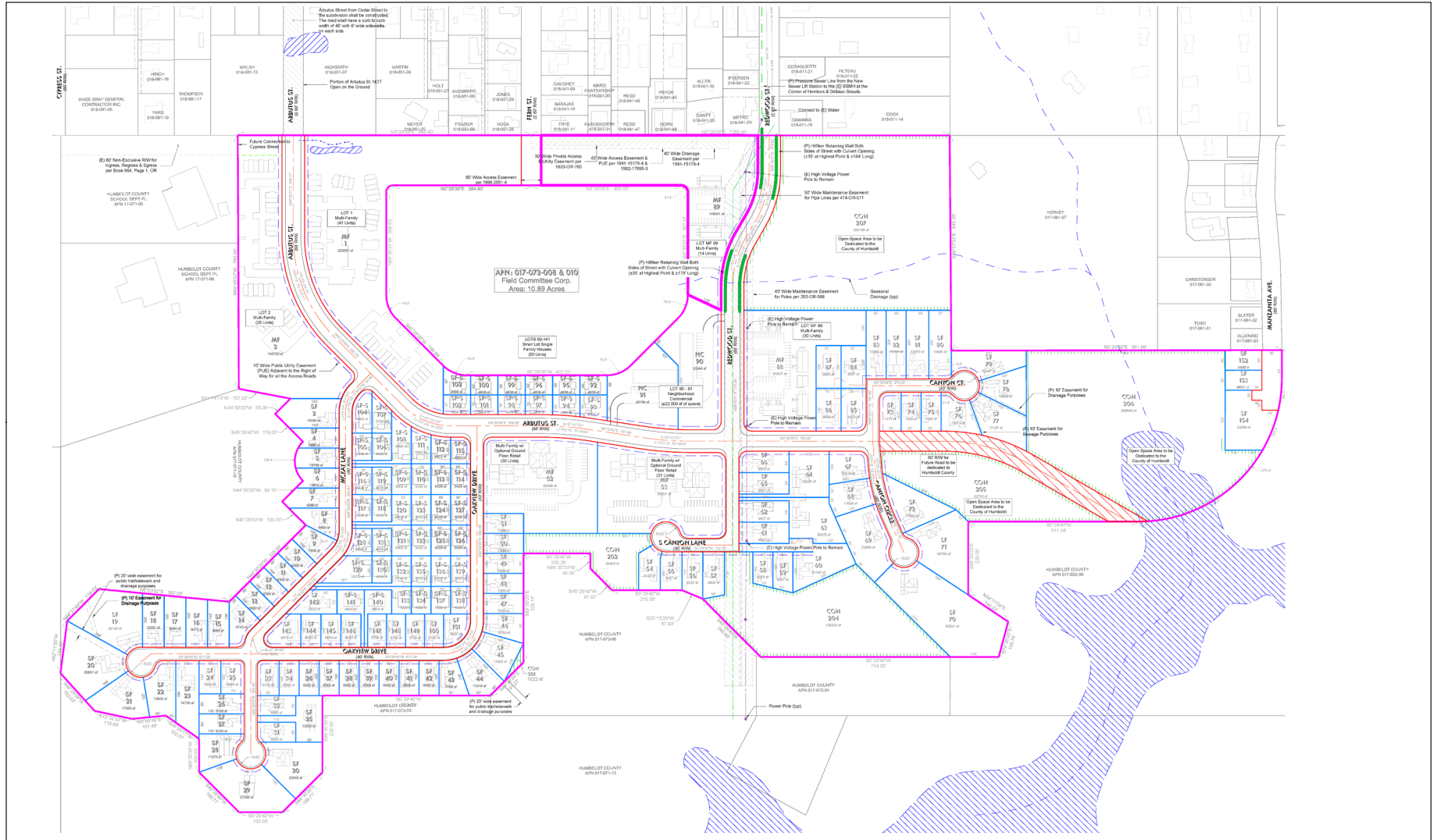
Table 2.2-1: Proposed Project Development Summary

Development Type	Count	Characteristics
Single-family lots	96	6,600 square-foot to 39,670 square-foot lots
Small-lot, single-family (includes 18 affordable housing units)	50	4,758 square-foot lots (minimum)
Multi-family	174	Average of 9 dwelling units per acre
Commercial	2	22,000 square feet total



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Source: Ontiveros & Associates, May 2019



Project Location
 Humboldt County, CA
 Prepared by KJ on 2020-04-28
 IR by TG on 2020-04-28

Client/Project
 North McKay Ranch Subdivision Project

Figure No.
2-4
 Title
Preliminary Site Plan

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Proposed Land Uses

Residential

Up to 320 residential units would be constructed on 81 acres, including approximately 174 multi-family units on 19 acres, 50 small-lot single-family units (includes 18 affordable single-family units) on approximately 6 acres, and 96 single-family lots on approximately 32 acres. The multi-family buildings are anticipated to be two stories and no more than three stories in height. The single-family homes would not exceed 35 feet in height. As shown in Figure 2-4, the multi-family units would be located on the western portion of the project site, closer to Redwood Fields Park. The large-lot, single-family homes would be located farther away to the east bordering the timber forest and at least 300 feet away from Ryan Creek Slough. All development is proposed to occur on the flat upper terrace portion of the property.

Commercial

The proposed neighborhood commercial land uses could include professional and business offices and other neighborhood-serving retail, such as bakeries, banks, barber shops, beauty salons, book stores, clothing and apparel stores, coin-operated dry cleaning and laundries, dry cleaning and laundry services, drug stores, restaurants and licensed premises appurtenant thereto, automobile service stations, and other uses as principally permitted under the C-1 zoning designation. The commercial buildings would be up to 45 feet in height. The commercial uses would be located at the intersection of proposed new internal roadways, Redwood Street and Arbutus Street, and centrally accessible from other proposed land uses and existing land uses to the west.

Open Space and Recreational Amenities

The proposed project would include the designation of approximately 21.73 acres as permanent open space (areas of steep slopes and drainages) to be preserved through a permanent easement and would be dedicated to the County or conveyed in fee to the County. This would include the northern portion of the project site south of Phase 9. The proposed project would provide 20-foot-wide trail easements and construct trail connections to the future public trails accessing the McKay Community Forest.

These easements and trail connections would be developed in phases. For the purposes of this EIR, tentative locations are identified; final trail alignments would be subject to the approval of the Public Works Director. A temporary trail would be provided from Fern Street, Arbutus Street, or Redwood Street to the McKay Community Forest as part of the project's first phase and would be abandoned as each subsequent phase and accompanying trails are developed. Phase 3 would include two trail connections. One would provide access from Arbutus Street/Oakview Drive and could be from Lot 52 proposed for multi-family development. A second trail connection and parking lot would be provided between lots 57 and 58, to connect Canyon Lane to the McKay Community Forest. Phase 8 or 9 would include a trail connection to the adjacent McKay Community Forest from Oakview Drive on the southern portion of the project site. The development of future trails outside the project site are not part of the proposed project and are not evaluated in this EIR. Redwood Fields Park would remain in place and would be accessible to the residents of the new subdivision. Landscaping for the proposed project would include a mix of trees, shrubbery, and grass for the residential units and commercial spaces.

Approximately 0.338 acres (14,723 square feet) of wetlands exist within the project area. An estimated 0.168 acres (7,318 square feet) of the wetlands (50 percent) will be temporarily (0.017 acres) and



permanently (0.151 acres) impacted by the extension of Redwood Street and Arbutus Street in Phase 2. The two ephemeral (headwater) streams that cross the proposed Redwood Street extension would be culverted during roadway construction.

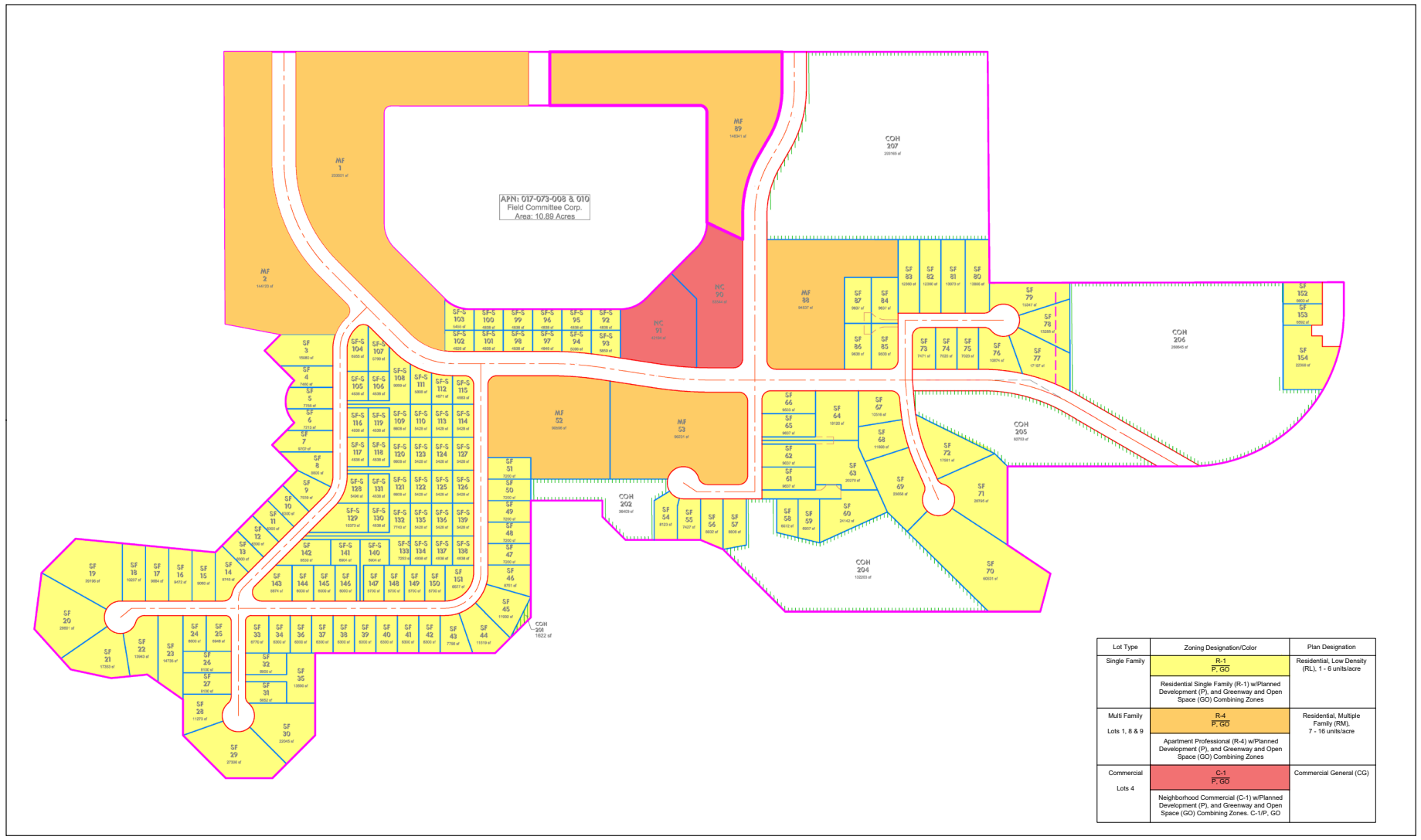
Phasing Plan

The proposed project would provide a comprehensively planned infrastructure system with coordinated phasing and construction of facilities. The different phases of the proposed project may not be developed in the exact sequence, as permitted by the County. However, in general, the phasing/development sequencing plan would provide backbone infrastructure improvements in each phase that would support associated development in compliance with County policies and standards.

The proposed project is anticipated to be developed over a 15- to 20-year period based on market conditions. To assess project impacts, however, a conservative 10-year construction schedule is assumed. There are nine phases designated as Phase 1 through Phase 9 (Figure 2-5). Table 2.2-2 shows the anticipated phases with the associated activities, estimated impact areas, and durations of each phase. As shown in Table 2.2-2, preceding the logical development of infrastructure, the phases with greater ground disturbance are anticipated to be built prior to other phases.

The first area to be developed would be Phase 1, due to its proximity to existing infrastructure and access from adjacent roadway network. Phase 2 would be developed next, followed by Phase 3, which would include construction of Arbutus Street and Redwood Street. Development occurring in Phases 4 through 8 could occur in any order after the completion of Phases 1 through 3, provided the parcels met the public services requirements, the sequencing policies within the proposed project, and the requirements of the County. Since the actual construction schedule is dependent on market conditions, for purposes of this analysis, it is assumed that Phases 1 and 2 would be developed within the first 18 months. Phases 3 and 4 would be developed in the next 36 months, followed by phases 5 and 6 to be developed in the next 24 months. Phases 7 through 9 would be developed in the next 42 months.





Lot Type	Zoning Designation/Color	Plan Designation
Single Family	R-1 P, GO	Residential, Low Density (RL), 1 - 6 units/acre
	Residential Single Family (R-1) w/Planned Development (P), and Greenway and Open Space (GO) Combining Zones	
Multi Family Lots 1, 8 & 9	R-4 P, GO	Residential, Multiple Family (RM), 7 - 16 units/acre
	Apartment Professional (R-4) w/Planned Development (P), and Greenway and Open Space (GO) Combining Zones	
Commercial Lots 4	C-1 P, GO	Commercial General (CG)
	Neighborhood Commercial (C-1) w/Planned Development (P), and Greenway and Open Space (GO) Combining Zones, C-1/P, GO	

Source: Ontiveros & Associates, May 2019



Project Location
Humboldt County, CA Prepared by KJ on 2020-04-28
TR by TG on 2020-04-28

Client/Project
North McKay Ranch Subdivision Project

Figure No.
2-3
Title
Proposed Land Use Designations

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Table 2.2-2: Proposed Tentative Project Phasing Overview

Phase	Activity	Area of Disturbance	Construction Schedule ¹
1	<ul style="list-style-type: none"> Extension of Manzanita Avenue with extension of utilities Construction of three single-family residences 	1.07 acres	January 2021 - June 2022 (18 months)
2	<ul style="list-style-type: none"> Construction of Redwood Street and Arbutus Street extensions from Cedar Street, and the loop road connecting Arbutus Street with Redwood Street Clear-cutting occurring adjacent to and within the loop road described above and selective cutting for the remainder of the proposed project on top of the bench Utilities constructed concurrently for this portion Construction of 69 multi-family units Construction of the water storage tank 	12.2 acres	
3	<ul style="list-style-type: none"> Construction of 12 small-lot, single-family units Construction of 44 multi-family units Construction of 22,000 square feet commercial 	7.6 acres	July 2022 - June 2025 (36 months)
4	<ul style="list-style-type: none"> Construction of South Canyon Lane with extension of utilities Construction of 13 single-family residences Construction of 61 small-lot, single-family residences 	8.4 acres	
5	<ul style="list-style-type: none"> Construction of Canyon Court with extension of utilities Construction of 15 single-family residences 	4.9 acres	July 2025 - June 2027 (24 months)
6	<ul style="list-style-type: none"> Construction of Canyon Circle with extension of utilities Construction of six single-family residences 	3.9 acres	
7	<ul style="list-style-type: none"> Construction of McKay Lane with extension of utilities Construction of 11 single-family residences Construction of 20 small-lot, single-family residences 	5.8 acres	July 2027 - December 2030 (42 months)
8	<ul style="list-style-type: none"> Construction of Oakview Drive with extension of utilities Construction of 28 single-family lots Construction of 18 affordable single-family residences 	8.8 acres	
9	<ul style="list-style-type: none"> Extension of McKay Lane and Oakview Drive with extension of utilities Construction of 20 single-family residences 	6.9 acres	
N/A	<ul style="list-style-type: none"> Land to be left as undisturbed open space 	21.73 acres	N/A
Total		81 acres	10 years

1. This was the schedule at the time the Draft EIR circulated, however, given the changed regulatory conditions, a Partial Recirculated Draft EIR was needed to update the project's environmental analysis. The construction schedule will be delayed to later years, however the previously completed analysis, particularly with respect to air quality and greenhouse gases remains valid. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario, since emission factors for construction equipment decrease as the analysis year increases, due to improvements in technology and more stringent regulatory requirements. Construction emissions would decrease as the construction schedule moves to later years. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as require per CEQA guidelines.



Roadways and Vehicular Access

On-site Roadways

The proposed project would have two access points from Redwood Street and Arbutus Street. Redwood and Arbutus Streets would extend east into the project site, with Arbutus Street curving north and eventually intersecting with Redwood Street and continuing farther north to meet the proposed internal access road, Canyon Circle. Additional internal access roads would branch off Redwood Street and Arbutus Street to serve the other portions of the proposed project located farther east and north. Fern Street would not extend into the proposed project but would provide secondary access to Lots 1 and 89.

The Redwood Street extension would result in culverting two drainage channels. A retaining wall up to 35 feet deep and 174 feet to 184 feet long would be built at each crossing.

Off-site Improvements

Off-site roadway improvements include proposed construction of infill sidewalks along the south side of Arbutus Street between Walnut Street and Cedar Street, and on the north side of Redwood Street between Walnut Street and the project site.

Emergency Vehicle Access

Emergency access to and from the project site would occur through Redwood Street, Fern Street, and Arbutus Street. All the access roads to serve the project area would consist of two-lane roadways.

Parking

The proposed single-family units would have a minimum of two on-site parking spaces. In addition, on-street parking would be provided. Surface parking for the multi-family units and commercial uses would be provided in accordance with the County Code requirements.

Utilities

Consistent with County Code Section 314-31.1.6.5.4, all utilities associated with the proposed project would be placed underground (Humboldt County 2017b). Lots are to be served by community water, wastewater, and street lighting services, which would be extended from HCSD. The HCSD prepared a Municipal Services Review (MSR) for expansion of its SOI that includes the project site.

Storm Drainage

Development of the proposed project would create additional impervious surfaces and result in an increase in stormwater runoff. A portion of the site is within the County's Municipal Separate Storm Sewer System (MS4) permit jurisdiction, and each individual parcel within the development would be required to comply with the MS4 permit requirements. The proposed project would incorporate a combination of LID features, including infiltration galleries, bioswales, rain gardens, rain barrels, trees, etc. All proposed roadways would have a depressed parkway adjacent to the road surface that would function as a bioswale for roadway drainage. Storm drain inlets would be located within the bioswales to convey drainage to the storm drain system for flows exceeding the 85th percentile storm. Storm drainage would then be conveyed to the drainage area outlet. Each drainage management area within the MS4 permit



area would require additional stormwater detention. The current site plan identifies potential detention basin locations. However, as the proposed project would be developed in phases, detention basins would be further refined for each phase.

Water

Underground potable water pipelines would be extended to the project site, and potable water supplies would be supplied by HCSD. Additionally, HCSD has determined that a new water storage tank would be required to serve the proposed project. The proposed water storage tank would be located approximately 2.5 miles south of the proposed project, near Ridgewood, California, in proximity to HCSD's existing water storage tank. A water supply study is underway that would identify the exact size and location of the water storage tank. For the purposes of this EIR, and as a worst-case scenario, approximately 0.3 acre would be considered impacted. The proposed water storage tank would be built prior to Phase 1, although the applicant may have an analysis run based on phasing to determine whether the tank can be installed in a later phase, and this will be recommended as a condition of approval.

HCSD has also determined that the main on Walnut Street between Holly Avenue and Cypress will need to be upsized to 12-inches, however the time of construction of this upsizing has not been determined. HCSD anticipates that the upsizing of the line would be beneficial for future planned growth and the provision of its services; therefore, HCSD would likely perform the associated work with the developer with an agreed upon cost-sharing agreement; HCSD would participate financially in a portion of the costs of construction. Given that replacement of the line would be less than 1000 feet and would be a replacement of an existing facility. Out of an abundance of caution, impacts associated with temporary service interruptions, noise, air quality and dust emissions from construction activities were overestimated to account for this line replacement. As such, the previously circulated EIR sections accounted for a range of construction-based impacts including such utility replacements. Furthermore, there is no specific design detail on the specific timing or replacement of the previously mentioned waterline and HCSD may construct this improvement as part of a larger project at which time subsequent environmental will be required.

Wastewater

Underground wastewater pipelines would be extended to the project site, and wastewater collection and treatment would be provided by HCSD. A new sewer lift station would be added to the northeastern portion of the project site that is planned to remain as open space. All sewage within the subdivision would gravity flow to the low point at the north end of the subdivision to the new sewage lift station. The sewage would then be pumped to the existing sanitary sewer manhole located on Hemlock Street and Dolbeer Street via a new sewer line to be installed between the project site and the intersection of Walnut Drive and Hemlock Street. The new sewer line would extend west onto Redwood Street, turning north onto Walnut Drive, and then connecting to the existing sewer system manhole located on Hemlock Street and Dolbeer Street. All utility work would occur in the existing right-of-way.

Lighting

The project site currently contains existing outdoor lighting around Redwood Fields Park and its associated parking areas. The new roadways and commercial buildings would have street lighting installed for security purposes. All new outdoor lighting would be the minimum lumens required for security purposes, directed downward, and shielded to prevent light spillover onto adjacent properties.



Electricity and Natural Gas

Underground electricity and natural gas lines would be extended to the project site from existing facilities within the Fern Street right-of-way. Service would be provided by PG&E. A 40- to 50-foot-wide easement would be provided along the existing high voltage power line that would remain in place.

The proposed project would include energy conservation features, including homes that are energy efficient with a goal to exceed the state's current Title 24 requirements, and by meeting current Tier 2 Energy Efficiency standards. The proposed residences would have roof top solar. Electrical Vehicle charging will be required at the commercial and multi-family units. To the extent feasible, the proposed project would incorporate sustainable materials such as low- or zero-volatile organic compound paint and carpets.

Construction Activities

The anticipated phasing for the proposed project is likely to take 20 or more years to complete, over nine phases. The construction Stormwater Pollution Prevention Plan (SWPPP) would include year-round sediment and erosion control measures, which would be implemented during each phase.

Tree Removal

Development of the proposed project would require removal of approximately 59.27 acres of timber forests. The removal of trees would occur prior to development of each phase. All trees would be cut into logs on the project site and transported on trucks.

Grading

The project site would be graded in accordance with the phasing plan. The earthwork would include site clearing, grading, utility trenching, and construction of roadways followed by building construction. Subject to market conditions and finalization of construction plans, construction activities would occur over an approximately 10- to 20-year period in nine phases. Construction of the backbone infrastructure would occur first during each phase, which would provide local access to each of the phase locations. All grading or earthwork activities associated with the proposed project would comply with the County Code, Section 331-14, Grading, Excavation, and Sediment Control.

2.4 INTENDED USES OF THIS DRAFT EIR

This Draft EIR is being prepared by the County to assess the potential environmental impacts that may arise in connection with actions related to implementation of the proposed project. Pursuant to CEQA Guidelines Section 15367, the County is the lead agency for the proposed project and has discretionary authority over the proposed project and project approvals. The Draft EIR is intended to address all development that is within the parameters of the proposed project.



2.4.1 Discretionary and Ministerial Actions

The project application would require the following discretionary approvals and actions, including but not limited to:

- General Plan Amendment, Major Subdivision, Planned Unit Development Permit, and Zoning Ordinance Amendment – Humboldt County
- Development Agreement – Humboldt County
- Special Permit for vegetation removal and work within a Streamside Management and Wetland Area – Humboldt County

Certain ministerial actions would be required for the implementation of the proposed project, including, but not limited to, issuance of encroachment, grading, and building permits.

2.4.2 Responsible and Trustee Agencies

In addition to Humboldt County, several other agencies will serve as Responsible and Trustee Agencies, pursuant to CEQA Guidelines Section 15381 and Section 15386, respectively. This Draft EIR will provide environmental information to these agencies and other public agencies, which may be required to grant approvals or coordinate with other agencies, as part of project implementation. These agencies may include, but are not limited to, the following:

- HCSD Annexation – Humboldt County LAFCo
- Lake and Streambed Alteration Agreement (SAA) – CDFW
- Compliance with the California Endangered Species Act (CESA) for potential take of state listed species (if needed) – CDFW
- Section 404 Permit – USACE
- Compliance with the federal ESA for potential take of listed species (if needed) – U.S. Fish and Wildlife Service (USFWS)
- 401 Water Quality Certification – North Coast RWQCB
- North Coast Unified Air Quality Management District

Actions that would be necessary to implement the proposed project that must be taken by other agencies are as follows:

- Obtain coverage under General Construction Stormwater Permit – State Water Resources Control Board (SWRCB)/North Coast RWQCB; a SWPPP must be submitted in order to obtain such coverage
- Issuance of Encroachment Permits for roadway improvements within facilities under the jurisdiction of the County of Humboldt or the City of Eureka



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3.11 LAND USE AND PLANNING

This section describes the environmental and regulatory setting for land use and planning. It also describes existing conditions and potential impacts related to land use and planning that would result from implementation of the proposed project, and mitigation for potentially significant impacts, where feasible.

3.11.1 Environmental Setting

Project Site

The proposed project would include the subdivision of a parcel, consisting of seven Assessor Parcel Numbers (APNs), for a total of approximately 81 acres, into mixed-use lots to develop up to 320 residential units, approximately 22,000 square feet of commercial uses, and an off-site water storage tank on approximately 0.3 acre located 2.5 miles to the south. The proposed land uses would include single-family dwellings, multi-family dwellings, and neighborhood commercial. Approximately 21.73 acres would be left as undeveloped open space that would be dedicated to the County for future trail management. An off-site water storage tank would be owned and managed by Humboldt Community Services District (HCSD) and would support the proposed development.

The proposed development site is largely occupied by young redwood forest of mostly second and third growth trees. An overhead powerline corridor passes through the middle of the project area, just north of the existing Redwood Fields Park. The proposed water storage tank site is covered with grass and a nearby existing water tank owned by HCSD.

Surrounding Land Uses

The 81-acre development site is surrounded by the following land uses:

- North: Timber forests, gulch occupied by Ryan Creek, and residential development at the end of Manzanita Avenue
- East: Ryan Slough, PG&E powerline, the McKay Community Forest (owned by the County), and Green Diamond Industrial Timberland
- South: Timber forests and Glen Paul School
- West: Redwood Fields Park and residential development farther west
- The proposed water storage tank location is surrounded by dense vegetation and undeveloped areas.

Humboldt County General Plan Land Use Designation

The project site is designated as Residential Low Density (RL) 1-7 units/acre in the County General Plan. The RL designation is used for areas suitable for residential use where urban services are available or are anticipated to be available. Single-family units on individual lots are the dominant use, but the designation can accommodate a mix of housing types, including townhouses and common-wall clustered units (Humboldt County 2017c). The water storage tank location is designated as Timberland (T). This designation is utilized to classify land that is primarily suitable for the growing, harvesting, and production of timber (Humboldt County 2017c).



Humboldt County Zoning

County Zoning Regulations for areas outside the coastal zone can be found in Title III, Chapter 4. The project site is out of the coastal zone and is currently zoned as Residential One-Family (R-1), with combining zones indicating Planned Unit Development (P), Recreation (R), and Greenway and Open Space (GO). The water storage tank parcel is zoned as a TPZ. The County Code includes the following requirements for these zoning designations:

- **Residential One-Family (R-1):** The Residential One-Family, or Residential Single-Family zone is intended to be applied to the County in which topography, access, utilities, and public services make the area suitable and desirable for low density residential development.
- **Planned Unit Development (P):** The purpose of the Planned Unit Development zone is to encourage planned unit developments and to allow flexibility to cope with difficulties due to topography and other natural or manmade features. Additionally, the Planned Unit Development zone allows for clustered development in concert with the provision of residential amenities such as open space, recreation areas, and neighborhood commercial services.
- **Recreation (R):** The Recreation zone is intended to be combined with any principal zone in which the addition of recreational uses is desirable and will not be detrimental to the uses of the principal zone or of adjacent zones.
- **Greenway and Open Space (GO):** The Greenway and Open Space Combining zone is intended to be applied within the urban limits of the Eureka Community Planning Area in sensitive habitat areas historically known as gulches.
- **Timberland Production Zone (TPZ):** The TPZ is intended to provide standards and restrictions for the preservation of timberlands for growing and harvesting timber

Eureka Community Plan Area

The 2017 County General Plan has identified and mapped 18 inland Community Plan Areas (CPA). Some of these CPAs have an adopted Community Plan and others do not. The purpose of a Community Plan is to develop an internally consistent General Plan, allow for expanded public participation in the planning process, and meet the needs of individual communities (Humboldt County 2017c).

The Eureka CPA, which has an adopted Community Plan as of 1995, encompasses 11,000 acres and includes the developed area around Eureka, outside the coastal zone, including Cutten, Ridgewood, Pine Hills, Humboldt Hill, and portions of Myrtle town (Humboldt County 2017c, 1995). Although the SOI for the Eureka CPA does not include the entire proposed project area, the North McKay development is specifically discussed and has relevant policies in the Community Plan and is therefore relevant to this section.



3.11.2 Regulatory Setting

State

Cortese-Knox-Hertzberg Local Government Reorganization Act

The Cortese-Knox-Hertzberg Local Government Reorganization Act (Act) of 2000 establishes procedures for establishing, updating, or amending an SOI. The Act's purpose (Section 56301) is discouraging urban sprawl, preserving open space and prime agricultural lands, efficiently providing government services, and encouraging the orderly formation of local agencies based upon local conditions and circumstances. Section 56425 of the Act grants a LAFCo the authority to carry out its purposes and responsibilities for planning and shaping the logical and orderly development and coordination of local governmental agencies to advantageously provide for the present and future needs of the County and its communities.

General Plans

The land use planning and zoning authority of local jurisdictions in California is set forth in the state's planning laws. California Government Code Section 65300, et seq. obliges cities and counties to adopt and implement general plans. A general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning. A general plan addresses a broad range of topics including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area. A general plan is a long-range document that typically addresses the physical character of an area over a 20-year period. Although a general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow flexibility in the approach taken to achieve the plan's goals.

State Zoning Law

The State Zoning Law (California Government Code Section 65800, et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific district, are required to be consistent with a general plan and any applicable specific plans. When amendments to a general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure the land uses designated in that general plan would also be allowable by the zoning ordinance (California Government Code Section 65860, sub.[c]).

Local

Humboldt County General Plan

The County General Plan, adopted October 23, 2017, provides a blueprint for growth within the County. The General Plan contains 12 topical elements: Land Use, Community Infrastructure and Services, Telecommunications, Circulation, Economic Development, Housing, Conservation and Open Space, Water Resources, Energy, Noise, Safety, and Air Quality. Each element establishes goals and policies to guide future land use activities and development within the County General Plan boundaries. The



applicable goals and policies are discussed later in this section, in Table 3.11-1, General Plan Policy Consistency Analysis.

The project Applicant is proposing to re-designate the proposed development site from RL 1-7 units/acre to Residential Medium Density (RM) 7-30 units/acre, and CG. No land use designation change is required for the water storage tank site. The General Plan describes the purpose and intent of these land use designation as follows:

Residential Low Density

The RL designation is used for areas suitable for residential use where urban services are available or are anticipated to be available. Single-family units on individual lots are the dominant use, but the designation can accommodate a mix of housing types including townhouses and common-wall clustered units.

Residential Medium Density

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.

Commercial General

The CG designation is intended to classify lands that, because of their location, access, and availability of services, are suitable for commercial development. This includes retail trade services that are easily accessible, compatible, and geared for local neighborhood or regional needs.

Humboldt County Code

The County Code provides regulation of land and structures to promote health, safety, and welfare of the public, and to ensure the orderly development of the County. Title III Land Use and Development, Chapter 4, describes where specific allowed uses, such as residential development, may be located. To establish consistency with the General Plan, rezoning of parcels from R-1, with combining zones indicating P, R, and GO to R-1, R, GO, Apartment Professional (R-4), and C-1 with a Planned Unit Development overlay. The water storage tank location would remain zoned as TPZ. The primary purpose of the Planned Unit Development (P) overlay district is to encourage and facilitate the creative and innovative use of land that may otherwise be limited or prohibited by the standard provisions of this title. The P combining district is designed to allow diversity in the relationship between buildings and open spaces to create interesting physical environments and to maximize the development potential of underutilized or problematic land areas.

Eureka Community Plan

The Eureka Community Plan adopted April 25, 1995 and amended on October 23, 2017, acts as a blueprint, guiding development throughout the Eureka Planning Area over the next 20 years. While the County General Plan covers countywide issues, the Eureka Community Plan specifically deals with land use within the Eureka Planning Area. The County General Plan and the Eureka Community Plan together comprise the County General Plan within the project area. The applicable goals and policies are discussed later in this section, in Table 3.11-2, Eureka Community Plan Policy Consistency Analysis.



Humboldt County LAFCo

The state has charged the LAFCo with carrying out changes in governmental organization to promote specified legislative policies now codified in the Act. LAFCo has both the local and countywide perspective necessary to implement the policies of the Act. Decisions relating to the most efficient form of local government and the preservation of open space and agricultural land inherently involve the balancing of potentially competing interests of jurisdictions, because applications subject to LAFCo proceedings may involve the interests of the County, a city, and one or more special districts. Humboldt County LAFCo has developed standards and guidelines in its Boundary Change Policies and Procedures that aid in the implementation of the Act and are provided later in this section, in Table 3.11-3, LAFCo Consistency Analysis (Government Code Section 56668). LAFCo may make exceptions to these general and specific standards if it determines that such exceptions: (1) are necessary due to unique circumstances; (2) are required to resolve conflicts between general and specific standards; (3) would result in improved quality or lower cost of services available; or (4) if there exists no feasible or logical alternative.

3.11.3 Methodology for Analysis

The analysis of potential land use impacts considers the project's consistency with adopted plans and policies that regulate land use on the project site, and the project's compatibility with surrounding land uses. The determination of consistency with applicable land use policies and ordinances is based upon a review of the previously identified planning documents that regulate land use or guide land use decisions pertaining to the project site. CEQA Guidelines section 15125(d) requires that an EIR discuss inconsistencies with applicable plans that the decision-makers should address. Evaluations are made to determine whether a project is consistent with such plans. Projects are considered consistent with regulatory plans if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals. The intent of the consistency evaluation is to determine if noncompliance with regulatory plans would result in a significant impact.

The impact analysis was based on review of the County General Plan and Eureka Community Plan to identify planned land uses and policies applicable to the proposed project. Additionally, applicable LAFCo policies and procedures were reviewed to determine if the proposed project would result in urban sprawl. Existing land uses were determined from site reconnaissance and General Plan designations. The County's zoning regulations were also reviewed to determine the proposed project's consistency with existing zoning.

3.11.4 Thresholds of Significance

The CEQA Guidelines' Appendix G Environmental Checklist was assessed during the NOP scoping process to identify the proposed project components that have the potential to cause a significant impact. The following thresholds of significance were used to determine if further evaluation within this EIR was warranted to ascertain whether the proposed project may:

- Physically divide an established community
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect



3.11.5 Project Impact Analysis and Mitigation Measures

This section analyzes the proposed project's potential to result in significant impacts to land use and planning. When a potential impact was determined to be potentially significant, feasible mitigation measures were identified to reduce or avoid that impact.

Established Communities

Impact LU-1: The proposed project would not physically divide an established community.

Impact Analysis

The proposed project does not include any improvements or components that would physically divide any existing and established communities in the Cutten area. The proposed project would provide a new mixed-use development in the eastern portion of Cutten on a previously undeveloped area. The proposed project would provide additional commercial and residential space for future use and would expand upon an already established neighboring community. Existing roads would be extended east into undeveloped site to serve the proposed residential and commercial development and would not create new roads that would divide existing neighborhoods. The proposed water storage tank would be located adjacent to an existing HCSO tank and, as such, would not divide any existing community. Therefore, the proposed project would have no potential to physically divide the established community in the area, and there would be no impact.

Level of Significance Before Mitigation

No Impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

No Impact.

Land Use Plans, Policies, or Regulations

Impact LU-2: The proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Impact Analysis

The following analysis considers the proposed project's potential to conflict with applicable land use plans and policies and regulatory compatibility.

Land Use and Zoning Consistency

The current land use designation for the project site is Residential Low Density (RL) 1-7 units/acre (Humboldt County 2017a) and the project parcels are currently zoned Residential One-Family (R-1), with combining zones indicating Planned Unit Development (P), Recreation (R), and Greenway and Open Space (GO), and Timberland (T).



The proposed project would require the approval of land use and zoning designation changes to allow the development of the proposed residences and commercial lots. The proposed project would require the following land use and zoning designation changes (See Figure 2-4):

- **County General Plan:** A General Plan Amendment would change the land use designation of a portion of the parcel from RL 1-7 units/acre to Residential Medium Density (RM) 7-30 units/acre, and CG.
- **County Zoning:** The project site would require rezoning of a portion of the parcel from R-1, P, R, and GO to Apartment Professional (R-4), and C-1 with a P overlay.

The General Plan Amendment for the proposed project would allow for the development of commercial uses as well as include a higher density of development in the area. The proposed General Plan Amendment would be consistent with widely accepted planning principles of facilitating logical and orderly growth, ensuring compatibility with surrounding uses, and ensuring consistency with the goals and policies of the General Plan. Each of these planning principles is evaluated below:

- **Logical and orderly growth:** The project site is within the Eureka CPA and is anticipated to be developed in the future. The proposed General Plan amendment implements the Humboldt County General Plan. The proposed project identifies goals, principles, mandatory requirements, and design standards and guidelines. While the proposed project requires utility extensions, including sanitary sewer and a new, off-site water storage tank, these extensions would allow development adjacent to previously developed land, including community ballfields, a school, and residences. As such, the proposed project would facilitate logical and orderly growth.
- **Compatibility with surrounding land uses:** The project site is surrounded by timberland resources on the north, east, and south, and existing residential and recreational uses directly to the west. The proposed mixed-use development on 81 acres is east of existing residential and recreational land uses and would connect to these existing uses through roads and trails. The proposed 59 multi-family residential units would be located nearest existing single-family residential, school, and park uses; the commercial and small lot single-family residential development would be adjacent to the existing ballfields at Redwood Fields Park. The mixed-use nature of the proposed project means a variety of uses and densities would be present within a defined area.
- **Consistency with goals and policies of the General Plan:** The proposed project would be consistent with applicable goals and policies of the General Plan. Table 3.11-1 provides a consistency determination.

The rezoning would allow for commercial uses located adjacent to residential land uses. In addition, a Planned Unit Development overlay would encourage creative and innovative use of land to allow for diversity of uses and maximize the development potential the project site. The proposed project would also incorporate trail connections. Approximately 21.73 acres of the project site would be dedicated to the County as open space or conveyed in fee.

The General Plan establishes a density of 1 to 7 dwelling units per acre for RL-1-7, a density of 7 to 30 dwelling units per acre for RM land use, and a maximum floor area ratio of 3 for neighborhood commercial and use. The proposed project contemplates development of 146 single-family dwelling units



on approximately 37.57 acres, thus establishing a density of 3.8 dwelling units per acre. Up to 174 multi-family dwelling units are proposed on 19.45 acres, resulting in a density of 8.9 dwelling units per acre. The 22,000 square feet commercial uses would be built on 2.1 acres and resulting in floor area ratio of 0.25:1. Therefore, the proposed project conforms to the General Plan densities. In summary, the proposed project is consistent with the proposed land use designations. Impacts would be less than significant.

Humboldt County General Plan Consistency

The proposed project must be consistent with the County's General Plan. The OPR states that, "an action, program, or project is consistent with the General Plan if, considering all its aspects, it will further the objectives and policies of the General Plan and not obstruct their attainment." (OPR 2005) As shown in Table 3.11-1, the proposed project would be consistent with most of the applicable goals and policies of the General Plan with mitigation incorporated.



Table 3.11-1: General Plan Policy Consistency Analysis

Goal/Policy	Project Consistency
Land Use	
<p>Goal GP-G2. Community Planning Areas. Sufficient development emphasis and public investment in Urban Development Areas to create expanding commerce and housing opportunities, economically viable urban services and conservation of open space and resource lands.</p>	<p>Consistent. The proposed project consists of housing and commercial development, trail connections, and open space preservation.</p>
<p>Goal FR-G4: Incompatible and Conflicting Uses. Timberlands protected from the encroachment of incompatible uses and managed for the inclusion of compatible uses.</p>	<p>Consistent. Although the proposed project area currently consists of a timberland area that was previously used for timber harvesting and is within a THP area, the area has been identified in planning documents and through zoning and general plan land use designations as an area for future development.</p>
Community Infrastructure	
<p>Policy IS-P3: Requirements for Discretionary Development. The adequacy of public infrastructure and services for discretionary development greater than a single-family residence and/or second unit shall be assessed relative to service standards adopted by the Board of Supervisors, local service providers, and state and federal agencies. Such discretionary development may be approved if it can be found that: Existing services are adequate; or Adequacy will be attained concurrent with project implementation through project conditions; or Adequacy will be obtained over a finite time period through the implementation of a defined capital improvement or service development plan; or Evidence in the record supports a finding that approval will not adversely impact health, welfare, and safety or plans to provide infrastructure or services to the community.</p>	<p>Consistent. As discussed in Section 3.18, Utilities and Service Systems, the proposed project includes annexing to HCSD and extending and installing necessary infrastructure to serve the project. A new off-site water tank would be constructed as part of the proposed project, expanding HCSD’s service capacities. A sewer line will also be extended to Hemlock Street and Walnut Drive to provide sanitary sewer facilities to the proposed project.</p>
<p>Policy IS-P4: Fiscal Impact Assessment. The fiscal impacts of discretionary development (i.e. projects that require the preparation of an Environmental Impact Report that may have significant impacts on existing and planned public infrastructure and services) shall be considered during the project review process. Significant adverse effects shall be mitigated to the extent feasible.</p>	<p>Consistent. As discussed in Section 3.18, Utilities and Service Systems, the proposed project includes annexing to HCSD, and extending and installing necessary infrastructure to serve the project. A new off-site water tank would be constructed as part of the proposed project, expanding HCSD’s service capacities. A sewer line will also be extended to Hemlock Street and Walnut Drive to provide sanitary sewer facilities to the proposed project.</p>
<p>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.</p>	<p>Consistent. As discussed in Section 3.18, Utilities and Service Systems, the proposed project includes annexing to HCSD, and extending and installing necessary infrastructure to serve the project. A sewer line will also be extended to Hemlock Street and Walnut Drive to provide sanitary sewer facilities to the proposed project. The proposed project represents orderly and compatible development as discussed in Table 3.11-3.</p>



Goal/Policy	Project Consistency
<p>Policy IS-P25: Fire Service Impacts from New Development. During review of discretionary permits within fire related district boundaries or identified response areas, utilize recommendations from the appropriate local fire chief as feasible mitigation measures to reduce impacts to emergency response and fire suppression services from new development.</p>	<p>Consistent. The proposed project would be constructed in compliance with all applicable federal, state, and local regulations pertaining to fire safety. As discussed in Section 3.14, Public Services, consultation with CAL FIRE would be required in order to ensure that any structures built within the SRA are constructed in accordance with CAL FIRE's regulations for fire safety. MM PS-1 would be required in order to ensure that safety measures are put in place in accordance with CAL FIRE and County regulations.</p>
Telecommunications	
<p>Goal T-G3: New Construction. Broadband service capability integrated into new buildings and developments.</p>	<p>Consistent. Broadband service capability would be included in the new development as a condition of approval.</p>
<p>Policy T-P13: Subdivision Improvement Requirements. New residential and commercial development projects shall include the infrastructure components necessary to support modern communication technologies, such as conduit space within joint utility trenches for future high-speed data equipment and flexible telephone conduit to allow for easy retrofit for high-speed data systems.</p>	<p>Consistent. The proposed project would include adequate telecommunications and broadband service capability as a condition of approval.</p>
Circulation	
<p>Policy C-P4: Mitigation Measures. Development with potentially significant circulation impacts as determined by CEQA review shall be conditioned to proportionally mitigate such impacts through payment of impact fees, construction of on- and off-site improvements and dedication of rights-of-way or a combination of impact fees, improvements and dedications.</p>	<p>Consistent. SB 743 requires that traffic analyses under CEQA now utilize a Vehicle Miles Travelled (VMT) approach to identifying significant impacts. Pursuant to Section 15064.3 of the CEQA Guidelines, this project's effect on automobile delay shall not constitute a significant environmental impact that would require mitigation pursuant to this General Plan policy. As discussed in Section 3.16, Transportation, the proposed project would result in a less than significant impact to VMT. .</p>



Goal/Policy	Project Consistency
<p>Policy C-P5: Level of Service Criteria. The County shall strive to maintain Level of Service C operation on all roadway segments and intersections, except for U.S. 101, where Level of Service D shall be acceptable. Level of Service improvements for automobiles should not adversely affect Level of Service and/or Quality of Service for other modes of transportation, if possible.</p>	<p>Consistent. Pursuant to Section 15064.3, this project's effect on automobile delay shall not constitute a significant environmental impact. Coordination between the Humboldt County Department of Public Works and the City of Eureka determined that 12 intersections had the potential to be impacted and needed to be analyzed for level of service conditions to determine consistency with the Humboldt County General Plan. The Focused Traffic Study for the McKay Ranch Subdivision prepared in May 2018 by TJKM found that 9 of these intersections would be functioning below LOS C under both Future (2040) with no project and Future (2040) plus Project conditions. The traffic study identifies improvements to all intersections operating at LOS D or worse in the future condition with Project, with the exception of the Harris and Harrison intersection where a traffic signal is already in place. The study also calculates the project's contribution to LOS delay at these intersections as a percentage of the Future plus Project conditions. The project is not anywhere close to 100% responsible for the LOS delay at any of the intersections individually and the county may only require development conditions which are proportional to the project's impacts (<i>Dolan v. City of Tigard</i>, 512 U.S. 374). The project's cumulative fair share is 197%, which is roughly two intersections. County Public Works has identified two intersections that are priority needs for signalization based on circulation patterns, and which may serve an equivalent share of the total of improvement costs for intersections that fall below LOS C. Signalization of these intersections can be made a condition of approval of the subdivision map thus ensuring consistency with Policy C-P5.</p>
<p>Policy C-P11: Transportation Demand Management Programs. Require residential subdivisions and multifamily development that would result in fifteen or more dwelling units, and non-residential development that would employ greater than ten persons, and that require a discretionary permit, to comply with County transportation demand management programs.</p>	<p>Consistent. The proposed project would result in more than 15 dwelling units and a discretionary permit is required. As discussed previously, the project would be conditioned to signalize two priority intersections identified by the County Public Works that will facilitate implementation of the County's transportation demand management program. Additionally, the project would implement mitigation measure TRANS-1 to address potential transportation conflicts during construction of the project.</p>
<p>Policy C-P31: Removal of Obstacles in Pathways. Where feasible and consistent with the County-Wide Transportation Plan, new pathways and sidewalks shall be free of obstacles such as utility poles and mailboxes. Where obstacles are unavoidable on existing sidewalks or pathways, pedestrian facilities shall be widened or otherwise designed to provide the least amount of obstruction to users.</p>	<p>Consistent. The proposed project would include the dedication of easements and public rights-of-way for pedestrian pathways and roads that would include sidewalks. Conditions of approval would require pathways and pedestrian ways to be clear of obstacles. The VMT analysis determined the project would not block, remove, or create barriers for transit utilization.</p>



Goal/Policy	Project Consistency
<p>Policy C-P34: Traffic Calming. Use traffic calming measures, where feasible and appropriate, as a means of improving safety for all users. Traffic calming measures may include, but are not limited to, roundabouts, chicanes, curb extensions, and traffic circles.</p>	<p>Consistent. As discussed in Section 3.16, Transportation, the proposed project has been designed to incorporate intersection improvements. These intersection improvements would help minimize traffic congestion in the vicinity of the proposed project.</p>
<p>Policy C-P38: Develop a Regional Trails System. Support efforts to establish and connect regional trails, particularly in the greater Humboldt Bay and lower Mad River areas, the Eel River Valley, along the Avenue of the Giants and in the Klamath-Trinity area. The System should include the California Coastal Trail system and consist of multi-use trails where feasible.</p>	<p>Consistent. The proposed project would include 20-foot-wide trail easements and would construct trail connection to the future public trails to access the McKay Community Forest, consistent with efforts to establish a regional trail system.</p>
<p>Policy C-P39: Encourage Bicycle and Pedestrian-Friendly Development: Incentives should be given to developers who provide non-motorized facilities that connect neighborhoods in a design appropriate to the character of those neighborhoods.</p>	<p>Consistent. The proposed project would include pedestrian pathways and 20-foot-wide trail easements, which would connect the new development to the existing community and surrounding recreational opportunities. The project would include the construction of the McKay Community Forest trail segments that are within the project boundary.</p>
<p>Housing Element¹</p>	
<p>Goal H-G2: Housing Diversity. An adequate supply of all types of housing affordable for all income levels in all areas of the County, including urban, suburban, rural, hamlet and remote areas.</p>	<p>Consistent. The proposed project consists of a mixed-use development which would include 146 single-family houses and 174 multi-family units. The development would provide for a range of income levels, with 18 affordable units, 50 smaller (less than 5,000 square feet) single-family lots, and 96 larger lots measuring 6,600 square feet or more.</p>
<p>Goal H-G3: Workforce Housing. An adequate supply of rental and homeownership opportunities affordable to wage earners within close proximity to local businesses, recreational facilities, community services, transit corridors and schools.</p>	<p>Consistent. The proposed project consists of a mixed-use development that would place residences and new commercial uses near existing residential, business, and community services. The range of unit types, including multi-family and single-family residential, would provide for ownership and rental opportunities. The nearest transit stop is approximately 0.2 mile to the west, the nearest elementary school is adjacent to the site, and more extensive employment, commercial, health and other services and opportunities are approximately 1 mile to the north.</p>
<p>Policy H-P13: Support Innovative Construction and Design Methods. The County shall support the use of innovative construction and design methods and building materials that make more efficient use of land and materials, including water conserving waste disposal systems, energy systems, dwelling designs, and uses of recycled materials for building. The County shall also encourage and support sweat-equity and collaborative construction methods.</p>	<p>Consistent. As discussed in Section 2.0, Project Description, the proposed project would include energy conservation features that would meet or exceed the state's current Title 24 requirements. Additionally, rooftop solar would be provided on single-family homes and electrical vehicle charging would be provided in commercial uses and multi-family homes.</p>



Goal/Policy	Project Consistency
<p>Policy H-P21: Siting of Multifamily Housing Developments. The County shall plan, prioritize, and support development proposals that locate multifamily uses along major transportation corridors, near transit stops, public services, recreation areas, neighborhood commercial centers and work opportunities.</p>	<p>Consistent. The proposed project includes a mixed-use development located approximately 0.3 mile from the neighborhood commercial area at Maple Avenue and Fern Avenue, and adjacent to existing recreational opportunities. The nearest transit stop is approximately 0.2 mile to the west, the nearest elementary school is adjacent to the site, and more extensive employment, commercial, health and other services and opportunities are approximately 1 mile to the north.</p>
<p>Policy H-P22: Allowances for a Mixture of Housing Sizes and Types. The County shall allow a variety of housing types and sizes in all residential areas served by public sewer to encourage a mix of housing opportunities for all income categories.</p>	<p>Consistent. The proposed project includes a variety of housing types, including 96 larger single-family lots (6,600 square feet or greater), 50 smaller single-family lots (less than 5,000 square feet), and 174 multi-family units; 18 housing units would be affordable. The residences would be served by public sewer through HCSD.</p>
<p>Economic Development Element</p>	
<p>Goal ED-G6: Competitive Quality of Life. Maintained and enhanced natural resources, recreational opportunities, quality education, vibrant town centers, access to employment, housing, retail, health care, childcare, safety, multimodal transportation, advanced telecommunications, and cultural and natural amenities.</p>	<p>Consistent. The proposed project includes trails to provide access to adjacent recreational and open space opportunities and proposed commercial spaces and would be located within one mile of retail, childcare, transportation, employment and retail opportunities.</p>
<p>Conservation and Open Space</p>	
<p>Goal CO-G4: Parks and Recreation. Well maintained and accessible parks offering a range of popular recreation opportunities and a regional trail system that meets future recreational and non-motorized transportation demands.</p>	<p>Consistent. The proposed project includes designating and preserving 21.73 acres of permanent open space through a permanent easement dedicated to the County. In addition, 20-foot wide trail easements and trail connections would be provided on-site to connect to the future public trails to the McKay Community Forest.</p>
<p>Goal CO-G5: Open Space and Residential Development. Orderly residential development of open space lands that protects natural resources, sustains resource production, minimizes exposure to natural hazards, and seeks to minimize the costs of providing public infrastructure and services.</p>	<p>Consistent. The project site is currently zoned to allow 320 residential dwelling units. The project location is adjacent to developed lands, including community playfields at Redwood Fields Park, and would be provided with public water and sewer from HCSD, as outlined in the approved MSR. The Eureka Community Plan calls for the site's development, and the Housing Element identifies 5 of the 7 APNs as available for residential development in the Residential Land Inventory. As noted earlier, 21.73 acres of permanent open space would be preserved and dedicated to the County through an easement or conveyed in fee. Additionally, 20-foot wide trail easements and constructed trail connections would connect the future public trails to the McKay Community Forest.</p>



Goal/Policy	Project Consistency
<p>Policy BR-P1: Compatible Land Uses. Area containing sensitive habitats shall be planned and zoned for uses compatible with the long-term sustainability of the habitat. Discretionary land uses and building activity in proximity to sensitive habitats shall be conditioned or otherwise permitted to prevent significant degradation of sensitive habitat, to the extent feasible consistent with California Department of Fish and Wildlife guidelines or recovery strategies.</p>	<p>Consistent. As discussed in Section 3.4, Biological Resources, this EIR requires that mitigation for impacts to special-status species and jurisdictional features are implemented to reduce impacts on sensitive habitats.</p>
<p>Water Resources</p>	
<p>Policy 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 on-site water supplies or private water systems must provide evidence of sufficient water supply to the County Department of Environmental Health.</p>	<p>Consistent. As discussed in Section 3.10, Hydrology and Water Quality, the proposed project would have less than significant impacts related to water supply. Upon annexation, HCSD would supply water to the project, and a new off-site water storage tank would be constructed to support the new development.</p>
<p>Policy WR-P12: Project Design. Development should be designed to complement and not detract from the function of rivers, streams, ponds, wetlands, and their setback areas.</p>	<p>Consistent. The proposed project would include design features that would blend with the existing environment and would therefore be consistent with this policy.</p>
<p>Policy 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.</p>	<p>Consistent. The proposed project would be required to comply with the County’s MS4 Permit requirements related to LID. LID design is intended to maintain a site’s pre-development runoff characteristics by using design techniques that capture, treat, and infiltrate stormwater on site. Per the Humboldt Low Impact Development Stormwater Manual, the proposed project is considered a Hydromodification Project because the project would create more than 1 acre of impervious surface and create a net increase in impervious surface. As discussed in Section 3.10, Hydrology and Water Quality, post-project runoff would not exceed estimated pre-project flow rate for the 2-year, 24-hour storm, consistent with the LID Stormwater Manual.</p>



Goal/Policy	Project Consistency
<p>Policy WR-P37: Downstream Stormwater Peak Flows. Peak downstream stormwater discharge shall not exceed the capacity limits of off-site drainage systems or cause downstream erosion, flooding, habitat destruction, or impacts to wetlands and riparian areas. New development shall demonstrate that post development peak flow discharges will mimic natural flows to watercourses and avoid impacts to Beneficial Uses of Water.</p>	<p>Consistent. The proposed project would be required to comply with the County’s MS4 Permit requirements. LID design is intended to maintain a site’s pre-development runoff characteristics by using design techniques that capture, treat, and infiltrate stormwater on site. Per the Humboldt Low Impact Development Stormwater Manual, the proposed project is considered a Hydromodification Project because the project would create more than 1 acre of impervious surface and create a net increase in impervious surface. Conditions of approval would require post-project runoff to not exceed estimated pre-project flow rate for the 2-year, 24-hour storm, consistent with the LID Stormwater Manual.</p>
<p>Policy WR-P42: Erosion and Sediment Control Measures. Incorporate appropriate erosion and sediment control measures into development design and improvements.</p>	<p>Consistent. The proposed project would be required to comply with the County’s MS4 Permit requirements related to LID, including erosion and sediment control features.</p>
<p>Policy WR-P44: Storm Drainage Impact Reduction. Develop and require the use of Low Impact Development (LID) standards consistent with Regional Water Board requirements to reduce the quantity and increase the quality of stormwater runoff from new development and redevelopment projects in areas within the County’s MS4 boundary or as triggered under other Regional Water Board permits. For all other watersheds, develop storm drainage development guidelines with incentives to encourage LID standards to reduce the quantity and increase the quality of stormwater runoff from new developments.</p>	<p>Consistent. As discussed in Section 3.10, Hydrology and Water Quality, the proposed project aims to have stormwater quality protection measures such as bioswales, filter strips infiltration galleries, rain gardens, rain barrels, trees, or other accepted BMPs incorporated into the on-site drainage system to treat urban runoff.</p>
Energy	
<p>Goal E-G2: Increase Energy Efficiency and Conservation. Decrease energy consumption through increased energy conservation and efficiency in building, transportation, business, industry, government, water and waste management.</p>	<p>Consistent. The proposed project would include energy conservation features, including homes that are energy efficient with a goal to meet or exceed the state’s current Title 24 requirements, by meeting current Tier 2 Energy Efficiency standards. Additionally, electric vehicle charging stations would be installed for the commercial and multi-family portions of the proposed project, per County Building Code requirements.</p>
<p>Policy E-P12: Water Efficiency. Promote the efficient use of water in residences, businesses, industries, and agriculture.</p>	<p>Consistent. The proposed project would be designed to meet or exceed the state’s current Title 24 requirements by meeting Tier 2 Energy Efficiency standards. This includes features for efficient water use.</p>
<p>Policy E-P17: Residential Design. Proposed single-family residential structures should be designed to maximize solar access, energy conservation and passive solar energy generation. Solar access potential should be evaluated based on each climate zone within the County as established by the National Weather Forecast Center in Eureka.</p>	<p>Consistent. The proposed project would include rooftop solar on single-family homes and electrical vehicle charging stations in commercial and multi-family use. In addition, the proposed project would meet or exceed the state’s current Title 24 requirements by meeting current Tier 2 Energy Efficiency standards.</p>



Goal/Policy	Project Consistency
Safety	
<p>Policy S-G4: Fire Risk and Loss. Development designed to reduce the risk of structural and wildland fires supported by fire protection services that minimize the potential for loss of life, property, and natural resources.</p>	<p>Consistent. The proposed project would be located adjacent to existing wooded areas and constructed in compliance with all applicable federal, state, and local regulations pertaining to fire safety. As discussed in Section 3.19, Wildfires, consultation with CAL FIRE would be required in order to ensure that any structures built within the SRA are constructed in accordance with CAL FIRE's regulations for fire safety. MM WF-1 would be required in order to ensure that safety measures are put in place in accordance with CAL FIRE and County regulations. Therefore, the proposed project would be consistent with this policy with MM WF-1 incorporated.</p>
<p>Policy S-P11: Site Suitability. New development may be approved only if it can be demonstrated that the proposed development will neither create nor significantly contribute to, or be impacted by, geologic instability or geologic hazards.</p>	<p>Consistent. As discussed in Section 3.7, Geology and Soils, the proposed project would not substantially increase or contribute to site geologic instability or place structures within a geologic hazard area. The proposed project would be designed and built in conformance with all applicable federal, state, and local building code requirements related to site stability.</p>
<p>Policy S-P18: Subdivision Design in High and Very High Fire Hazard Zones. Subdivisions within State Responsibility Area (SRA) high and very high fire severity classification areas shall explicitly consider designs and layout to reduce wildfire hazards and improve defensibility; for example, through clustering of lots in defensible areas, irrigated green belts, water storage, perimeter roads, roadway layout and design, slope development constraints, fuel modification plans, and vegetation setbacks.</p>	<p>Inconsistent. The proposed project is located in an SRA with a high fire severity classification. As discussed in Section 3.19, Wildfires, MM WF-1 and MM WF-2 would be required in order to ensure that safety measures are put in place in accordance with CAL FIRE and County regulations. However, the proposed project does not provide a 100-foot defensible space along the perimeter of the subdivision and is not consistent with this policy.</p>
<p>Policy S-P19: Conformance with State Responsibility Areas (SRA) Fire Safe Regulations. Development shall conform to Humboldt County SRA Fire Safe Regulations.</p>	<p>Consistent. The proposed project is located in an SRA with a high fire severity classification. The proposed project would be constructed in compliance with all applicable federal, state, and local regulations pertaining to fire safety. As discussed in Section 3.19, Wildfires, consultation with CAL FIRE would be required in order to ensure that any structures built within the SRA are constructed in accordance with CAL FIRE's regulations for fire safety. MM WF-1 would be implemented in order to ensure that safety measures are put in place in accordance with CAL FIRE and Humboldt County regulations.</p>
<p>Policy S-S9: SRA Fire Safe Regulations. Development within SRA shall conform to SRA Fire Safe Regulations (Humboldt County Code, Division 11 of Title III as amended).</p>	<p>Consistent. The proposed project is located in an SRA with a high fire severity classification. The proposed project would be constructed in compliance with all applicable federal, state, and local regulations pertaining to fire safety. As discussed in Section 3.19, Wildfires, consultation with CAL FIRE would be required in order to ensure that any structures built within the SRA are constructed in accordance with CAL FIRE's regulations for fire safety. MM WF-1 would be required in order to ensure that safety measures are put in place in accordance with CAL FIRE and County regulations.</p>



Goal/Policy	Project Consistency
<p>Policy S-S10: California Building Codes. New construction shall conform to the most recently adopted California building codes</p>	<p>Consistent. County Code requires new construction, including the proposed project, to be designed and constructed to meet the most recent California building code specifications.</p>
<p>Policy S-S11: California Fire Code. The California Fire Code shall be applied to all applicable development.</p>	<p>Consistent. County Code requires all development, including the proposed project, to be designed and constructed in compliance with the California Fire Code. As discussed in Section 3.19, Wildfires, consultation with CAL FIRE would be required in order to ensure that any structures built within the SRA are constructed in accordance with CAL FIRE's regulations for fire safety. MM WF-1 would be required in order to ensure that safety measures are put in place in accordance with CAL FIRE and Humboldt County regulations. Therefore, the proposed project would be consistent with this policy with MM WF-1 incorporated.</p>
<p>Air Quality</p>	
<p>Policy AQ-P2: Reduce Localized Concentrated Air Pollution. Reduce or minimize the creation of "hot spots" or localized places of concentrated automobile emissions.</p>	<p>Consistent. As discussed in Section 3.3, Air Quality, the proposed project would not result in exceedances of NCUAQMD thresholds related to operational criteria air pollutants. Automobile emissions specifically would not exceed the NCUAQMD thresholds of 50 tons per year of any criteria air pollutant.</p>
<p>Policy AQ-P4: Construction and Grading Dust Control. Dust control practices on construction and grading sites shall achieve compliance with NCUAQMD fugitive dust emission standards.</p>	<p>Consistent. As discussed in Section 3.3, Air Quality, the proposed project would be required to comply with Rule 104 of the NCUAQMD related to limiting fugitive dust from construction activities. The proposed project would incorporate the requirements of this rule through MM AQ-1, which would ensure compliance with Rule 104 related to fugitive dust.</p>
<p>Policy AQ-P5: Air Quality Impacts from New Development. During environmental review of discretionary permits, reduce emissions of air pollutants from new commercial and industrial development by requiring feasible mitigation measures to achieve the standards of the NCUAQMD.</p>	<p>Consistent. As discussed in Section 3.3, Air Quality, the proposed project would be below all NCUAQMD thresholds for criteria air pollutants for both construction and operation of the proposed project. Therefore, no further mitigation measures would be required to achieve standards of the NCUAQMD.</p>
<p>Policy AQ-P6: Buffering Land Uses. During environmental review of discretionary commercial and industrial projects, consider the use of buffers between new sources of emissions and adjacent land uses to minimize exposure to air pollution.</p>	<p>Consistent. The project area is surrounded on the north, east, and south by forested land that would not produce air emissions. The existing community of Cutten and the Redwood Fields Park to the west of the project area would not produce substantial emissions that would be incompatible with the new development. Therefore, the proposed project would not require any buffers between new source emissions or adjacent land uses to minimize exposure to air pollution.</p>
<p>Policy AQ-P11: Review of Projects for Greenhouse Gas Emission Reductions. The County shall evaluate the greenhouse gas (GHG) emissions of new large scale residential, commercial and industrial projects for compliance with state regulations and require feasible mitigation measures to minimize GHG emissions.</p>	<p>Consistent. As discussed in Section 3.8, Greenhouse Gas Emissions and Climate Change, both the construction and operational GHG emissions resulting from implementation of the proposed project would be below the BAAQMD thresholds of significance. BAAQMD GHG thresholds were used to compare the proposed project GHG emissions because the NCUAQMD does not have specified GHG thresholds. Additionally, the proposed project would be consistent with the state's 2017 Scoping Plan related to GHG emissions.</p>



Goal/Policy	Project Consistency
<p>Policy AQ-P17: Preservation and Replacement of On-Site Trees. Projects requiring discretionary review should preserve large trees, where possible, and mitigate for carbon storage losses attributable to significant removal of trees.</p>	<p>Consistent. Although the proposed project would require the removal of approximately 59.27 acres of the existing forest land in the area, the other 21.73 acres of forested land within the project would be preserved through a permanent open space easement or conveyed in fee with trails that would connect to the McKay Community Forest. In addition, as discussed in Section 3.8, Greenhouse Gas Emissions and Climate Change, the Applicant will purchase verified forest carbon offsets from the Arcata Community Forest (CAR 935 and 575), Climate Reserve Tonnes.</p>

Notes:

¹ The approved 2019 Housing Element goals and policies was used in this analysis.

Eureka Community Plan Consistency

The proposed project is located within the Eureka CPA, and the Eureka Community Plan was adopted on April 25, 1995, and has since been amended through October 23, 2017 (Humboldt County 1995). Because the proposed project is located within this CPA, it would be required to be consistent with the goals and policies of the Community Plan. The goals and policies within this Community Plan build on policies already contained in the Humboldt County General Plan, Zoning code, and Design Guidelines. As shown in Table 3.11-2, the proposed project would be consistent with all applicable goals and policies for the Eureka Community Plan.

Table 3.11-2: Eureka Community Plan Policy Consistency Analysis

Goal/Policy	Project Consistency
<p>Goal 2210.1. To ensure that adequate land is designated with appropriate densities to allow the Planning Area to absorb its share of anticipated Humboldt County population growth, while retaining as much as possible the current quality of life.</p>	<p>Consistent. The proposed project would establish a mixed-use residential and commercial development that would allow for 320 residential units. The project would include dedication of open space and dedication and construction of trails.</p>
<p>Goal 2310.1. To develop and maintain community and neighborhood commercial uses to support the expected increased residential growth.</p>	<p>Consistent. The proposed project would include residential and commercial units as well as open space. This would allow the County to maintain community and neighborhood commercial uses.</p>
<p>Goal 2310.2. To establish commercial areas close to neighborhoods to reduce traffic on our roads and conserve energy resources.</p>	<p>Consistent. The proposed project includes neighborhood commercial amenities within walking distance of residences. This is expected to reduce traffic, as the commercial uses would be within walking distance to residential uses.</p>
<p>Goal 2410.1. To provide adequate housing and a satisfactory living environment for all community residents.</p>	<p>Consistent. The proposed project would provide 320 new residential units, 22,000 square feet of commercial, trail connectivity, and open space within approximately one mile of employment, commercial, health and other services and opportunities. The project’s 22,000 square feet of commercial space would provide accessible amenities.</p>
<p>Goal 2410.3. To provide for affordable housing.</p>	<p>Consistent. The proposed project would create a range of housing types and sizes, including small lot single-family, multi-family, and 18 affordable units.</p>



Goal/Policy	Project Consistency
Policy 2420.2. To reduce conflict between two different land uses, approval of uses on the edges of a zoning district or general plan designation should include provisions for insuring compatibility such as landscaped buffer areas.	Consistent. The proposed project would require a General Plan Amendment and rezoning of the parcels. These land use changes are being analyzed in this Draft EIR for compatibility. All adjacent land uses would be compatible with the proposed development.
Goal 2510.1. To protect resource production lands (agriculture, timberlands) in the outlying areas by concentrating future development around existing communities and infrastructure.	Consistent. Although the proposed project consists of a previously undeveloped area with timber harvesting operations, the area has been identified in the Eureka Community Plan as an area proposed for future development.
Goal 2510.2. To assure rural residential development will occur in a manner consistent with rural fire safety standards.	Consistent. The proposed project would be constructed in compliance with all applicable federal, state, and local regulations pertaining to fire safety. As discussed in Section 3.19, Wildfires, consultation with CAL FIRE would be required in order to ensure that any structures built within the SRA are constructed in accordance with CAL FIRE's regulations for fire safety. MM WF-1 would be required in order to ensure that safety measures are put in place in accordance with CAL FIRE and Humboldt County regulations. Therefore, the proposed project would be consistent with this goal with MM WF-1 incorporated.
Policy 2520.1. Subdivisions. Subdivisions for residential purposes, including subdivisions developed in phases, shall not be approved unless the roads planned to serve such subdivision or individual phases are acceptable to Public Works for development at planned densities and for use by emergency vehicles. Costs of bringing new on-site roads up to standards shall be borne by the subdivider.	Consistent. The proposed project would require that the roads included in the development be constructed early in the process for each phase of development to provide adequate access for construction personnel and equipment. Conditions of approval would require Public Works review and approval for each phase through the Final Map and improvement plans processes.
Goal 2531.2. To protect timberland in areas not proposed for residential expansion.	Consistent. The Eureka Community Plan designated the project site for development. The project would include dedication of open space to the County and would abut a regional park and trail system.
Goal 2610.1. To concentrate new development around existing public services and improvements.	Consistent. The proposed project includes and requires annexation into the HCSD for provision of utilities, which are currently exist on adjacent lands near the project site.
Goal 2610.2. To protect the area's numerous drainage gulches (greenway/open space areas) while providing for development along hillside terrain.	Consistent. The proposed project includes the designation of 21.73 acres of permanent open space, including areas of steep slopes and drainages to be preserved through the establishment of permanent easements.
Goal 2610.3. To provide opportunities for public recreation.	Consistent. The proposed project includes the designation of 21.73 acres of permanent open space, including areas of steep slopes and drainages, to be preserved through the establishment of permanent easements.
Goal 2610.4. To ensure that new development will be provided with adequate infrastructure and services.	Consistent. The proposed project would include extending water, wastewater, and telecommunications facilities consistent with applicable development requirements.



Goal/Policy	Project Consistency
<p>Policy 2620.1. Residential Density and Lot Sizes:</p> <ul style="list-style-type: none"> a. The Eureka Community Plan density for all Residential Single Family (RL) designations shall be from 1 to 6 dwelling units per acre. b. The Eureka Community Plan density for all Residential Multiple Family (RM) designations shall be from 7 to 30 dwelling unit per acre. c. The minimum lot sizes for all Residential zoning districts (R-1, R-2, R-3, R-4) with the exception of the Residential Suburban (RS) zone, shall be 6,000 square feet, unless otherwise specified on the zoning maps. 	<p>Consistent. The proposed project would have an average density of 3.8 dwelling units per acre for the residential single-family designation (RL) with 96 larger (6,600-square-foot to 39,670-square-foot) lots and 50 smaller (4,758-square-foot) lots and 9 dwelling units per acre for the residential multiple family designation (RM) with 174 multi-family units. The smaller single-family residential lot sizes would be allowed through a Planned Unit Development.</p>
<p>Policy 2620.8. North McKay Tract. Development of this area shall include at least three access points onto Walnut Drive (the extension of Redwood, Fern and Arbutus Streets). Development of this area should also include a through road and its northerly extension to the intersection of Manzanita and Harrison Avenue. Development of the property should occur with an approved plan and rights-of-way for the through road. The timing for extension of each street shall be determined by Public Works.</p>	<p>Consistent. The project would have two primary access points, Redwood Street and Arbutus Street, which would be extended to access 320 units (all but three single-family residential lots), the commercial space, and the open space. Fern Street would provide secondary access to two lots because it currently terminates at the adjacent community ballfields at Redwood Fields Park and does not provide an opportunity for a connection. Manzanita Avenue would access three single-family residential lots. The project does not include a through-road and would not provide a future extension to the intersection of Manzanita and Harrison Avenues.</p> <p>The North McKay Tract was previously rezoned from TPZ to Residential One-Family (R-1), with combining zones indicating Planned Unit Development (P), Recreation (R), and Greenway and Open Space (GO), which is consistent with this policy. The project proposes a total of 320 units with a range of lot sizes, trails, and permanent open space.</p> <p>The total Immediate Rezone area of the North McKay Tract is approximately 81 acres. The parcel has been given combining zones to facilitate development of a 10-acre minimum youth sports field facility with a surrounding low density residential community.</p> <p>The Planned Unit Development limits the number of dwelling units to 320. The Planned Unit Development should include a clustering of homesites with lot sizes ranging from 4,000 square feet (adjacent to the park) to 9,600 square feet (along the bluff), enabling a large portion of land to be preserved through a permanent easement as open space.</p>



Humboldt County Local Agency Formation Commission (LAFCO) Consistency

There are seven incorporated cities within the County. All cities but the City of Ferndale have SOIs beyond their city boundaries, ranging in size from 160 acres (City of Trinidad) to 8,200 acres (City of Eureka). The boundaries of a city’s SOI are subject to review and approval by the County LAFCo. The proposed project would require annexation into HCSD for provision of utilities, requiring approval from the County LAFCo.

California Government Code Section 56668 establishes factors LAFCos must use in reviewing annexation proposals to encourage well-planned, well-ordered, efficient urban development and discouraging urban sprawl. Table 3.11-3 provides a consistency analysis with California Government Code Section 56668. As shown in the table, the proposed annexation of the proposed project would be consistent with Section 56668. Impacts would be less than significant.

Table 3.11-3: LAFCo Consistency Analysis (Government Code Section 56668)

Section	Consistency Determination
<p>Section 56668(a): Population and population density; land area and land use; per capita assessed valuation; topography, natural boundaries, and drainage basins; proximity to other populated areas; the likelihood of significant growth in the area, and in adjacent incorporated and unincorporated areas, during the next 10 years.</p>	<p>Consistent: The proposed project would be adjacent to the City of Eureka SOI and would be directly adjacent to the existing community of Cutten. The project site, while currently undeveloped, is zoned for future residential development, identified for development in the Eureka Community Plan, and addressed in the HCSD MSR for future growth and development.</p>
<p>Section 56668(b): The need for organized community services; the present cost and adequacy of governmental services and controls in the area; probable future needs for those services and controls; probable effect of the proposed incorporation, formation, annexation, or exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas.</p> <p>“Services,” as used in this subdivision, refers to governmental services whether or not the services are services which would be provided by local agencies subject to this division, and includes the public facilities necessary to provide those services.</p>	<p>Consistent: The proposed project would include infrastructure improvements, such as water, wastewater, and waste collection, in order to properly serve the new development. As discussed in Section 3.14, Public Services, and Section 3.18, Utilities and Service Systems, the proposed project would be required to pay all necessary fees for utility service connections. A new off-site water tank and a sanitary sewer line extension would be constructed to support the new development and is thus being analyzed throughout this Draft EIR.</p>
<p>Section 56668(c): The effect of the proposed action and of alternative actions, on adjacent areas, on mutual social and economic interests, and on the local governmental structure of the county.</p>	<p>Consistent: The proposed project would function as an extension of the Cutten community to the east, would be annexed to HCSD, would include water and sanitary sewer connections, would add off-site sidewalks to provide pedestrian connectivity, and would include trails to provide access to open space areas. The area would remain an unincorporated area of the County, relying Humboldt Bay Fire Protection District (FPD) and CAL FIRE for fire protection services, the County for road maintenance, and Sheriff for police services. The development may increase the tax base for the area in the form of assessed values and property taxes. Sales tax and new employment generation from the 22,000 square feet of commercial development cannot be estimated at this time.</p>



Section		Consistency Determination
<p>Section 56668(d): The conformity of both the proposal and its anticipated effects with both the adopted commission policies on providing planned, orderly, efficient patterns of urban development, and the policies and priorities in Section 56377. (Section 56377 is reproduced below)</p>		<p>Consistent: As discussed in Section 3.2, Agricultural and Forestry resources, the proposed project area does not contain important farmlands or farmlands subject to Williamson Act contracts. The proposed project area currently contains a forested area that has been subject to timber harvesting activities within the last 30 years. The Eureka Community Plan identifies the parcels for development, and the parcels are currently zoned for residential development. The site is located within the HCSD SOI.</p>
<p>56377</p>	<p>In reviewing and approving or disapproving proposals which could reasonably be expected to induce, facilitate, or lead to the conversion of existing open-space lands to uses other than open-space uses, the commission shall consider all of the following policies and priorities:</p> <p>(a) Development or use of land for other than open-space uses shall be guided away from existing prime agricultural lands in open-space use toward areas containing nonprime agricultural lands, unless that action would not promote the planned, orderly, efficient development of an area.</p> <p>(b) Development of existing vacant or nonprime agricultural lands for urban uses within the existing jurisdiction of a local agency or within the sphere of influence of a local agency should be encouraged before any proposal is approved which would allow for or lead to the development of existing open-space lands for non-open-space uses which are outside of the existing jurisdiction of the local agency or outside of the existing sphere of influence of the local agency.</p>	
<p>Section 56668(e): The effect of the proposal on maintaining the physical and economic integrity of agricultural lands, as defined by Section 56016. (Section 56016 is reproduced below.)</p>		<p>Consistent: Although the project site currently consists of a site that has historically been used for timber harvesting, it is not currently producing any commodities (i.e., agricultural commodities). The site is no longer zoned for timber harvesting and is planned for a mixed-use development. Therefore, the proposed project would be consistent with this section.</p>
<p>56016</p>	<p>“Agricultural lands” means land currently used for the purpose of producing an Agricultural commodity for commercial purposes, land left fallow under a crop rotational program, or land enrolled in an agricultural subsidy or set-aside program.</p>	
<p>Section 56668(f): The definiteness and certainty of the boundaries of the territory, the nonconformance of proposed boundaries with lines of assessment or ownership, the creation of islands or corridors of unincorporated territory, and other similar matters affecting the proposed boundaries.</p>		<p>Consistent: The project area would be located directly adjacent to the existing community of Cutten. The proposed project would connect this established community to the new residential, commercial, and recreational uses proposed. The project proposes dedicating open space to the County that would abut existing community fields and provide some buffer between a portion of the new development and the existing neighborhood to the west. The County owns the McKay Community Forest property to the east of the project site, which is planned for a future regional park and trails.</p>
<p>Section 56668(g): A regional transportation plan adopted pursuant to Section 65080, and consistency with city or county general and specific plans. (Section</p>		<p>Consistent: As discussed in Section, 3.16, Transportation, and under the General Plan Consistency analysis above (Table 3.11-1), the</p>



Section	Consistency Determination
65080 is not reproduced below due to length; however, its information was used in this analysis and the link is provided in a footnote for further reference ¹)	proposed project would be consistent with all transportation policies that are relevant to the proposed project.
Section 56668(h): The sphere of influence of any local agency which may be applicable to the proposal being reviewed.	Consistent: The proposed project is within the HCSD SOI.
Section 56668(i): The comments of any affected local agency or other public agency.	Consistent: The Draft EIR and proposal will be circulated to local and affected agencies. Responses to comments will be provided in the Final EIR.
Section 56668(j): The ability of the newly formed or receiving entity to provide the services which are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change.	Consistent: The proposed project would be served by municipal services provided by HCSD for water and wastewater, by the Humboldt Bay FPD and CAL FIRE for fire protection services, and the County Sherriff Office for police protection services. Sections 3.14, Public Services, and 3.18, Utilities and Service Systems, describe the service and infrastructure requirements necessary to ensure that adequate levels of service are provided. The proposed project Applicant would provide the full costs of all infrastructure necessary to serve the proposed project. The proposed project would pay its share of development impact fees.
Section 56668(k): Timely availability of water supplies adequate for projected needs as specified in Section 65352.5. (Section 65352.5 is reproduced below.)	Consistent: As discussed in Section 3.18, Utilities and Service Systems, there are sufficient water supplies for retail water suppliers, HBMWD retail customers, industrial customers, and system losses during normal, single dry, and multiple dry years (HBMWD 2016). HCSD has a total of 5 million gallons per day (MGD) of storage capacity, has a peak daily water consumption of approximately 3.20 MGD, and an average daily water consumption of approximately 2.56 MGD (SHN Engineers & Geologists 2014). The need for a water tank to support the proposed development was identified by HCSD and, therefore, the construction and operation of this new water tank is being considered as part of this Draft EIR.
<p>65352.5</p> <p>(a) The Legislature finds and declares that it is vital that there be close coordination and consultation between California's water supply agencies and California's land use approval agencies to ensure that proper water supply planning occurs in order to accommodate projects that will result in increased demands on water supplies.</p> <p>(b) It is, therefore, the intent of the Legislature to provide a standardized process for determining the adequacy of existing and planned future water supplies to meet existing and planned future demands on these water supplies.</p> <p>(c) Upon receiving, pursuant to Section 65352, notification of a city's or a county's proposed action to adopt or substantially amend a general plan, a public water system, as defined in Section 116275 of the Health and Safety Code, with 3,000 or more service connections, shall provide the planning agency with the following information, as is appropriate and relevant:</p> <p>(1) The current version of its urban water management plan, adopted pursuant to Part 2.6 (commencing with Section 10610) of Division 6 of the Water Code.</p>	

¹ http://leginfo.ca.gov/faces/codes_displaySection.xhtml?sectionNum=65080.&lawCode=GOV



Section	Consistency Determination
<p>(2) The current version of its capital improvement program or plan, as reported pursuant to Section 31144.73 of the Water Code.</p> <p>(3) A description of the source or sources of the total water supply currently available to the water supplier by water right or contract, taking into account historical data concerning wet, normal, and dry runoff years.</p> <p>(4) A description of the quantity of surface water that was purveyed by the water supplier in each of the previous five years.</p> <p>(5) A description of the quantity of groundwater that was purveyed by the water supplier in each of the previous five years.</p> <p>(6) A description of all proposed additional sources of water supplies for the water supplier, including the estimated dates by which these additional sources should be available and the quantities of additional water supplies that are being proposed.</p> <p>(7) A description of the total number of customers currently served by the water supplier, as identified by the following categories and by the amount of water served to each category:</p> <p>(A) Agricultural users.</p> <p>(B) Commercial users.</p> <p>(C) Industrial users.</p> <p>(D) Residential users.</p> <p>(8) Quantification of the expected reduction in total water demand, identified by each customer category set forth in paragraph (7), associated with future implementation of water use reduction measures identified in the water supplier's urban water management plan.</p> <p>(9) Any additional information that is relevant to determining the adequacy of existing and planned future water supplies to meet existing and planned future demands on these water supplies.</p>	



Section		Consistency Determination
<p>Section 56668(l): The extent to which the proposal will affect a city or cities and the county in achieving their respective fair shares of the regional housing needs as determined by the appropriate council of governments consistent with Article 10.6 (commencing with Section 65580) of Chapter 3 of Division 1 of Title 7.</p>		<p>Consistent: The Eureka Community Plan calls for the site's development, and the Housing Element identifies 5 of the 7 parcels as available for residential development in the Residential Land Inventory included the Housing Element. The development would provide for a range of income levels with 18 affordable units, 50 smaller (less than 5,000 square feet) single-family lots, and 96 larger lots measuring 6,600 square feet or more.</p>
<p>65580</p>	<p>The Legislature finds and declares as follows:</p> <p>(a) The availability of housing is of vital statewide importance, and the early attainment of decent housing and a suitable living environment for every Californian, including farmworkers, is a priority of the highest order.</p> <p>(b) The early attainment of this goal requires the cooperative participation of government and the private sector in an effort to expand housing opportunities and accommodate the housing needs of Californians of all economic levels.</p> <p>(c) The provision of housing affordable to low- and moderate-income households requires the cooperation of all levels of government.</p> <p>(d) Local and state governments have a responsibility to use the powers vested in them to facilitate the improvement and development of housing to make adequate provision for the housing needs of all economic segments of the community.</p> <p>(e) The Legislature recognizes that in carrying out this responsibility, each local government also has the responsibility to consider economic, environmental, and fiscal factors and community goals set forth in the general plan and to cooperate with other local governments and the state in addressing regional housing needs.</p>	
<p>Section 56668(m): Any information or comments from the landowner or owners, voters, or residents of the affected territory.</p>		<p>Consistent: The proposed project property is owned by the Applicant of the proposed project. Annexation to HCSD would be considered "uninhabited," and the Owner/Applicant is in favor of the annexation. Neighboring property owners would be noticed about the availability of the CEQA documents and public meetings. These individuals will have the opportunity to submit comments to both the County and the County LAFCo.</p>



Section	Consistency Determination
<p>Section 56668(n): Any information relating to existing land use designations.</p>	<p>Consistent: The proposed project parcels are designated Residential Low Density (RL) 1-7 units/acre (Humboldt County 2017c). The RL designation is used for areas suitable for residential use where urban services are available or are anticipated to be available. Single-family units on individual lots are the dominant use, but the designation can accommodate a mix of housing types, including townhouses and common-wall clustered units (Humboldt County 2017c). The project site also lies within the Eureka Community Plan Planning Area Boundary, but not within its SOI. The water tank location is designated as Timberland (T).</p> <p>The proposed project parcels are zoned Residential One-Family (R-1), with combining zones indicating Planned Unit Development (P), Recreation (R), and Greenway and Open Space (GO). The water tank location is zoning as a TPZ.</p>
<p>Section 56668(o): The extent to which the proposal will promote environmental justice. As used in this subdivision, “environmental justice” means the fair treatment of people of all races, cultures, and incomes with respect to the location of public facilities and the provision of public services.</p>	<p>Consistent: According to the Governor’s OPR LAFCO MSR Guidelines, a LAFCO decision to approve an extension of a service area or a change in city boundaries could have a significant environmental justice impact especially if it results in the siting of a major industrial, residential, or public works project. Environmental justice can be broken down into two categories: procedural inequity and geographic inequity. In the case of land development projects, procedural inequity can include unfairly attaching mitigation measures to certain projects and not uniformly to all projects, as well as unfair meeting or noticing procedures. Geographic inequity can include concentrating undesirable land uses, such as denser development, in one area of a county while concentrating desirable uses, like parks, in other areas of the county.</p> <p>The proposed project is subject to the procedural requirements of state law and County Code, including but not limited to the analysis contained in this EIR, public hearings before the Planning Commission and Board of Supervisors, and approval from LAFCo for annexing to the HCSD.</p> <p>The proposed project includes 18 affordable housing units that would help address the County’s housing needs, and a combination of single-family and multi-family residential, together with commercial development, located adjacent to existing ballfields at Redwood Fields Park and, eventually, a regional park and regional trail system.</p>



Timber Harvest Plan Consistency

A Timber Harvest Plan (THP) was developed for the site in September 2017 and is valid through March 5, 2023. This THP serves as the functional equivalent of a CEQA EIR and required approval through CAL FIRE as the lead agency. The THP was developed for the proposed project to allow the timber currently located on the project site to be harvested and sold. The current THP contemplated residential development of the project site as an alternative to timber harvesting; however, the development alternative was rejected at the time because development did not address project objectives of the THP. The proposed project would be consistent with the THP, as development is permitted under the current zoning. Based on market conditions, the Applicant may harvest timber as per the approved THP or remove trees to accommodate the development of the project. This EIR analysis includes a conservative assumption of removal of approximately 59.27 acres of trees onsite, and impacts are discussed in Section 3.1, Aesthetics; Section 3.3 Air Quality; Section 3.4, Biological Resources; Section 3.8, Greenhouse Gas Emissions and Climate Change; and Section 3.10 Hydrology and Water Quality. Once the THP expires in 2023, the site would no longer be used for timber harvesting operations. Therefore, the impact related to consistency with the THP would be less than significant.

Level of Significance Before Mitigation

Less Than Significant Impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less Than Significant Impact.



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3.16 TRANSPORTATION

This section describes the environmental and regulatory setting for transportation. discusses potential impacts on transportation associated with the proposed project and provides mitigation measures where necessary. Descriptions and analysis in this section are based on information contained in the VMT Assessment of North McKay Ranch Subdivision Project prepared by Stantec Consulting Services in September 2021 provided as Appendix A to this Partial Recirculation Draft EIR and a Focused Traffic Study for the McKay Ranch Subdivision prepared by TJKM in May 2018, provided as Appendix H in the original Draft EIR.

3.16.1 Environmental Setting

Existing Roadway System

The project site is located at the terminus of Fern Street, east of the Redwood Fields Park. The following describes the local roadways that would serve the proposed project.

Arbutus Street is a two-lane local roadway with sidewalks and on-street parking and runs in an east-west direction. The speed limit is 25 miles per hour (mph). Arbutus Street would be extended east to serve the proposed project.

Fern Street is a two-lane local roadway with sidewalks and on-street parking and runs in an east-west direction. The speed limit is 25 mph. Fern Street currently provides access to Redwood Fields Park.

Redwood Street is a two-lane local roadway and runs in an east-west direction. The speed limit is 25 mph. Redwood Street would be extended east to serve the proposed project and connect to the extended Arbutus Street.

Manzanita Avenue is a two-lane local roadway with sidewalks and parking lanes on both sides and runs in an east-west direction. This road has been extended into a cul-de sac and would serve Phase 1 of the proposed project.

Walnut Drive is a minor arterial, providing north-south connectivity between the residential areas in the study area. Along much of its length in the study area, Walnut Drive provides both a travel lane and a bike lane in each direction, with a two-way left-turn lane in the center of the road. Bike lanes are discontinued north of Holly Street and reemerge on both sides of Walnut Drive, north of Fern Street.

Harris Street is a principal arterial designed to provide high overall travel speeds with minimum interference to through movements. Sections of this roadway are owned by both the City and the County; Harris Street is City-owned west of its intersection with Harrison Avenue, and is County-owned east of the intersection. Through the study area, Harris Street is a two-way street with one lane of traffic in each direction; a two-way left turn lane in the center is on the County-owned portion of the street. Along most sections of this road within the study area, on-street parking is allowed on both sides within City limits, and sharrows (double chevron road markings indicating a shared bicycle/vehicle lane) are provided in lieu of bike lanes in the City-maintained section from Harrison to R Street. Sidewalks are also present.



Pedestrian Facilities and Safety

The neighborhood streets surrounding the project site generally have sidewalks provided on one or both sides, particularly along collector streets, including arterials, such as Walnut Drive, Harris Street, and S Street. The City of Eureka is actively improving pedestrian connectivity, having improved or constructed new sidewalks to fill in gaps, enhanced or adding new crosswalks, and improving curb ramps at corners and other pedestrian crossings. Redwood Street and Fern Street have continuous sidewalks on one side each, with some intermittent sections of sidewalks elsewhere; however, following continuous sidewalks on Fern Street requires crossing at Cedar Street. Arbutus Street and Cedar Street lack continuous sidewalks, with breaks of various sizes on both sides where sidewalks exist on each block.

Transit Facilities

Transit services within the project area consist of Eureka Transit System buses, operated by the Humboldt Transit Authority. On weekdays, the Red Route operates along W Street and Walnut Drive, and the Purple Route and Green Routes operate on Harris Street, providing connectivity throughout the City. Weekday buses operate in a loop with one-hour headways, 6:30 AM to 7:00 PM. On weekends, the Rainbow Route operates on W Street, Dolbeer Street, and Harris Street, and the Purple Route operates on Harris Street. Weekend buses operate with one-hour headways, 10:00 AM to 5:00 PM. The nearest Red and Rainbow Route bus stops are located within 0.5 mile of the project site, and the nearest Green and Purple Route bus stops are located approximately 1 to 1.2 miles from the project site.

Bicycle Facilities

Designated bicycle facilities in the project vicinity are limited, but the Humboldt Bay Area Bike Map (Humboldt County) identifies both existing facilities and streets that are suitable for families or bicyclists with a range of skill levels. Class II bike lanes are provided on disconnected sections of Walnut Drive and Harris Street. A portion of Harris Street is designated a Class III bike route with sharrow (double chevron road markings indicating a shared bicycle/vehicle lane) from R Street to Harrison. Elsewhere it has class II bike lanes, and there is a section of Class I multiuse trail through Sequoia Park. The Bike Map identifies "Intermediate" bike-friendly streets with moderate shoulder widths, traffic volumes, topography, and pavement conditions. Certain streets and intersections are also identified as requiring higher skill and caution, including S Street and Harrison Avenue north of Harris Street.

3.16.2 Regulatory Setting

State

Senate Bill 743

On September 27, 2013, SB 743 was signed into law. The legislature found that with the adoption of the Sustainable Communities and Climate Protection Act of 2008 (SB 375), the state had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce VMT and thereby contribute to the reduction of GHG emissions, as required by the California Global Warming Solutions Act of 2006 (AB 32). SB 743 started a process that will likely change transportation impact analysis as part of CEQA compliance. Changes include the elimination of auto delay, LOS, and similar measures of vehicular capacity or traffic congestion as the basis for determining significant



impacts in many parts of California (if not statewide). The new criteria, “shall promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses” (PRC Section 21099[b][1]). On January 20, 2016, the Governor’s OPR released revisions to its proposed Draft CEQA guidelines for the implementation of SB 743. In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the Guidelines section implementing SB 743 (Section 15064.3). OPR developed a Technical Advisory on Evaluating Transportation Impacts in CEQA, which contains OPR’s technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The provisions of CEQA Guidelines Section 15064.3 shall apply prospectively as described in Section 15007. A lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide. As of this time, the County of Humboldt has not adopted thresholds of significance related to VMT. However, County General Plan Policy C-P5 requires that LOS be reviewed for projects.

Local

Humboldt County General Plan

The Humboldt County General Plan, adopted October 23, 2017 contains several policies that directly pertain to utilities and service systems, including the following:

Goal C-G1. Circulation System Safety and Functionality. A safe, efficient, accessible and convenient circulation system in and between cities, communities, neighborhoods, hamlets, and adjoining regions taking into consideration the context-specific needs of all users, consistent with urban, suburban, rural or remote community character.

- **Policy C-P1. Circulation System.** Encourage development of a circulation system that supports:
 - A. Access to higher density residential areas, local commercial facilities, neighborhood parks and schools, while maintaining maximum bicycle and pedestrian connectivity.
 - B. Designing access to residential areas to minimize disruptions to the flow of traffic while providing for user safety and connectivity on arterial or collector roads.
 - C. Improving connectivity between interrelated areas such as neighborhoods and common destinations.
 - D. Planning retail, service and industrial facilities, community centers, major recreational facilities, employment centers, and other intensive land uses that consider the location of collectors or arterial roads consistent with the Land Use Element.
- **Policy C-P3. Consideration of Transportation Impacts in Land Use Decision Making.** Decisions to change or expand the land use of a particular area shall include an analysis of the impacts to existing and proposed transportation facilities and services so as to minimize or avoid significant operational, environmental, economic, and health-related consequences.
- **Policy C-P4. Mitigation Measures.** Development with potentially significant circulation impacts as determined by CEQA review shall be conditioned to proportionally mitigate such impacts



through payment of impact fees, construction of on- and off-site improvements and dedication of rights-of-way or a combination of impact fees, improvements and dedications.

- **Policy C-P5. Level of Service Criteria.** The County shall strive to maintain Level of Service C operation on all roadway segments and intersections, except for U.S. 101, where Level of Service D shall be acceptable. Level of Service improvements for automobiles should not adversely affect Level of Service and/or Quality of Service for other modes of transportation, if possible.
- **Policy C-P6. Jurisdictional Coordination and Integration.** Use HCAOG, formal Memorandums of Understanding, and informal project level cooperation to integrate county-wide transportation planning and implementation efforts.
- **Policy C-P7. Joint Use of Traffic Models.** The County-Wide Transportation Plan (CWTP) and projects with potentially significant transportation impacts should integrate transportation planning through joint use of area-wide traffic models, including but not limited to the Greater Eureka Area Travel Model (GEATM) or the Humboldt County Traffic Demand Model (HCTDM). Develop travel demand models with methods and inputs that incorporate walking, biking and transit. Support coordination with agencies to maintain the accuracy and utility of such models.
- **Policy C-P9. Circulation Planning for Bicycles, Pedestrians and Transit.** Circulation planning and project review shall include an assessment for bicycle, pedestrian and public transit access.
- **Policy C-P11. Transportation Demand Management Programs.** Require residential subdivisions and multifamily development that would result in fifteen or more dwelling units, and non-residential development that would employ greater than ten persons, and that require a discretionary permit, to comply with County transportation demand management programs.
- **Policy C-P12. Countywide Traffic Impact Fee Program.** In coordination with the cities within the County, shall develop and implement a countywide traffic impact fee program that addresses impacts on major roads resulting from development in cities and unincorporated areas. Adopt this fee within one year of the adoption of the General Plan Update. A traffic impact fee is currently being evaluated for the Greater Eureka Area, encompassing the Eureka urbanized area.
- **Policy C-P28. Bicycles and Pedestrian Facilities in New Subdivisions.** Bicycle and pedestrian facilities should be encouraged to connect neighborhoods. Standards for urban, suburban, rural and remote contexts shall be developed.
- **Policy C-P39. Encourage Bicycle and Pedestrian-Friendly Development:** Incentives should be given to developers who provide non-motorized facilities that connect neighborhoods in a design appropriate to the character of those neighborhoods.

3.16.3 Project Travel Characteristics

Project Summary

The proposed project would consist of 320 residential units and 20,000 square feet of commercial space. The traffic study was based on General Office Building land use. A commercial use under the County's C-1 zoning designation allows for a variety of uses including but not limited to professional and business offices and retail. The proposed project would be built based on market conditions. Therefore, any future use would be limited by the number of trips evaluated in the traffic study. Any change in land use that would result in more trips than those evaluated in this EIR would require a separate CEQA review. Although the project would be constructed over a total of nine phases, the project trip generation and



impact analysis are based on the full buildout of all phases, thereby also providing a conservative evaluation of potential project-related traffic impacts. Access to the project site would be provided by extending Redwood Street and Arbutus Street to the east.

Trip Generation

Trip generation for the proposed project was developed using rates from the Institute of Transportation Engineers publication Trip Generation, 10th Edition (2017). A conservative trip reduction of 3 percent was applied to account for trips between the residential and non-residential uses. Table 3.16-1 displays the project’s expected daily trip generation. As shown in the table, the full project buildout would generate a total of 2,879 daily trips. Trip generation from the water storage tank would be limited to occasional maintenance and are not significant enough to be accounted for in the trip generation.

Table 3.16-1: Project Trip Generation

Land Use (ITE Code)	Size	Daily	
		Rate	Trips
Single Family Detached Housing (210)	146 d.u.	9.44	1,378
Multifamily Housing (Low-Rise) (220)	174 d.u.	7.32	1,274
General Office Building (710)	24.0 ksf	9.74	234
3 Percent Internal Capture Discount: Office			-7
Total Trips			2,879

Notes: d.u. = dwelling unit, ksf = thousand square feet, Source: TJKM 2018

3.16.4 Methodology for Analysis

SB 743 required the Governor’s Office of Planning and Research (OPR) to establish recommendations for identifying and mitigating transportation impacts within CEQA. In response, OPR prepared a document referred to in this memorandum as OPR’s Technical Advisory². OPR’s Technical Advisory recommends methodologies for quantifying VMT, significance thresholds for identifying a transportation impact, and screening criteria to quickly identify if a Project can be presumed to have a less than significant impact. Lead agencies are to adopt local guidelines appropriate for their jurisdiction. Currently, the County of Humboldt is yet to adopt VMT guidelines. Therefore, this VMT analysis has been prepared in accordance with OPR’s Technical Advisory guidance.

² Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor’s Office of Planning and Research, State of California, December 2018.



3.16.5 Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, the following questions were analyzed and evaluated to determine whether transportation impacts are significant. Would the proposed project:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
- Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Result in inadequate emergency access?

3.16.6 Project Impact Analysis and Mitigation Measures

Consistency with Circulation System Program, Plan, Ordinance, or Policy

Impact TRANS-1: The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Impact Analysis

Construction

The proposed project would be completed in phases over a period of 10 to 20 years and would result in construction traffic on the nearby roadway network, including the extension of proposed sewer line in Redwood Street and Walnut Drive. The proposed project would also require the hauling of soil off-site and import of project materials. The highest levels of construction traffic would occur during grading, when soil would be exported off-site. Construction traffic would be temporary and is expected to be substantially less than operational trips. Additionally, construction activities are temporary, and these trips would cease once the proposed project is completed. The extension of sewer line in Redwood Street and Walnut Drive would occur in public right-of-way. As such, it follows that construction traffic would not represent a significant impact to intersection, roadway segment, or queuing impacts on local roadways.

Proposed project construction activities may not result in full lane closures but may temporarily impact easy access to Redwood Fields Park. Accordingly, MM TRANS-1 is proposed, requiring the project Applicant to implement a Traffic Management Plan during construction activities to minimize impacts on surrounding roadways, residences, and nearby parking areas. The implementation of this MM would reduce potential impacts to a level of less than significant.

Operation

As discussed in Section 3.11 Land Use and Planning, the County has several policies related to transportation. Table 3.16-2 provides an evaluation of the project's consistency with applicable County



General Plan polices related to the circulation system; as shown, the project is consistent with applicable policies.

Table 3.16-2: Consistency with General Plan Circulation Policies

Policy	Project Consistency
<p>Policy C-P4: Mitigation Measures. Development with potentially significant circulation impacts as determined by CEQA review shall be conditioned to proportionally mitigate such impacts through payment of impact fees, construction of on- and off-site improvements and dedication of rights-of-way or a combination of impact fees, improvements and dedications.</p>	<p>Consistent. SB 743 requires that traffic analyses under CEQA now utilize a Vehicle Miles Travelled (VMT) approach to identifying significant impacts. Pursuant to Section 15064.3 of the CEQA Guidelines, a project's effect on automobile delay shall not constitute a significant environmental impact that would require mitigation pursuant to this General Plan policy. As discussed in Section 3.16, Transportation, the proposed project would result in a less than significant impact to VMT. Accordingly, no mitigation is required and the project is consistent with this policy.</p>
<p>Policy C-P5: Level of Service Criteria. The County shall strive to maintain Level of Service C operation on all roadway segments and intersections, except for U.S. 101, where Level of Service D shall be acceptable. Level of Service improvements for automobiles should not adversely affect Level of Service and/or Quality of Service for other modes of transportation, if possible.</p>	<p>Consistent. Coordination between the Humboldt County Department of Public Works and the City of Eureka determined that 12 intersections had the potential to be impacted and needed to be analyzed for level of service conditions to determine consistency with the Humboldt County General Plan. The Focused Traffic Study for the McKay Ranch Subdivision prepared in May 2018 by TJKM found that 9 of these intersections would be functioning below LOS C under both Future (2040) with no project and Future (2040) plus Project conditions. The traffic study identified improvements to all intersections operating at LOS D or worse in the future condition with Project, with the exception of the Harris and Harrison intersection where a traffic signal is already in place. The study also calculated the project's contribution to LOS delay at these intersections as a percentage of the Future plus Project conditions. The project is not 100% responsible for the LOS delay at any of the intersections individually and the county may only require development conditions which are proportional to the project's impacts (<i>Dolan v. City of Tigard</i>, 512 U.S. 374). The project's cumulative fair share is 197%, which is roughly two intersections. County Public Works has identified two intersections that are priority needs for signalization based on circulation patterns, and which may serve an equivalent share of the total of improvement costs for intersections that fall below LOS C. Signalization of these intersections will be made a condition of approval of the subdivision map thus ensuring consistency with Policy C-P5.</p>
<p>Policy C-P11: Transportation Demand Management Programs. Require residential subdivisions and multifamily development that would result in fifteen or more dwelling units, and non-residential development that would employ greater than ten persons, and that require a discretionary permit, to comply with County transportation demand management programs.</p>	<p>Consistent. The proposed project would result in more than 15 dwelling units and a discretionary permit is required. As discussed previously, the project would be conditioned to signalize two priority intersections identified by the County Public Works that will facilitate implementation of the County's transportation demand management program. Additionally, the project would implement mitigation measure TRANS-1 to address potential transportation conflicts during construction of the project.</p>



<p>Policy C-P31: Removal of Obstacles in Pathways. Where feasible and consistent with the County-Wide Transportation Plan, new pathways and sidewalks shall be free of obstacles such as utility poles and mailboxes. Where obstacles are unavoidable on existing sidewalks or pathways, pedestrian facilities shall be widened or otherwise designed to provide the least amount of obstruction to users.</p>	<p>Consistent. The proposed project would include the dedication of easements and public rights-of-way for pedestrian pathways and roads that would include sidewalks. Conditions of approval would require pathways and pedestrian ways to be clear of obstacles. Further, as discussed in the VMT analysis provided as Appendix A to this Partial Recirculation Draft EIR, the project would not block, remove, or create barriers for transit utilization.</p>
<p>Policy C-P34: Traffic Calming. Use traffic calming measures, where feasible and appropriate, as a means of improving safety for all users. Traffic calming measures may include, but are not limited to, roundabouts, chicanes, curb extensions, and traffic circles.</p>	<p>Consistent. As discussed in Section 3.16, Transportation, the proposed project has been designed to incorporate intersection improvements. These intersection improvements would help minimize traffic congestion in the vicinity of the proposed project.</p>
<p>Policy C-P38: Develop a Regional Trails System. Support efforts to establish and connect regional trails, particularly in the greater Humboldt Bay and lower Mad River areas, the Eel River Valley, along the Avenue of the Giants and in the Klamath-Trinity area. The System should include the California Coastal Trail system and consist of multi-use trails where feasible.</p>	<p>Consistent. The proposed project would include 20-foot-wide trail easements and would construct trail connection to the future public trails to access the McKay Community Forest, consistent with efforts to establish a regional trail system.</p>
<p>Policy C-P39: Encourage Bicycle and Pedestrian-Friendly Development: Incentives should be given to developers who provide non-motorized facilities that connect neighborhoods in a design appropriate to the character of those neighborhoods.</p>	<p>Consistent. The proposed project would include pedestrian pathways and 20-foot-wide trail easements, which would connect the new development to the existing community and surrounding recreational opportunities. The project would include the construction of the McKay Community Forest trail segments that are within the project boundary.</p>

Alternative Transportation Impacts

As noted in the traffic study, pedestrian access and safety within the vicinity of the project is generally adequate. TRANS-2 would be implemented to address pedestrian safety. The nearest Red and Rainbow Route bus stops are located within 0.5 mile of the project site, and the nearest Green and Purple Route bus stops are located approximately 1 to 1.2 miles from the project site. A review of the Humboldt Regional Bicycle Plan Update 2012 prepared by the HCAOG (HCAOG 2012) lists the following proposed bicycle routes in the project area: (1) a proposed north/south bicycle Class II route along Dolbeer Street from Harris Avenue to Hemlock Street and farther south past the subdivision; and (2) a proposed north/south Class III route on “W” Street, Hemlock Street, and Walnut Drive. The proposed project would not conflict with or prevent implementation of the Humboldt Regional Bicycle Plan Update 2012, which did not propose any bicycle facilities within the immediate project area. Therefore, the impact would be less than significant.

Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

MM TRANS-1: Traffic Management Plan. Prior to the commencement of construction activities for each phase, the project Applicant shall prepare and submit a Construction Traffic Control Plan for review and approval by the Director of Public Works. The Traffic Management Plan shall identify routing for all delivery and haul trucks and, if necessary, limit deliveries to non-peak times. The Traffic



Management Plan shall also identify suitable locations for construction worker parking and identify a safe access route to Redwood Fields Park and adjacent schools. The Traffic Management Plan shall ensure that access to adjacent land uses on Redwood Street and Walnut Drive is provided at all times. The Traffic Management Plan shall be maintained and updated for all phases of construction.

MM TRANS-2: Accessibility. All newly constructed streets shall provide adequate sidewalks and Americans with Disabilities Act-compliant curb ramps, with marked crosswalks as needed.

Level of Significance After Mitigation

Less Than Significant Impact with Mitigation Incorporated.

Vehicle Miles Traveled

Impact TRANS-2: The proposed project would not conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b).

Impact Analysis

The Project consists of residential and neighborhood serving commercial retail. Each Project component is evaluated individually as recommended in OPR’s Technical Advisory. Also, per the recommendations in OPR’s Technical Advisory, the Project is first evaluated using a screening criterion. If a component of the Project meets one of the specified screening criteria, that component of the Project can be presumed to have a less than significant impact. If a Project component does not meet a screening criterion, that component of the Project is then evaluated based on the applicable VMT threshold of significance. The screening criteria and VMT thresholds of significance used in this analysis are discussed below.

Project Screening

Prior to undertaking a detailed VMT analysis, the Technical Advisory advises that lead agencies conduct a screening process “to quickly identify when a Project should be expected to cause a less-than-significant impact without conducting a detailed study.” The Technical Advisory suggests that lead agencies may screen out VMT impacts using Project size, maps depicting areas of low VMT, transit availability and provision of affordable housing. In addition, local-serving retail development can also be presumed to have a less than significant impact on VMT. For this analysis the Project has been evaluated using the screening criteria summarized in Table 3.16-3.

Table 3.16-3: Project Screening Criteria and Threshold

Category	Criteria/Screening	Threshold	Screened Out (Yes/No)
Trip generation screening	Small Projects can be screened out from completing a full VMT analysis.	If the Project generates less than 110 trips per day, the Project is assumed to have a less than significant impact.	No
Map-based screening	Projects that are located in areas with low VMT can be screened out from completing a full VMT analysis.	If the Project is in a low VMT area, the Project is assumed to have a less than significant impact.	No



Category	Criteria/Screening	Threshold	Screened Out (Yes/No)
Proximity to transit	Projects within ½ mile of a major transit stop or a stop located along a high-quality transit corridor reduce VMT and therefore can be screened out from completing a full VMT analysis.	If the Project is within ½ mile of a major or high-quality transit stop/corridor, the Project is assumed to have a less than significant impact.	No
Affordable Residential development	Affordable housing in infill locations can be screened out from completing a full VMT analysis.	If the Project is comprised 100% of affordable units and is located in an infill location, then the Project is assumed to have a less than significant impact.	No
Locally serving retail	Retail Projects that are locally serving can be screened out from completing a full VMT analysis.	If the retail component of the Project consists of individual retail components that are less than 50,000 square feet, then the retail portion of the Project is assumed to have a less than significant impact.	Yes
Source: OPR, 2018.			

Trip Generation Screening – A focused traffic study for the Project was prepared by TJKM in May 2018³. The traffic study determined that the Project would generate 2,879 net daily trips. Since the Project is estimated to generate more than 110 daily trips, the small Project screening criteria does not apply.

Map-Based Screening – OPR’s Technical Advisory recommends that residential and office Projects that are located in areas with low VMT per capita, and that incorporate similar features to the existing development in those areas, will exhibit similarly low VMT per capita and therefore will have less than significant impacts to VMT. At this time, Humboldt County has not developed a map-based resource or database for identifying areas in the County with low VMT per capita. Therefore, this screening criteria cannot be applied to the Project.

Proximity to High-Quality Transit – OPR’s Technical Advisory indicates that a Project can be screened out as having a less than significant impact on VMT if the Project is within a half-mile of an “existing major transit stop or an existing stop along a high-quality transit corridor”. A major transit stop is defined as the intersection of two or more major bus routes with a frequency service interval of 15 minutes or less during the morning and afternoon peak commute periods. A high-quality transit corridor is defined as an existing corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

Based on the definition described above, the Project would not be eligible to be screened out under this threshold since current bus headways within 1/2 mile of the Project site are greater than 15 minutes. Therefore, the Project does not meet the criteria for a transit priority area screening.

Affordable Housing – OPR’s Technical Advisory indicates that 100 percent affordable housing projects located in infill locations can be assumed to have a less than significant impact on VMT. The Project is not comprised 100 percent of affordable housing in an infill area, so this screening threshold does not apply.

³ Focused Traffic Study for McKay Ranch Subdivision Technical Memorandum, TKJM, May 2018



Locally-Serving Retail – OPR’s Technical Advisory indicates that if a Project proposes locally-serving retail uses that are 50,000 square feet or less is eligible to be screened out. The Project proposes to include a total retail of 22,000 SF within the mixed-use retail/residential zone to support the Project residents and local community.

Since the commercial component of the Project would consist of locally serving retail comprised of less than 50,000 square feet, the commercial component of the Project can be presumed to have a less than significant impact.

VMT Analysis Performance Criteria

The Technical Advisory recommends significance thresholds that may constitute a significant transportation impact. The recommended significance thresholds are summarized in **Table 2**. If a significant impact is identified utilizing the significance thresholds, mitigation to reduce VMT would be necessary.

Under OPR’s recommendations, lead agencies have the discretion to set or apply their own thresholds of significance or rely on thresholds recommended by other agencies. Since the Project is located within Humboldt County, significance thresholds set by the County would be appropriate for the Project. However, at this time the County is yet to adopt any policies or directives regarding VMT analysis. Therefore, due to the absence of County criteria, this analysis utilizes the recommended criteria from the Technical Advisory as shown in Table 3.16-4.

Table 3.16-4: OPR Recommended VMT Significance Thresholds

Land Use Type	Metric	Threshold of Significance
Residential development	Household VMT per capita	15% less than existing household VMT per capita
Office development	VMT per employee	15% less than existing VMT per employee
Retail development	Total VMT	If Project causes a net increase in total VMT, Retail greater than 50,000 square feet may be considered regionally serving. If retail is locally serving, it may be less than significant.
Other Project types	To be determined by lead agency through consideration of the purposes of the legislation (i.e., reductions to GHG, VMT per capita, and automobile trip generation)	

Source: OPR, 2018.

For residential uses, the Project’s home-based (HB) VMT per capita is to be compared against an appropriate baseline, which is typically defined as either the city average or the regional average plus a 15 percent reduction. For this analysis, the regional/Humboldt County threshold was used since the Project is located in the unincorporated community in the Humboldt County. As discussed above, the retail portion of the Project meets the screening criteria for locally serving retail. Therefore, no additional analysis is required for the Project’s commercial component.

VMT Analysis

A lead agency may elect to use a traffic model to estimate a Project’s VMT. The California State Transportation Demand Model (CSTDm) is one such model that can be used to assess VMT resulting



from residential and office land use Projects, as well as to set thresholds of significance⁴. The CSTDM is maintained by Caltrans and VMT statistics have been prepared by Caltrans for use in SB 743 VMT impact assessments⁵. Since the County is yet to adopt a specific methodology or traffic model for VMT analysis, VMT statistics from CSTDM are utilized for this study. The CSTDM Traffic Analysis Zones (TAZ) boundaries and corresponding VMT statistics were reviewed for compatibility with the local area.

The Project is located in CSTDM TAZ 106. **Figure 2** provides an illustration of the CSTDM TAZ and the Project area. The HB VMT per capita rate for TAZ 106 is derived by the model based on trip generation and trip length estimates that primarily reflect standard residential development. For this analysis, as mentioned above, the HB VMT per capita for TAZ 106 is compared against the regional average HB VMT per capita and a threshold of significance that is 15 percent lower than the average. The model data and comparison of the Project to the regional average is summarized in Table 3.16-5.

Table 3.16-5: VMT Analysis Summary

Description	Residential HB VMT per Capita
Project	
CSTDM TAZ 106	5.3
Regional Threshold	
CSTDM Humboldt County Existing Average	10.8
CSTDM Humboldt County Existing Average with 15% reduction	9.2
Difference (Project minus Regional Threshold)	-3.9
Is Project above or below Regional Threshold with 15% reduction?	Below
Significant Transportation Impact	No

As shown in Table 3.16-5, for the Project’s residential component, the HB VMT per capita is 5.3. For this analysis the regional area is defined as the entirety of Humboldt County. The average regional HB VMT per capita for Humboldt County is 10.8 VMT per capita based on the CSTDM data. Consistent with the Technical Advisory, a 15 percent reduction is applied to existing conditions, resulting in a regional threshold of 9.2 VMT per employee. Since the Project’s HB VMT per capita of 5.3 is less than the regional area threshold of 9.2 HB VMT per capita, the Project’s residential component would have a less than significant impact on VMT.

Cumulative Impact Analysis

According to OPR’s Technical Advisory⁶, if a Project is found to have a less than significant impact at the Project level, it implies that the Project would have a less than significant cumulative impact. Since the

⁴ Case Study from Revised Proposal on Updates to CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Governor’s Office of Planning and Research, January 20,2016.

⁵ SB 743 VMT Impact Assessment, <https://dot.ca.gov/programs/transportation-planning/multi-modal-system-planning/statewide-modeling/sb-743-vmt-impact-assessment>, last accessed September 3, 2021.

⁶ Page 6 from Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor’s Office of Planning and Research, State of California, December 2018.



Project was found to have a less than significant impact, the Project would have a less than significant cumulative impact.

Active Transportation

To facilitate pedestrian movement throughout the Project site, the Project would create a pedestrian-friendly neighborhood with landscaping and buffered sidewalks. Sidewalks would be constructed ranging from 5 to 6 feet wide. The neighborhood streets surrounding the Project site generally have sidewalks provided on one or both sides, particularly along Walnut Drive and Harris Street.

There are limited designated bicycle facilities in the Project vicinity. Humboldt Bay Area Bike Map identifies existing facilities and streets that are suitable for families and for bicyclists with a range of skill levels. Walnut Drive and Harris Street are designated as a Class II bike lanes. A portion of Harris Street is designated a Class III bike route, and there is a bike compatible trail through Sequoia Park.

The Project would not block, remove, or create barriers for walking and biking, but rather it would provide facilities to encourage non-motorized mode of transportation throughout the Project site, which would reduce local vehicle trips.

Transit

Transit service in Humboldt County is administered through joint authority between Humboldt County and the cities of Arcata, Eureka, Fortuna, Rio Dell and Trinidad. Transit services within the Project area consist of Eureka Transit Service buses, operated by the Humboldt Transit Authority (HTA). HTA provides riders with affordable fixed route and dial-a-ride transportation options that allows access throughout the Humboldt County.

On weekdays, the Eureka Transit Service buses operate in a loop with one-hour headways from 7:00 am to 6:00 pm. The Red Route operates along W Street and Walnut Drive, and the Purple and Green Routes operate on Harris Street, providing connectivity throughout the city. The Rainbow Route operates on weekends with one-hour headways, from 9:00 am to 5:00 pm on Harris Street. The nearest Red and Rainbow Route bus stops are located within one half-mile of the project site, and the nearest Green and Purple Route bus stops are located approximately 1.25 miles from the Project site. The Project would not block, remove, or create barriers for transit utilization.

Conclusion

The VMT impact analysis prepared in accordance with the guidance outlined in the OPR Technical Advisory and data from the CSTDM found the following:

- The commercial retail portion of the Project would consist of less than 50,000 square feet of locally serving retail uses. Therefore, the commercial retail portion of the Project is screened out from completing a full VMT analysis and is assumed to have a less than significant impact on VMT.
- The residential component would have a HB VMT per capita that is less than the designated regional area threshold of significance and, therefore, would have a less than significant impact on VMT.



Transportation

- Since the Project was found to have a less than significant impact, the Project would also have a less than significant impact in the cumulative setting according to guidance from OPR.
- The Project will not block, remove, or create barriers for walking and biking, but rather provide facilities to encourage non-motorized mode of transportation around the Project site.
- The Project would not block, remove, or create barriers for transit utilization.

Level of Significance Before Mitigation

Less Than Significant Impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less Than Significant Impact.

Geometric Design Features or Incompatible Uses

Impact TRANS-3: The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Impact Analysis

Ingress/egress to and from the proposed mixed-use residential/commercial subdivision will be by eastward extensions of Arbutus and Redwood Streets from Cedar Street. A street network will be constructed to serve the subdivision. No dangerous conditions have been identified. No incompatible uses such as farm equipment are proposed by the project. All proposed transportation improvements to accommodate the project will be reviewed by and constructed to the standards of the Public Works Department to ensure that no hazardous design features will be developed as part of the project. Impacts would be less than significant.

Level of Significance Before Mitigation

Less Than Significant Impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less Than Significant Impact.

Emergency Access

Impact TRANS-4: The proposed project would not result in inadequate emergency access.

Impact Analysis

Construction and operation of the proposed project may affect streets in the project area, including installation of sewer line in Redwood Street and Walnut Drive. However, no full street closures are anticipated. The proposed roads and improvements would be constructed to meet County standards and



as noted in MM TRANS-1, Traffic Management Plan, emergency access would be allowed at all times along the area roadways impacted by the project. Additionally, the proposed project would not affect any existing County emergency access routes. The proposed project would be designed to incorporate all required Humboldt Bay FPD standards to ensure that the project would not result in hazardous design features or inadequate emergency access. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Potentially Significant Impact.

Mitigation Measures

MM TRANS-1 would be required.

Level of Significance After Mitigation

Less Than Significant Impact with Mitigation Incorporated.



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APPENDIX J

Water Supply Analysis



Reference: 014141.021

October 2, 2020

Terrence Williams
General Manager
Humboldt Community Services District
5055 Walnut Drive
Eureka, CA 95534

Subject: North McKay Subdivision Water Supply Assessment

Dear TK:

This letter contains the water supply assessment for the proposed North McKay subdivision. The proposed subdivision is located in the Cutten area of Humboldt Community Services District's (HCSD) sphere of influence and is expected to consist of approximately 320 residential units and 2 commercial lots at full build-out. Included in this letter are demand estimates and the recommendations for infrastructure improvements needed to adequately serve the development.

Proposed Development Description

The proposed subdivision will be accessed by an extension of Redwood Street approximately forming a loop around the Redwood Fields recreation area. The loop will have several cul-de-sacs and a secondary looped road. The development is proposed to commence in phases, with the initial phases centered in the project footprint, and the branched cul-de-sacs progressing afterward. The first phase also includes three units at the end of Manzanita Avenue. See Appendix 1 for the proposed subdivision map. The development consists of a mix of small lot single-family, single-family, multi-family, and commercial units. Additionally, full-sized single-family residential lots are expected to be allowed to develop accessory dwelling units. For the purposes of this assessment, 35% of the full-sized single-family lots were estimated to develop additional future units.

In total, 50 small lot single-family units, 96 single-family units, 174 multi-family units, and 2 commercial lots are proposed to be constructed. An additional 34 accessory dwelling units are estimated to be developed at full build out.

Water Demand Estimates

Domestic Water Usage

Domestic water use estimates were obtained from HCSD's meter data for single-family and multi-family residence units. The meter data was compared against HCSD's usage goal of 113 gallons per capita per day with an estimated 3 persons per equivalent dwelling unit (EDU) or 339 gallons per day per EDU (gpd/EDU). This data was also compared with meter data from a single-family development in Eureka and a previous water supply assessment in HCSD's sphere of influence, both of which used approximately the same consumption basis per EDU. For this study, small lot single-family homes and accessory dwelling units were considered to have the same estimated water usage as a typical single-family unit. For the purpose of modeling demand, a typical single-family residence is estimated to use 339 gpd on an average day. In total, 180 EDUs are associated with the single-family units (50 small lot single-family units, 96 single-family units, and 34 accessory dwelling units).

Multi-family residence buildings may be metered separately for each unit. Given that meter data from HCSD does not reflect the number of units per account and the design of the multi-family development has



not begun, we assume 2.5 persons per multi-family unit for an average demand of 283 gpd/unit. Therefore, a multi-family unit is estimated to be 83.5% of the demand of a residential EDU. The multi-family count for the development is 145 EDUs (174 multi-family dwelling units x 83.5%).

Commercial Water Usage

The size and type of commercial development has not been determined; therefore, typical commercial usage data from HCSD are utilized. The two proposed commercial lot sizes are approximately 42,000 and 53,000 square feet. An estimate of the maximum size of each of the building footprints, accounting for setbacks and parking, is approximately 8,000 square feet. For this study, we assume four units per commercial building.

According to a 2017 rate study, HCSD defines commercial accounts by wastewater strength. According to the study, light-, medium-, and high-strength connections have an average water usage of 615 gpd, 2,092 gpd, and 1,321 gpd, respectively. The proposed commercial development is assumed to be a mix of light and medium strength accounts and, for the purposes of modeling, we assume one medium-strength and three light-strength units per commercial lot. Thus, the total combined water usage per day is estimated at 7,874 gpd on average for a total of approximately 23 EDUs. Because the building design and occupancy have not yet been completed, the water usage is a rough estimate that is considered to be conservative, and should be revisited in the planning phase of the commercial units.

Water Loss Allowance

In addition to water consumption, an estimate of water loss in the distribution system is required. This loss allowance can be determined from methodology in the American Water Works Association's Manual 36 (M36). In the following equation, water loss is estimated as a function of the length of mains, length of laterals, number of connections, and average system pressure.

$$\text{Water Loss} \left(\frac{m^3}{\text{day}} \right) = 5(0.4704 * L_m + 0.0303 * N_c + 0.8 * L_c) \left(\frac{P}{49.26} \right)^{1.5}$$

Where:

- L_m total length of mains (kilometers [km])
- L_c total length of laterals (km)
- N_c number of connections
- P average system pressure (meters of water column)

To be conservative, the accessory dwelling units are presumed to be metered separately; therefore, there will be a total of 355 connections and approximately 7,700 feet of water mains when the new development is fully built-out. Assuming 20 feet per lateral and an average system pressure of 60 pounds per square inch (psi), after converting the values into the proper units, the total loss allowance for the development is estimated at 9.9 gallons per minute (gpm) or 14,300 gpd.

HCSD produces annual water loss audits. The audit from 2018 estimated apparent losses of 12.68 gpd/connection and real losses of 66.41 gpd/connection. These losses amount to between 4,000 gpd and 21,384 gpd for the development. The loss calculated with the AWWA M36 method is approximately the average of these values; therefore, it will be used for the estimated allowable loss.

Fire Flow Requirements

The Humboldt Bay Fire Marshall was consulted for fire flow requirements for the development; see Appendix 2 for correspondence. The commercial building design has not been completed and is not proposed for several phases; therefore, an assumption of 1,500 gpm for 2 hours is used. Once the commercial design is in progress, this assumption



will need to be re-evaluated. For one- and two-family residential development and townhouses, a needed fire flow of 500 gpm for 30 minutes is required if the buildings meet Section 903.3.1.3 of the California Fire Code or Section 313.3 of the California Residential Code and are under 3,600 square feet. If the residential development is not sprinklered and does not meet the aforementioned codes, the needed fire flow is 1,000 gpm for 1-hour.

Water Supply Requirements and Demand Summary

California Code of Regulations (CCR) Title 22 Section 64554 govern the requirements for existing capacity for a distribution system. The relevant sections are included below:

“Section 64554(a): At all times, a public water system’s water source(s) shall have the capacity to meet the system’s maximum day demand (MDD).

1. For systems with 1,000 or more service connections, the system shall be able to meet four hours of peak hourly demand (PHD) with source capacity, storage capacity, and/or emergency source connections.
2. Both the MDD and PHD requirements shall be met in the system as a whole and in each individual pressure zone.”

HCSD transfers water from the Humboldt Bay Municipal Water District at the Truesdale Pump Station to the Walnut Drive tanks. The Walnut Drive tanks have a capacity of approximately 1.5 million gallons (MG) and these tanks provide water to the 0.5 MG capacity Ridgewood tank, which is the source of water to the Cutten pressure zone where the proposed development is located. Title 22 states that 10 years of meter data should be used to calculate existing demands; however, upon discussion with HCSD, it was determined that data specific to the Walnut Drive tanks do not extend that far. Additionally, system pumping records that do extend 10 years cannot be reliably isolated to the supply tanks due to the potential for valve sequencing changes. Therefore, 5-years of demand data from the Walnut Tanks are used in this study to calibrate HCSD’s water model and assess existing conditions.

Over the 5-year period from 2014 to 2019, the maximum month demand supplied to the Walnut Drive tanks was 35.99 MG over a 32-day meter reading period in July of 2018. This computes to a maximum month average day demand of 1.12 million gallons per day (MGD). The maximum month average day to maximum day peaking factor is estimated to be 1.5. The maximum day to peak hour peaking factor is set at a minimum of 1.5 in accordance with Title 22 Section 64554 (b) guidance. The MDD and PHD used for this study are 1.69 MGD and 2.53 MGD, respectively.

Table 1 summarizes the estimated water demands for the proposed development at full build out. The demands include the average demand estimates and the system capacity requirements from CCR Title 22.



Table 1. Summary of Water Demands
North McKay Subdivision at Full Build-Out, Cutten, CA

Build Out Demand Totals				
Category (EDUs) ^a	Average Day (gpd) ^b	Maximum Day (gpd)	Peak Hour Demand (gpd)	Peak Hour 4-hour volume ^c (gallons)
Single-Family (180) ^{d,e}	61,020	91,530	137,295	22,883
Multi-Family (145) ^f	49,155	73,733	110,600	18,434
Commercial (23) ^g	7,797	11,696	17,544	2,954
Water Loss Allowance ^h	14,300	14,300	14,300	2,383
Totals	132,272	191,259	279,739	46,625
Fire Flow Requirements				
Category	Residual Pressure	Duration	Flow	
Single & Multi-Family	20 psi ⁱ	30 minutes	500 gpm ^{10j}	
Commercial		2 hours	1,500 gpm	
Minimum Fire Storage Volume for Maximum Category (gallons)			180,000	

- ^a EDU: equivalent dwelling unit
- ^b gpd: gallons per day
- ^c Peak hour demand is for a duration of 4 hours according to CCR Title 22.
- ^d includes small lot and accessory dwelling units
- ^e Single-family usage estimated at 339 gpd with peaking factors of 1.5 to estimate maximum day and peak hour demands.
- ^f Multi-family usage estimated at 83.5% of a single-family unit
- ^g Commercial usage estimated at approximately 3,898 gpd/lot with peaking factors of 1.5 to estimate maximum day and peak hour demands.
- ^h Water Loss is assumed to be constant
- ⁱ psi: pounds per square inch
- ^j gpm: gallons per minute

Model Parameters

Physical Layout

The proposed finish ground elevation varies through the development from a minimum of approximately 136 feet to a maximum of approximately 208 feet. See Appendix 4 for the proposed water distribution map and finish ground contours. The water supply is proposed to be connected to an 8-inch water line that terminates at the end of Redwood Street. Previous studies identified that a single connection to HCSD’s distribution system was insufficient to maintain minimum residual pressures at fire flows; therefore, modeling will include a tie-in to the 8-inch line at Arbutus Street. The ground elevations at the Redwood Street and Arbutus Street connections are approximately 193.1 feet and 208.0 feet, respectively.

Pipe diameters throughout the development have not yet been determined; therefore, for the modeling effort, the looped segments were initially set at 8-inches and the cul-de-sac dead-end runs were set at 6-inches in diameter.

Model Simulations

The purpose of the water supply assessment is to determine if the existing infrastructure is sufficient to meet the demands of the proposed development or if upgrades will be needed to meet the regulatory requirements. The simulation must consider the maximum day demands, as well as impacts from fire flows.



Potential upgrades include storage volumes, pumping capacities, and upsizing of distribution lines. In addition to evaluation of the existing infrastructure, the modeling report indicates the needed sizing of the distribution pipelines within the development and determines minimum pressures at the highest point in the development during fire flow conditions. Table 2, below, includes the criteria for evaluating the hydraulic simulations.

To evaluate the proposed development in accordance with the guidelines in Table 2, the following simulations will be performed:

1. Steady State: existing system MDD
2. Steady State: combine existing system MDD and proposed development MDD
3. Steady State: combined MDD with Fire Flow (FF) of 1,500 gpm
4. Extended Period with Pumping: combined MDD with 2-hour FF of 1,500 gpm

PHD will not have a simulation run because the maximum day demand plus fire flow is a greater stress on the system and will indicate worst case conditions.

**Table 2. Water Supply and Distribution System Requirements
 North McKay Subdivision, Cutten, CA**

System Parameter	Evaluation Criterion	Value	Design Standard/Guideline
Water Supply	Firm Pumping Capacity Firm Pumping Capacity + Storage Firm Pumping Capacity + Storage	MDD ^a PHD ^b MDD + FF ^c	CCR ^d Title 22 Section 64554 and Industry Standards
System Pressure	Minimum, during PHD or MDD + FF	20 psi ^e	CCR Title 22 Section 64602 and HCSD Design Standards
Pipe Hydraulics	Maximum Velocity during MDD Maximum Velocity during MDD + FF	5 ft/sec ^f 10 ft/sec	AWWA ^g M22

^a MDD: maximum day demand
^b PHD: peak hour demand
^c FF: fire flow
^d CCR: California Code of Regulations
^e psi: pounds per square inch
^f ft/sec: feet per second
^g AWWA: American Water Works Association

Model Results & Recommendations

HCSD’s WaterCAD model was evaluated for each of the simulations by McKay-Sposito of Federal Way, Washington. The model was first adjusted to reflect maximum system demands and calibrated to field tests for pressure and flow. Next, the proposed development’s piping network and demands were added. Steady-state simulations were performed for the existing conditions and with the addition of the development’s maximum day demand and fire flow events. Extended period simulation was also performed to assess long-term performance with tank levels. Model setup, calibration, and simulation results are detailed in the modeling report (see Appendix 4).



Results

Existing System Results

According to the modeling report, in the existing system simulation, fire flow and minimum pressure requirements are able to be met; however, the Walnut Drive booster pumps override time-of-day pumping restrictions for the majority of the fire demand.

Pipeline velocities do not exceed the standard of 10 feet per second for fire flow conditions with the exception of an 8-inch main along Walnut Drive between the HCSD yard and Pleasant Avenue.

Development Results

With the addition of the proposed development's demands, static pressures decrease in the Cutten area by approximately 1.5 psi and range from approximately 57 psi to 64 psi. This indicates that under maximum day demands, the proposed development does not significantly impact the existing distribution system. The model indicates a pressure on the order of 50 psi is present at the development's tie-in points with HCSD's existing distribution system. The tie-in points are the highest in elevation in the development; therefore, the remainder of the development is expected to have water main pressure in excess of this value.

Under a commercial fire scenario, the simulation indicates multiple locations throughout both Cutten and the proposed development where residual pressures drop below 20 psi. To address inadequate pressures, a combination of additional storage and pipeline upsizing is needed.

Recommendations

Based on the model simulation results, system upgrades are recommended to address pressure and storage deficiencies resulting from the development's increased demands. These infrastructure upgrades are as follows:

1. Provide an additional 250,000 gallons of storage volume at the Ridgewood tank site. The height of a new water storage tank will need to provide a water surface elevation that matches the water surface elevation of the existing Ridgewood tank in order to ensure that it provides adequate pressure to the distribution system.
2. Upsize the main on Walnut Street between Holly Street and Cypress Avenue to 12-inches.

These upgrades are necessary to provide the proposed subdivision with adequate system pressure and flow during commercial fire scenarios; however, as previously noted, the commercial units have yet to be designed. Therefore, these recommendations will need to be reevaluated once the commercial phase is under development. Additionally, given that the proposed subdivision is still in the planning phases, any increase in units or usage types may require reevaluation.

The developer and HCSD will have to coordinate to determine the appropriate cost share for the necessary improvements to the water distribution system to support the proposed development.



Terrence Williams
North McKay Subdivision Water Supply Assessment
October 2, 2020
Page 7

Please call me at (707) 441-8855 if you have any questions.

Sincerely,

SHN



Jared O'Barr
Civil Engineering Principal

JXO/PEG:lam

- Appendices:
1. Proposed Subdivision Map
 2. Fire Flow Requirement Letter
 3. Proposed Water Distribution Layout
 4. Water Modeling Analysis, North McKay Subdivision



**Proposed Subdivision
Map**

1

MCKAY RANCH SUBDIVISION TENTATIVE MAP FOR A PLANNED DEVELOPMENT

LOCATED IN THE NORTHWEST QUARTER OF SECTION 36,
TOWNSHIP 5 NORTH, RANGE 1 WEST, H.M.,
IN THE UNINCORPORATED AREA OF
HUMBOLDT COUNTY, CALIFORNIA
(APN's 017-032-003, 017-071-004 & 009, 017-072-002 & 003, 017-073-007 & 009)

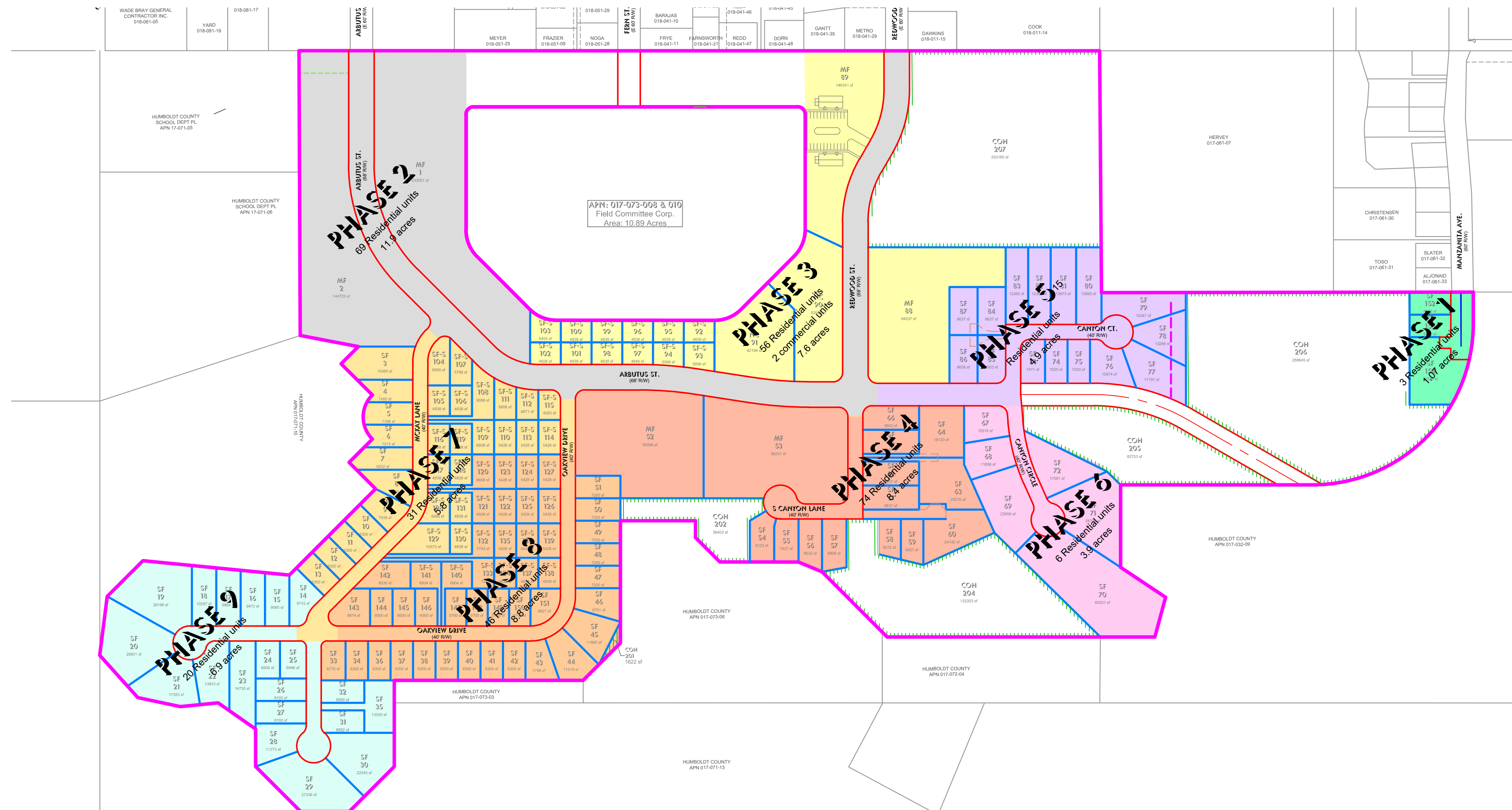


DEVELOPER
kramer investment corp.
1589 myrtle avenue suite b
eureka, ca 95501
(707)444-2919 office
(707)444-2396 fax
Contacts: Kurt Kramer
Chris Mikkelsen

PROJECT NAME
**MCKAY RANCH SUBDIVISION
TENTATIVE MAP FOR A
PLANNED DEVELOPMENT**
HUMBOLDT COUNTY
APN's 017-032-003, 017-071-004 & 009, 017-072-002 & 003, 017-073-007 & 009

PROJECT DESCRIPTION

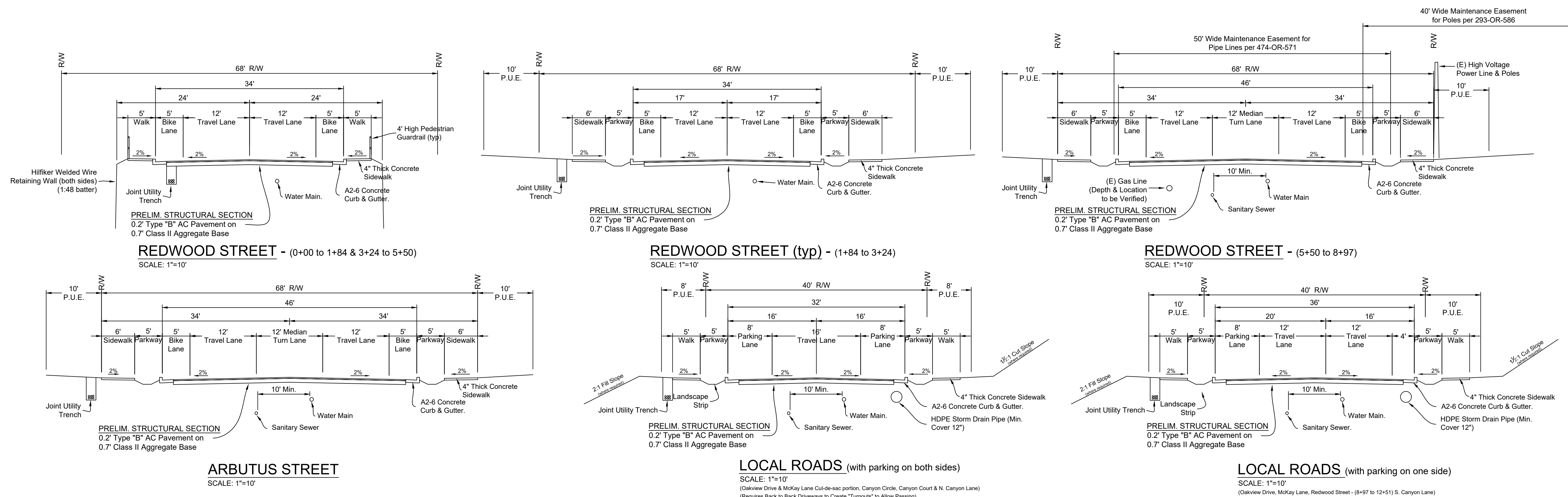
- This subdivision application proposes a subdivision of the legal parcels known as APN's 017-032-003, 017-071-004 & 009, 017-072-002 & 003, 017-073-007 & 009. The combined ±81.1 acre site is proposed to be subdivided into varying single-family and multi-family lots as well as a neighborhood commercial lot.
- Proposed are: 96 Single Family lots (lots 3-50, 53-87 & 142-154) ranging in size from 6,600sf to 39,670sf.
50 Small Lot Single Family (lots 92-141) with a minimum size of 4,758sf.
174 Multi-Family (lots 1-2, 51-52 & 88-89)
- 2 Neighborhood Commercial Lot (lot 90 & 91)
- The adjacent properties to the West are primarily single family residences. The adjacent properties to the North, South & East are primarily undeveloped timberland.
- There are currently no structures on the property and the parcels have historically been used as timber land.
- Water service will be supplied by the Humboldt Community Services District (HCSD).
- Sewer service will be provided by the HCSD. It is proposed to gravity flow the sewer within the subdivision to the low point at the North end of the subdivision to a sewage lift station where the sewer is then proposed to be pumped to the existing gravity lines at Hemlock & Dolbeer Streets.
- PG&E supplies electricity and gas. AT&T provides telephone services, and Suddenlink provides cable television services.
- The property is not shown on official maps to be subject to flooding (FIRM Community Panel No. 060060 0775 C). No hazardous areas, historic buildings, or archaeological sites are known to exist on or adjacent to the property.
- Topography is shown at 5 foot contour intervals based on vertical datum NAVD83 from LIDAR data obtained by Humboldt County.
- The property naturally drains to the North, East & South in several natural ravines down to Ryan Creek. It is proposed to collect storm water from the roadways into bioswales located adjacent to the roadways. Overflow from the bioswales will be collected in drainage infrastructure located throughout the site. It is proposed to discharge this overflow storm water into the naturally occurring drainage courses within and along the boundaries of the property.
- It is proposed to cut most roadways within 5' of the existing surface. Roadway elevations and proposed cuts are shown along the roadway centerlines on the grading plan. Cuts are shown in parenthesis. The two large ravines at the west end of Redwood Street are proposed to be crossed with the use of Hilliker Retaining Walls to limit the impact of fill material in the ravine. The preliminary estimated balanced cut and fill for the project is approximately 100,000cy.
- SHN has prepared Preliminary General Criteria for grading activities for the proposed project in the form of a letter dated December 11, 2007 and is incorporated by reference. In general the recommendations are to adhere to building setbacks from the 25% break-in-slope and to limit cut and fill depths.
- Adjacent APN information is from the Humboldt County Assessor's Office.
- All easements of record are shown or referenced on the Tentative Map and will appear on the recorded subdivision map.



EASEMENTS & ENCUMBRANCES (AS NOTED IN SCHEDULE B OF THE TITLE REPORT)

TITLE REPORT REF.	DEED REFERENCE	DESCRIPTION
3	BOOK 229 OF DEEDS, PAGE 240	Rights in Conjunction with the right to the free use of water from a spring.
4	BOOK 6 OF MAPS, PAGE 34, HCR	Private easements for ingress and egress.
5	BOOK 293 O.R., PAGE 586	PG&E ingress, egress and public utilities.
6	BOOK 174 O.R., PAGE 571	50' wide ingress, egress and public utilities.
7	BOOK 1818 O.R., PAGE 1105	Agreement relating to a 30' wide access strip.
8	BOOK 1833 O.R., PAGE 760	30' private RW for access.
9	O.R. 199-15178-4, HCR	40' wide ingress, egress and public utilities & drainage.
10	O.R. 199-17963-3, HCR	40' wide ingress, egress and public utilities.
11	O.R. 1992-17995-3, HCR	PG&E & Pacific Bell - Ingress, egress and public utilities.
12	O.R. 1997-28279-6, HCR	Notice of Lot Line Adjustment & Certificate of Subdivision Compliance.
13	O.R. 1997-31440-4, HCR	20' wide storm drainage easement.
14	O.R. 1998-2651-4, HCR	60' wide ingress egress and public utilities.
15	O.R. 1998-5385-1, HCR	40' wide water line easement
17	O.R. 2009-22616-2, HCR	40' wide ingress, egress, public & private utilities

PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
3 Single-Family House Lots (SF)	69 Multi-Family (MF)	12 Small Lot Single-Family Houses (SF)	13 Single-Family House Lots (SF)	15 Single-Family House Lots (SF)
3 TOTAL RESIDENTIAL UNITS	69 TOTAL RESIDENTIAL UNITS	44 Multi-Family (MF)	61 Multi-Family (MF)	15 TOTAL RESIDENTIAL UNITS
		56 TOTAL RESIDENTIAL UNITS	74 TOTAL RESIDENTIAL UNITS	
		2 NEIGHBORHOOD COMMERCIAL UNIT		
PHASE 6	PHASE 7	PHASE 8	PHASE 9	PROJECT TOTAL
6 Single-Family House Lots (SF)	11 Single-Family House Lots (SF)	28 Single-Family House Lots (SF)	20 Single-Family House Lots (SF)	96 Single-Family House Lots (SF)
6 TOTAL RESIDENTIAL UNITS	20 Small Lot Single-Family Houses (SF)	18 Affordable Single-Family Houses (AH)	20 TOTAL RESIDENTIAL UNITS	174 Multi-Family (MF)
	31 TOTAL RESIDENTIAL UNITS	46 TOTAL RESIDENTIAL UNITS		50 Small Lot Single Family (SLF)
				320 TOTAL RESIDENTIAL UNITS
				2 TOTAL COMMERCIAL UNITS



SHEET TITLE

PHASING PLAN
and
ROAD SECTIONS

PLOT INFORMATION

CAD DWG FILE: P114-102_KRAMER-MCKAY TRACT TENTATIVE
MAP NUMBER: MCKAY RANCH TENTATIVE MAP
DATE: 05/23/19
SAVE DATE: 3/4/20 4:48 PM

REVISIONS

NO.	DATE	DESCRIPTION
3/4/20		Phase Changes

MARK DATE DESCRIPTION

PROJECT NO:	14-102
DATE:	05/23/19
DRAWN BY:	BKO/BAO
CHKD BY:	BKO

SUBMITTAL STATUS
PLANNING NOP REVIEW

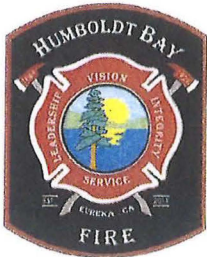
C1.0
SHEET 1 OF 5

SHEET LIST

C1.0	TITLE SHEET WITH PHASING PLAN AND ROAD SECTIONS
C1.1	PROPOSED LAND USE DESIGNATIONS
C2.0	TENTATIVE MAP SITE PLAN
C3.0	PRELIMINARY GRADING AND DRAINAGE PLAN
C4.0	PRELIMINARY UTILITY PLAN

**Fire Flow Requirement
Letter**

2



HUMBOLDT BAY FIRE

Joint Powers Authority

533 C Street • Eureka, California 95501-0340 • (707) 441-4000
Fax (707) 441-4133 • www.hbfire.org • email: info@hbfire.org

November 14, 2017

To: Humboldt Community Services District

From: Ed Laidlaw Battalion Chief/Fire Marshal

RE: McKay Ranch Subdivision-File #APN 017-0320003, Fire Flow Requirements

California Fire Code requires that a minimum fire flow to all hydrants be:

1. *Residential*-1,000 Gallons Per Minute (GPM) for 1 hour for One and Two family Dwellings, Group R-3 and R-4 Buildings and Townhouses between 0-3,600 square feet, no automatic sprinkler system. 500 GPM for 30 minutes, for the same building type as listed above, if buildings meet requirements in California Fire Code section 903.3.1.3 and California Residential Code 313.3. (Refer to California Fire Code Appendix B for additional requirements related to square foot increases)
2. *Commercial*-1,500 GPM minimum for 2 hours with 20 psi residual pressure. (Refer to California Fire Code Appendix B for additional requirements related to square foot increases and fire sprinkler requirements)
3. Or as required by California Fire Code Appendix B, whichever is greatest

Hydrants

Residential:

1. Residential area-space fire hydrants every 500', or as approved by the Fire Department
2. Evenly distribute hydrants throughout the project
3. No property may be more than 250' from the nearest hydrant or as approved by the Fire Department
4. Approximately one fire hydrant is needed for every two acres in a residential development

Commercial/Industrial Areas:

1. General spacing shall be every 300' or as approved by the Fire Department
2. Evenly distribute hydrants throughout the project
3. No property may be more than 150' from nearest hydrant
4. Or as required by California Fire Code Appendix C, whichever is greatest

Ed Laidlaw Battalion-Chief/Fire Marshal

Proposed Water Distribution Layout

3



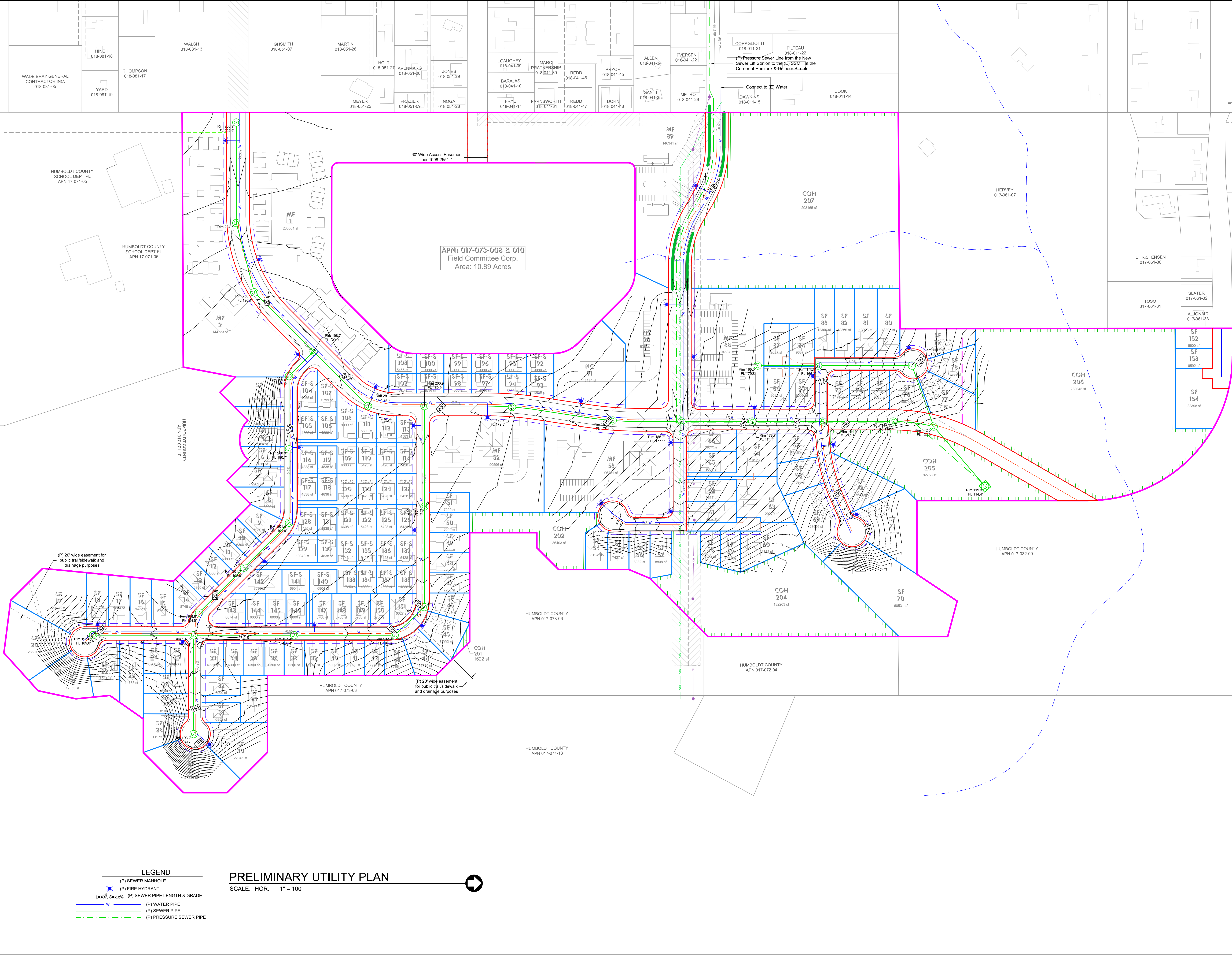
DEVELOPER
kramer investment corp.
 1589 myrtle avenue suite b
 eureka, ca 95501
 (707)444-2919 office
 (707)444-2396 fax
 Contacts: Kurt Kramer
 Chris Mikkelsen

PROJECT NAME
MCKAY RANCH SUBDIVISION
 TENTATIVE MAP FOR a
 PLANNED DEVELOPMENT
 HUMBOLDT COUNTY
 APNs 017-032-003, 017-071-004 & 009, 017-072-002 & 003, 017-073-007 & 009

SHEET TITLE
PRELIMINARY UTILITY PLAN

PLANNING NOP REVIEW

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REVISIONS	
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PROJECT NO:	14-102
DATE:	04/17/19
DRAWN BY:	BKO/BAO
CHKD BY:	BKO
SUBMITTAL STATUS	
PLANNING NOP REVIEW	



PRELIMINARY UTILITY PLAN

SCALE: HOR: 1" = 100'

- LEGEND**
- (P) SEWER MANHOLE
 - (P) FIRE HYDRANT
 - (P) SEWER PIPE LENGTH & GRADE
 - (P) WATER PIPE
 - (P) SEWER PIPE
 - (P) PRESSURE SEWER PIPE

**Water Modeling
Analysis, North McKay
Subdivision**

4

MEMORANDUM

TO: Jared O'Barr, SHN Engineers & Geologists

FROM: Eric Pilcher, MacKay Sposito

RE: Water Modeling Analysis, North McKay Subdivision

DATE: September 24, 2020

The design assumptions and demand rates for the McKay Ranch Subdivision have been added into the Humboldt Community Services District's (the District) WaterCAD model and simulations have been performed. Based on the simulation results, it appears that some system upgrades will be necessary to ensure that minimum pressure standards are upheld during fire suppression within the new subdivision. Please note the following model information, system assumptions, and results.

WaterCAD Model

The WaterCAD model was initially obtained from the District in September of 2018. Since that time, periodic updates and adjustments have been made by MacKay Sposito, as directed by the District. The current version has been updated for use with WaterCAD CONNECT Edition Update 3 by Bentley Systems, dated March 6, 2020.

Project Datum, Horizontal

The existing WaterCAD model is not data referenced to a known coordinate system, nor is it entirely drawn to scale. Rather, local horizontal coordinates within the model generally range from 1,700 to 49,800 feet along the x-axis, and -18,700 to 19,600 feet along the y-axis. To match the horizontal coordinates within the model, the line work within the Ontiveros & Associates (O&A) AutoCAD file was relocated South 70 degrees, 00 minutes, 32.09 seconds West, a distance of 6,325,840.25 feet. The new pipe runs have been added to scale.

Project Datum, Vertical

The elevations of previously modeled elements along the Cedar Street right-of-way were compared to the existing surface data provided within the O&A AutoCAD file. It was noted that existing junctions at Redwood & Cedar and Arbutus & Cedar were roughly 10.5 feet lower within the model than existing

surface takeoffs from the provided digital terrain model.¹ Therefore, to match the local vertical datum used within the model, new pipe junction elevations have been set 10.5 feet lower than design surface elevations.

Model Simplification

Consistent with other neighborhoods within the WaterCAD model, not every hydrant location is modeled. Junction locations (nodes) have been simplified to reflect actual junctions of water mains, water main terminuses, and high and low points along water main runs. Directional changes are reflected as bends within pipes. Laterals are not modeled.

Demand loading is generally assigned to each node based on the land uses immediately downstream or adjacent to it. Fire flow simulations are performed at nearby nodes rather than actual hydrant locations.

Initial Sizing

Consistent with the Basis of Modeling, initial pipe segments for the proposed development are set to 8-inch diameter for looped segments, and 6-inch diameter for dead-end segments.

Initial Model Calibration

The new subdivision will predominantly be served from the Ridgewood tank, which has 0.5-million-gallon capacity. The Ridgewood tank is filled via pumping from the Walnut Drive tanks, which have a combined capacity of 1.5-million-gallons. Per recent correspondence with the District, average summer system demand loss from the Walnut Dr. tanks is approximately 650 to 675 gallons per minute (gpm).²

With Myrtle town isolation valves closed and no system demand multiplier, the existing modeled tank outflow from Walnut Dr. is 256 gpm. Following iterations, a system-wide demand multiplier of 1.72 is applied yielding a calibrated tank outflow of 675 gpm.

It is noted that during the calibration simulation the model does not yield adequate pressures upstream of the Canyon Drive pressure reducing valve (PRV). Field measurements indicate 140 psi retained at the Canyon Dr. PRV with 52 psi on the downstream side. However, the model will only retain approximately 120.5 psi upstream of the PRV, with downstream pressure set at 50.8 psi³. For this reason, pressure results at nodes upstream of the PRV have not been reviewed as part of this study.

Other calibration checks include:

- Modeled pressure drop from 65.1 to 41.4 psi at the Holly/Walnut pressure sustaining valve (PSV) vs. field measurements of 64 and 40 psi, respectively.³
- Modeled pressure drop from 64.8 to 41.9 psi at the Redwood PSV vs. field measurement of 64 and 41 psi, respectively.³

¹ The elevations at Redwood & Cedar and Arbutus & Cedar are given as 191 and 208 feet, respectively within the Basis of Modeling, but measured at 193.1 and 208.0, respectively within the O&A AutoCAD file. The elevations are modeled at 182.6 and 197.2 feet, respectively within the existing WaterCAD model.

² Data trend based on 12:00 to 18:00, Monday thru Friday, July thru September 2019; no pumping.

- Modeled static and residual pressures of 60.7 and 37.5 psi at Fern & Cedar during a 920 gpm flow test vs. field measurements of 60 and 36 psi, respectively.³

Baseline Adjustment

Following calibration checks, the system demand multiplier is adjusted consistent with requirements of Title 22. During the last 5 years, the highest monthly system demand occurred in July 2018, during which 35,985,000 gallons were pumped to the Walnut Drive and Ridgewood tanks over a 32-day period⁴. This reflects an average flow rate of roughly 781 gpm, to which a multiplier of 1.5 is applied, for a new theoretical baseline of 1172 gpm.

Following iterations, the system-wide demand multiplier is increased to 2.14, yielding a baseline combined tank outflow of 1175 gpm. While actual demand will vary based on time of day, no further adjustments for peak demand have been made, given that the minimum 1.5 multiplier required by Title 22 is adequately conservative.

Existing System Performance

Performance of the existing District system has been evaluated prior to adding the proposed North McKay subdivision. A theoretical commercial fire, requiring 1500 gpm at 20 psi for two hours has been applied to the intersection of Walnut St and Fern St (i.e., J-16). Under steady state conditions 1,673 gpm is available at this location with a residual pressure of 22.1 psi.

While fire flow analysis is not technically available on extended period scenarios (EPS), fire demand may be incorporated into a simulation. This is done by placing an adjusted fire flow demand at a specific node, but with a specified hydraulic pattern to control when the fire suppression need will occur within the EPS timeframe. The established protocol for EPS runs in the District's model is to set a two-hour fire suppression need, beginning at 4:00 pm, when the system is under the most strain due to daytime pumping restrictions.

The EPS results indicate that the system is capable of providing 1,524 gpm to J-16 through the duration of the two-hour event. Pressure at J-16 varies from 29.9 to 24.5 psi during fire suppression. The following system conditions are noted:

- The tank levels at Ridgewood are 39.4 and 27.1 ft at the start and end of the fire suppression event, respectively. These levels correspond to 79.6 and 53.4 percent full. Emergency 425 and 325 gpm booster pumps engage when the water level drops below 39.0 and 38.5 ft, and therefore run throughout most of the event.

³ As recorded by the District at 8:45 am on Tuesday, July 28, 2020.

⁴ Humboldt Community Services District, Water Flow Summary, 2009 to 2019.

- Pipe velocities in excess of 5 feet per second (fps) are observed in the Cutten Zone along the following pipe runs:
 - 6.75 fps in the 10-inch main on Walnut St between Holly St and Cypress Ave
 - 7.52 fps in the 6-inch main on Walnut St between Cypress Ave and Arbutus St
 - 6.16 fps in the 8-inch main on Cypress Ave between Walnut St and Cedar St
 - 11.14 fps in the 8-inch main on Walnut Dr between the District yard and Pleasant Ave

Increased System Demand

Per the Basis of Modeling, full build out of the North McKay subdivision will include up to 180 single-family residences, 174 multi-family residences, and 2 commercial lots, for a total 348 equivalent dwelling units. The resulting maximum daily demand is 133 gpm.⁵ Instead of assigning the 133 gpm demand to a single system node, demand has been spread across the new system infrastructure based on anticipated build out. Further, the demands are adjusted based on the system-wide multiplier determined from baseline adjustment, above.

Specific demands have been applied to the following system nodes:

System Node	Location	Max. Daily Demand (gpm)	Adjusted Demand (gpm)
J-341	Redwood St ⁶	2	0.93
J-30216	Canyon Ct, cul-de-sac	4	1.87
J-30218	Arbutus St & Canyon Cir	2	0.93
J-30219	Canyon Cir, cul-de-sac	2	0.93
J-30220	Arbutus St & Redwood St	13	6.07
J-30221	S Canyon Ln, cul-de-sac	13	6.07
J-30222	Arbutus St & Oakview Dr	14	6.54
J-30223	Arbutus St & McKay Ln	22	10.28
J-30224	McKay Ln & Oakview Dr	4	1.87
J-30225	McKay Ln, cul-de-sac	3	1.40
J-30226	Oakview Dr, cul-de-sac	3	1.40
J-30227	McKay Ln, mid-block	13	6.07
J-30229	Canyon Ct & Canyon Cir	4	1.87
J-30230	Redwood St & S Canyon Ln	13	6.07
J-30231	Oakview Dr, mid-block	21	9.81

⁵ Based on 191,259 gallons per day over a 24-hour time period.

⁶ It is noted that Phase 1 is not connected to the rest of the development, but will be accessed off of Manzanita Avenue. A water main along Manzanita is not presently within the WaterCAD model, and no modeling nodes are present between the intersection of Redwood St & Walnut Dr and Montgomery St & Prindan Ln. The nearest node to Manzanita is at the Montgomery St cul-de-sac, and connectivity between the two areas is uncertain. In order to adequately capture demand loading on the system for Phase 1, the load rate has been applied to node J-341, which is located mid-block on Redwood St between Walnut Dr and Cedar St.

FIRE FLOW ANALYSIS

Code Requirements

Pursuant to the California Fire Code, a minimum flow of 1,000 gallons per minute (GPM) for 1 hour with 20 psi residual pressure is required for un-sprinkled one- and two-family dwellings of less than 3,600 square feet. This value may be reduced to 500 GPM for 30 minutes if the dwellings contain automatic sprinkler systems in accordance with section 903.3.1.3 of the California Fire Code and section 313.3 of the California Residential Code.

For commercial properties, the standard is a minimum flow for 1,500 GPM for 2 hours with 20 psi residual pressure. These minimum required flow rates increase depending on square footage and construction type. As stated in the Basis of Modeling, an assumption of 1,500 GPM for 2 hours is used given that the commercial building design has not been completed and is not proposed for several phases (SHN 2020).

Steady State

WaterCAD's standard fire flow analysis is performed under steady state conditions. The following steady state scenarios are modeled:

1. Steady State, Existing Baseline – The Redwood & Cedar and Arbutus & Cedar nodes are evaluated under the present state of the WaterCAD model during Maximum Day Demand (MDD), prior to any additional pipes or water demands from the proposed subdivision.
2. Steady State, Proposed Development, Normal Conditions – The new subdivision is added to the model, and evaluated under MDD.
3. Steady State, Proposed Development, Fire Flow – The new subdivision is added to the model, and evaluated under MDD with a 2-hour fire flow of 1,500 gpm.

The model is analyzed at three different nodes during these scenarios. These are:

1. J-30209 at the existing eastern terminus of Redwood St
2. J-30210 at the existing eastern terminus of Arbutus St
3. J-30222 at the proposed intersection of Arbutus St & Oakview Dr

The hydraulic grade line in feet, supply in gpm, and pressure in psi have been reviewed at each of the three nodes during each of the scenarios.

Under steady state conditions 1,565 gpm is available at J-30222, with a residual pressure of 20.9 psi.

Extended Period Simulation

During the fire suppression event, the EPS attempts to provide the fully demanded flowrate at J-30222 (i.e., 1514 gpm), but allows pressure drops within the system. The following conditions and warnings are noted:

- The tank levels at Ridgewood are 37.5 and 24.0 ft at the start and end of the fire suppression event, respectively. These levels correspond to capacity being between 75.6 and 46.8 percent full. The booster pumps are engaged throughout the event.

Note that the starting tank elevation for fire suppression is 1.9 feet lower than under existing conditions. This is a direct result of the additional flow demand (i.e., 133 gpm) placed on the system by the new subdivision.

- Velocity greater than 5 feet per second (fps) along the following pipe runs:
 - 7.59 fps in the 10-inch main on Walnut St between Holly St and Cypress Ave
 - 8.10 fps in the 6-inch main on Walnut St between Cypress Ave and Arbutus St
 - 7.16 fps in the 8-inch main on Cypress Ave between Walnut St and Cedar St
 - 12.46 fps in the 8-inch main on Walnut Dr between the District yard and Pleasant Ave
 - 6.70 fps in the 8-inch main on Cedar St between private drive and Arbutus St
 - 6.14 fps in the 8-inch main on Arbutus St from Cedar St to the beginning of the subdivision
- There are pressure drops below 20 psi in 8 nodes within North McKay Ranch and 2 nodes within the existing Cutten zone. Residual pressure at the J-30222 study node is 11.2 psi.

The conclusion to be drawn from the EPS model is that there are infrastructure bottlenecks and insufficient water at the Ridgewood tank to provide fire protection without creating pressure losses.

J-30209: Redwood St.	Hydraulic Grade (ft)	Flow Supplied (gpm)	Pressure (psi)
Steady State 1	332.13	n/a	65.3
Steady State 2	328.84	42	63.9
Steady State 3	328.84	42 ⁸	63.9
EPS ⁷	232.21	693	22.1

J-30210: Arbutus St.	Hydraulic Grade (ft)	Flow Supplied (gpm)	Pressure (psi)
Steady State 1	332.26	n/a	58.9
Steady State 2	328.97	89	57.4
Steady State 3	328.97	89 ⁸	57.4
EPS ⁷	232.40	938	15.7

⁷ Values reflect the end of the 2-hour fire suppression event.

⁸ Does not include fire flow demand.

J-30222: Arbutus St & Oakview Dr	Hydraulic Grade (ft)	Flow Supplied (gpm)	Pressure (psi)
Steady State 1	n/a	n/a	n/a
Steady State 2	328.79	14	59.7
Steady State 3	328.79	1,514 ⁹	20.9 ¹⁰
EPS ⁷	216.62	1,514	11.2

Recommended Upgrades¹¹

The increased system demands from the North McKay Ranch subdivision can be partially offset by increasing the amount of available storage. Based on the existing tank configuration¹², an estimated 250,000 gallons would need to be added to ensure that pressure is sustained above 20 psi within the Ridgewood Zone. With the added storage, tank levels would fluctuate between 38.1 and 28.9 ft at the start and end of the fire suppression event. These levels correspond to 76.7 and 57.2 percent full, respectively.

Even with added tank capacity, residual pressure at the J-30222 study node would drop below 20 psi at the end of the of fire suppression event. To prevent this pressure drop, it is recommended that the main on Walnut St between Holly St and Cypress Avenue be upgraded to 12-inch DIP.

cc: Pieter Gustavson, SHN
T.K. Williams, HCSD
Tim Latham, HCSD
Mickey Hulstrom, HCSD
Bill Bitner, HCSD

⁹ 1,565 gpm total flow is available.

¹⁰ Calculate zone lower limit observed at J-30227 (mid-block of McKay Ln between Arbutus St & Oakview Dr).

¹¹ Recommendations are preliminary based on model analysis and should be confirmed by a professional engineer licensed within the state of California.

¹² A 50-foot tall cylindrical tower, having a base elevation of 469.3 feet.

APPENDIX K

VMT Assessment

To:	Trevor Estlow Humboldt County	From:	Daryl Zerfass and Sandhya Perumalla Stantec
File:	185704555	Date:	September 15, 2021

Reference: VMT Assessment of North McKay Ranch Subdivision Project located in Humboldt County, California

Stantec Consulting Services Inc. (Stantec) has prepared a vehicle miles traveled (VMT) assessment for the proposed North McKay Ranch Subdivision (Project) located in the unincorporated community of Cutten in Humboldt County, California. The purpose of this memo is to document the findings of this VMT assessment prepared in support of the Project's environmental documentation, and which complies with the updated California Environmental Quality Act (CEQA) guidelines that incorporate the requirements of Senate Bill 743 (SB 743).

Project Description

The Project includes development of approximately 320 residential units—146 single family houses, and 174 multi-family units, approximately 22,000 square feet of commercial development, and an offsite water storage tank on approximately 0.3 acre at a separate location 2.5 miles south of the Project. Additionally, an off-site sewer line would also be constructed. Approximately 21.73 acres would remain as undeveloped open space that would be dedicated to the County for future trail management or conveyed in fee.

The Project site is located in Cutten, California, an unincorporated community within the County, towards the southeast boundary of the City of Eureka. See **Figure 1** for Project Location Map. The Project site is located approximately 2.5 miles south of Humboldt Bay, 2.5 miles southeast of downtown Eureka, 2.5 miles east of U.S. Highway 101, and less than 0.5 mile southeast of Sequoia Park.

Methodology

SB 743 required the Governor's Office of Planning and Research (OPR) to establish recommendations for identifying and mitigating transportation impacts within CEQA. In response, OPR prepared a document referred to in this memorandum as OPR's Technical Advisory¹. OPR's Technical Advisory recommends methodologies for quantifying VMT, significance thresholds for identifying a transportation impact, and screening criteria to quickly identify if a Project can be presumed to have a less than significant impact. Lead agencies are to adopt local guidelines appropriate for their jurisdiction. At this time, the County of Humboldt is yet to adopt VMT guidelines. Therefore, this VMT analysis has been prepared in accordance with OPR's Technical Advisory guidance.

As noted above, the Project consists of residential and neighborhood serving commercial retail. Each Project component is evaluated individually as recommended in OPR's Technical Advisory. Also, per the recommendations in OPR's Technical Advisory, the Project is first evaluated using a screening criteria. If a component of the Project meets one of the specified screening criteria, that component of the Project can be presumed to have a less than significant impact. If a Project component does not meet a screening criteria,

¹ Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, State of California, December 2018.

Reference: VMT Assessment of North McKay Ranch Subdivision Project located in Humboldt County, California

that component of the Project is then evaluated based on the applicable VMT threshold of significance. The screening criteria and VMT thresholds of significance used in this analysis are discussed below.

Project Screening

Prior to undertaking a detailed VMT analysis, the Technical Advisory advises that lead agencies conduct a screening process “to quickly identify when a Project should be expected to cause a less-than-significant impact without conducting a detailed study.” The Technical Advisory suggests that lead agencies may screen out VMT impacts using Project size, maps depicting areas of low VMT, transit availability and provision of affordable housing. In addition, local-serving retail development can also be presumed to have a less than significant impact on VMT. For this analysis the Project has been evaluated using the screening criteria summarized in **Table 1**.

Table 1 Project Screening Criteria and Threshold

Category	Criteria/Screening	Threshold	Screened Out (Yes/No)
Trip generation screening	Small Projects can be screened out from completing a full VMT analysis.	If the Project generates less than 110 trips per day, the Project is assumed to have a less than significant impact.	No
Map-based screening	Projects that are located in areas with low VMT can be screened out from completing a full VMT analysis.	If the Project is in a low VMT area, the Project is assumed to have a less than significant impact.	No
Proximity to transit	Projects within ½ mile of a major transit stop or a stop located along a high-quality transit corridor reduce VMT and therefore can be screened out from completing a full VMT analysis.	If the Project is within ½ mile of a major or high-quality transit stop/corridor, the Project is assumed to have a less than significant impact.	No
Affordable Residential development	Affordable housing in infill locations can be screened out from completing a full VMT analysis.	If the Project is comprised 100% of affordable units and is located in an infill location, then the Project is assumed to have a less than significant impact.	No
Locally serving retail	Retail Projects that are locally serving can be screened out from completing a full VMT analysis.	If the retail component of the Project consists of individual retail components that are less than 50,000 square feet, then the retail portion of the Project is assumed to have a less than significant impact.	Yes
Source: OPR, 2018.			

Trip Generation Screening – A focused traffic study for the Project was prepared by TJKM in May 2018². The traffic study determined that the Project would generate 2,879 net daily trips. Since the Project is estimated to generate more than 110 daily trips, the small Project screening criteria does not apply.

² Focused Traffic Study for McKay Ranch Subdivision Technical Memorandum, TKJM, May 2018

Reference: VMT Assessment of North McKay Ranch Subdivision Project located in Humboldt County, California

Map-Based Screening – OPR’s Technical Advisory recommends that residential and office Projects that are located in areas with low VMT per capita, and that incorporate similar features to the existing development in those areas, will exhibit similarly low VMT per capita and therefore will have less than significant impacts to VMT. At this time, Humboldt County has not developed a map-based resource or database for identifying areas in the County with low VMT per capita. Therefore, this screening criteria cannot be applied to the Project.

Proximity to High-Quality Transit – OPR’s Technical Advisory indicates that a Project can be screened out as having a less than significant impact on VMT if the Project is within a half-mile of an “existing major transit stop or an existing stop along a high-quality transit corridor”. A major transit stop is defined as the intersection of two or more major bus routes with a frequency service interval of 15 minutes or less during the morning and afternoon peak commute periods. A high-quality transit corridor is defined as an existing corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

Based on the definition described above, the Project would not be eligible to be screened out under this threshold since current bus headways within ½ mile of the Project site are greater than 15 minutes. Therefore, the Project does not meet the criteria for a transit priority area screening.

Affordable Housing – OPR’s Technical Advisory indicates that 100% affordable housing projects located in infill locations can be assumed to have a less than significant impact on VMT. The Project is not comprised 100% of affordable housing in an infill area, so this screening threshold does not apply.

Locally-Serving Retail – OPR’s Technical Advisory indicates that if a Project proposes locally-serving retail uses that are 50,000 square feet or less is eligible to be screened out. The Project proposes to include a total retail of 22,000 SF within the mixed-use retail/residential zone to support the Project residents and local community.

Since the commercial component of the Project would consist of locally serving retail comprised of less than 50,000 square feet, the commercial component of the Project can be presumed to have a less than significant impact.

VMT Analysis Performance Criteria

The Technical Advisory recommends significance thresholds that may constitute a significant transportation impact. The recommended significance thresholds are summarized in **Table 2**. If a significant impact is identified utilizing the significance thresholds, mitigation to reduce VMT would be necessary.

Under OPR’s recommendations, lead agencies have the discretion to set or apply their own thresholds of significance or rely on thresholds recommended by other agencies. Since the Project is located within Humboldt County, significance thresholds set by the County would be appropriate for the Project. However, at this time the County is yet to adopt any policies or directives regarding VMT analysis. Therefore, due to the absence of County criteria, this analysis utilizes the recommended criteria from the Technical Advisory as shown in **Table 2**.

Reference: VMT Assessment of North McKay Ranch Subdivision Project located in Humboldt County, California

Table 2 OPR Recommended VMT Significance Thresholds

Land Use Type	Metric	Threshold of Significance
Residential development	Household VMT per capita	15% less than existing household VMT per capita
Office development	VMT per employee	15% less than existing VMT per employee
Retail development	Total VMT	If Project causes a net increase in total VMT, Retail greater than 50,000 square feet may be considered regionally serving. If retail is locally serving, it may be less than significant.
Other Project types	To be determined by lead agency through consideration of the purposes of the legislation (i.e., reductions to GHG, VMT per capita, and automobile trip generation)	

Source: OPR, 2018.

For residential uses, the Project's home-based (HB) VMT per capita is to be compared against an appropriate baseline, which is typically defined as either the city average or the regional average plus a 15% reduction. For this analysis, the regional/Humboldt County threshold was used since the Project is located in the unincorporated community in the Humboldt County. As discussed above, the retail portion of the Project meets the screening criteria for locally serving retail. Therefore, no additional analysis is required for the Project's commercial component.

VMT Analysis

A lead agency may elect to use a traffic model to estimate a Project's VMT. The California State Transportation Demand Model (CSTDm) is one such model that can be used to assess VMT resulting from residential and office land use Projects, as well as to set thresholds of significance³. The CSTDm is maintained by Caltrans and VMT statistics have been prepared by Caltrans for use in SB 743 VMT impact assessments⁴. Since the County is yet to adopt a specific methodology or traffic model for VMT analysis, VMT statistics from CSTDm are utilized for this study. The CSTDm Traffic Analysis Zones (TAZ) boundaries and corresponding VMT statistics were reviewed for compatibility with the local area.

The Project is located in CSTDm TAZ 106. **Figure 2** provides an illustration of the CSTDm TAZ and the Project area. The HB VMT per capita rate for TAZ 106 is derived by the model based on trip generation and trip length estimates that primarily reflect standard residential development. For this analysis, as mentioned above, the HB VMT per capita for TAZ 106 is compared against the regional average HB VMT per capita and a threshold of significance that is 15 percent lower than the average. The model data and comparison of the Project to the regional average is summarized in **Table 3**.

³ Case Study from Revised Proposal on Updates to CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, January 20, 2016.

⁴ SB 743 VMT Impact Assessment, <https://dot.ca.gov/programs/transportation-planning/multi-modal-system-planning/statewide-modeling/sb-743-vmt-impact-assessment>, last accessed September 3, 2021.

Reference: VMT Assessment of North McKay Ranch Subdivision Project located in Humboldt County, California

Table 3 VMT Analysis Summary

Description	Residential HB VMT per Capita
Project	
CSTDM TAZ 106	5.3
Regional Threshold	
CSTDM Humboldt County Existing Average	10.8
CSTDM Humboldt County Existing Average with 15% reduction	9.2
Difference (Project minus Regional Threshold)	
	-3.9
Is Project above or below Regional Threshold with 15% reduction?	Below
Significant Transportation Impact	No

As shown in **Table 3**, for the Project's residential component, the HB VMT per capita is 5.3. For this analysis the regional area is defined as the entirety of Humboldt County. The average regional HB VMT per capita for Humboldt County is 10.8 VMT per capita based on the CSTDM data. Consistent with the Technical Advisory, a 15% reduction is applied to existing conditions, resulting in a regional threshold of 9.2 VMT per employee. Since the Project's HB VMT per capita of 5.3 is less than the regional area threshold of 9.2 HB VMT per capita, the Project's residential component would have a less than significant impact on VMT.

Cumulative Impact Analysis

According to OPR's Technical Advisory⁵, if a Project is found to have a less than significant impact at the Project level, it implies that the Project would have a less than significant cumulative impact. Since the Project was found to have a less than significant impact, the Project would have a less than significant cumulative impact.

Active Transportation

To facilitate pedestrian movement throughout the Project site, the Project would create a pedestrian-friendly neighborhood with landscaping and buffered sidewalks. Sidewalks would be constructed ranging from 5 to 6 feet wide. The neighborhood streets surrounding the Project site generally have sidewalks provided on one or both sides, particularly along Walnut Drive and Harris Street.

There are limited designated bicycle facilities in the Project vicinity. Humboldt Bay Area Bike Map identifies existing facilities and streets that are suitable for families and for bicyclists with a range of skill levels. Walnut Drive and Harris Street are designated as a Class II bike lanes. A portion of Harris Street is designated a Class III bike route, and there is a bike compatible trail through Sequoia Park.

The Project would not block, remove, or create barriers for walking and biking, but rather it would provide facilities to encourage non-motorized mode of transportation throughout the Project site, which would reduce local vehicle trips.

⁵ Page 6 from Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, State of California, December 2018.

September 15, 2021

Trevor Estlow

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Reference: VMT Assessment of North McKay Ranch Subdivision Project located in Humboldt County, California

Transit

Transit service in Humboldt County is administered through joint authority between Humboldt County and the cities of Arcata, Eureka, Fortuna, Rio Dell and Trinidad. Transit services within the Project area consist of Eureka Transit Service buses, operated by the Humboldt Transit Authority (HTA). HTA provides riders with affordable fixed route and dial-a-ride transportation options that allows access throughout the Humboldt County.

On weekdays, the Eureka Transit Service buses operate in a loop with one-hour headways from 7:00 am to 6:00 pm. The Red Route operates along W Street and Walnut Drive, and the Purple and Green Routes operate on Harris Street, providing connectivity throughout the city. The Rainbow Route operates on weekends with one-hour headways, from 9:00 am to 5:00 pm on Harris Street. The nearest Red and Rainbow Route bus stops are located within one half-mile of the project site, and the nearest Green and Purple Route bus stops are located approximately 1.25 miles from the Project site. The Project would not block, remove, or create barriers for transit utilization.

Conclusion

A VMT impact analysis was conducted for the proposed Project using guidance outlined in the Technical Advisory and data from the CSTDM.

The commercial retail portion of the Project would consist of less than 50,000 square feet of locally serving retail uses. Therefore, the commercial retail portion of the Project is screened out from completing a full VMT analysis and is assumed to have a less than significant impact on VMT.

VMT data was obtained from the CSTDM and used for analysis of the residential component of the Project. The residential component would have a HB VMT per capita that is less than the designated regional area threshold of significance and, therefore, would have a less than significant impact on VMT.

Since the Project was found to have a less than significant impact, the Project would also have a less than significant impact in the cumulative setting according to guidance from OPR. Regarding active transportation, the Project will not block, remove, or create barriers for walking and biking, but rather provide facilities to encourage non-motorized mode of transportation around the Project site. Lastly, the Project would not block, remove, or create barriers for transit utilization.

If you have any questions on the above material, please feel free to contact Daryl or Sandhya to discuss.

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Sandhya Perumalla

Senior Transportation Planner

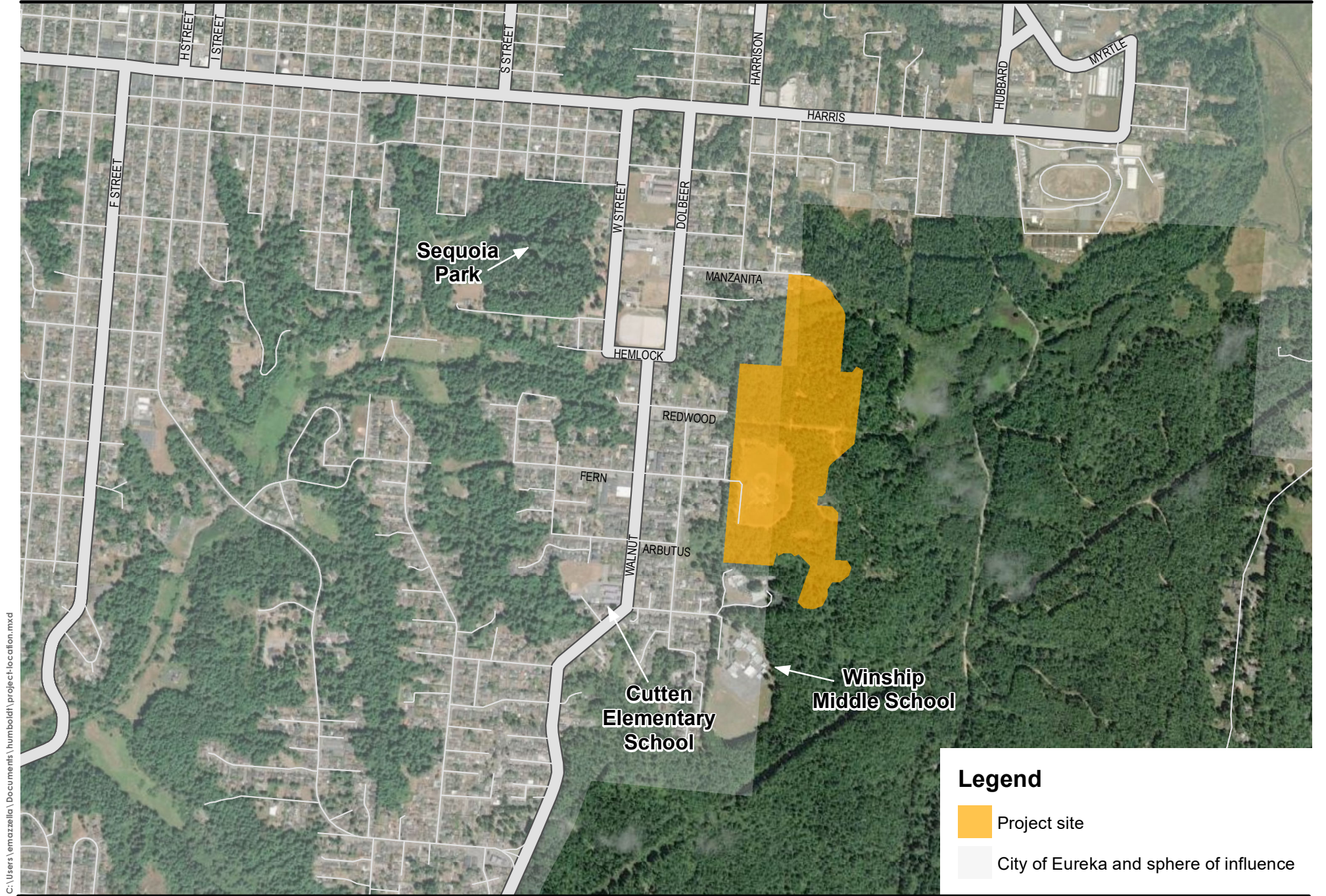
Phone: (949) 923-6074

Sandhya.Perumalla@stantec.com

Attachments: Figure 1 Project Location Map
Figure 2 CSTDM TAZ Map

Design with community in mind

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Figure 1
Project Location Map

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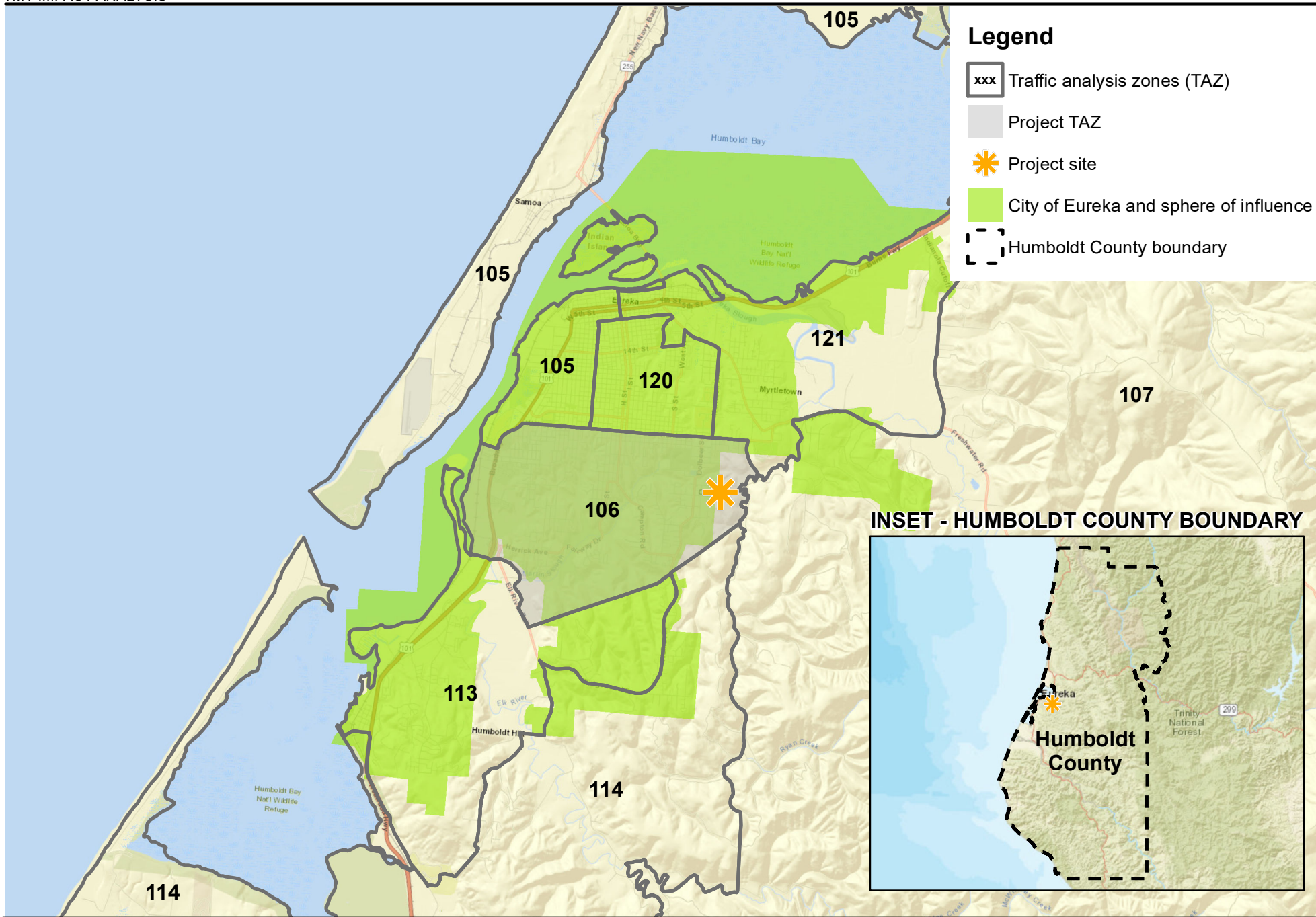


Figure 2
CSTDM TAZ Map