

# CITY OF UKIAH COSTCO WHOLESALE PROJECT

## Draft Environmental Impact Report

Prepared for  
City of Ukiah

January 2013





# CITY OF UKIAH COSTCO WHOLESALE PROJECT

## Draft Environmental Impact Report

Prepared for  
City of Ukiah

January 2013



2600 Capitol Avenue  
Suite 200  
Sacramento, CA 95816  
916.564.4500  
[www.esassoc.com](http://www.esassoc.com)

Los Angeles

Oakland

Orlando

Palm Springs

Petaluma

Portland

San Diego

San Francisco

Santa Cruz

Seattle

Tampa

Woodland Hills

211169

**OUR COMMITMENT TO SUSTAINABILITY** | ESA helps a variety of public and private sector clients plan and prepare for climate change and emerging regulations that limit GHG emissions. ESA is a registered assessor with the California Climate Action Registry, a Climate Leader, and founding reporter for the Climate Registry. ESA is also a corporate member of the U.S. Green Building Council and the Business Council on Climate Change (BC3). Internally, ESA has adopted a Sustainability Vision and Policy Statement and a plan to reduce waste and energy within our operations. This document was produced using recycled paper.



# TABLE OF CONTENTS

---

## City of Ukiah Costco Wholesale Project Draft Environmental Impact Report

	<u>Page</u>
<b>Executive Summary</b>	<b>ES-1</b>
<b>1. Introduction</b>	<b>1-1</b>
1.1 Purpose and Use of this EIR	1-1
1.2 Environmental Review	1-2
1.3 Document Organization	1-4
<b>2. Project Description</b>	<b>2-1</b>
2.1 Introduction	2-1
2.2 Project Location	2-1
2.3 Project Setting	2-2
2.4 Description of the Project	2-5
2.5 Regulatory Requirements, Permits, and Approvals	2-10
<b>3. Environmental Impacts, Setting, and Mitigation Measures</b>	<b>3.1-1</b>
3.1 Aesthetics	3.1-1
3.2 Air Quality	3.2-1
3.3 Urban Decay [TBA]	3.3-1
3.4 Geology and Soils	3.4-1
3.5 Hazards and Hazardous Materials	3.5-1
3.6 Hydrology and Water Quality	3.6-1
3.7 Land Use and Planning	3.7-1
3.8 Noise	3.8-1
3.9 Public Services and Utilities	3.9-1
3.10 Transportation and Traffic [TBA]	3.10-1
3.11 Global Climate Changes	3.11-1
3.12 Biological Resources	3.12-1
3.13 Population and Housing	3.13-1
3.14 Cultural Resources	3.14-1
<b>4. Other CEQA Considerations</b>	<b>4-1</b>
4.1 Growth Inducement	4-1
4.2 Cumulative Analysis	4-2
4.3 Significant Unavoidable Impacts	4-4
4.4 Significant Irreversible Environmental Effects	4-5
4.5 Effects Found Not To Be Significant	4-5
<b>5. Alternatives</b>	<b>5-1</b>
5.1 Overview	5-1
5.2 Factors in the Selection of Alternatives	5-2
5.3 Alternatives Eliminated From Further Consideration	5-2

	<u>Page</u>
5.4 Alternatives Selected for Further Consideration	5-3
5.5 Environmentally Superior Alternative	5-11
<b>6. Report Preparers</b>	<b>6-1</b>
6.1 Report Authors	6-1
<b>7. List of Acronyms</b>	<b>7-1</b>
<b>Appendices</b>	
A. Notice of Preparation and Comment Letters	A-1
B. Air Quality Data	B-1
C. Phase I Environmental Site Assessment	C-1
D. Noise Data	D-1
E. Traffic Impact Analysis	E-1
F. Urban Decay Report	F-1
<b>List of Figures</b>	
2-1 Regional Locator Map	2-3
2-2 Project Location	2-4
2-3 Site Plan	2-7
2-4 Preliminary Grading and Drainage Plan	2-11
2-5 Concept Landscape Plan	2-12
2-6 Preliminary Elevations	2-13
3.1-1 Viewpoints	3.1-3
3.1-2a Site Photographs	3.1-4
3.1-2b Site Photographs	3.1-5
3.3-1 Select Northern California Costco Store Locations	3.3-3
3.3-2 Ukiah Costco Market Area	3.3-4
3.6.1 FEMA Floodplains	3.6-5
3.8-1 Effects of Noise on People	3.8-3
3.8-2 Noise Monitoring Locations	3.8-7
3.8-3 Hampton Inn: 80 Feet from center of Airport Park Boulevard Tuesday November 15, 2011	3.8-8
3.8-4 Hampton Inn: 80 Feet from center of Airport Park Boulevard Wednesday November 16, 2011	3.8-8
3.8-5 Hampton Inn: 80 Feet from center of Airport Park Boulevard Thursday November 17, 2011	3.8-9
3.8-6 Land Use Compatibility For Community Noise Environment	3.8-10
3.10-1 Lane Configurations	3.10-6
3.10-2 Existing Traffic Volumes	3.10-10
3.10-3 Project Traffic Volumes	3.10-23
3.10-4 Talmage Road Interchange - Mitigation	3.10-27
3.10-5 Near-Term Traffic Volumes	3.10-30
3.10-6 Future Traffic Volumes	3.10-34
3.12-1 CNDDDB Occurrences	3.12-8
4-1 Cumulative Projects	4-3

Page**List of Tables**

ES-1	Summary of Impacts and Mitigation Measures	ES-3
3.2-1	Air Quality Data Summary (2008–2010) for the Project Area	3.2-2
3.2-2	State and National Criteria Air Pollutant Standards, Effects, and Sources	3.2-7
3.2-3	Mendocino County Attainment Status	3.2-8
3.2-4	Project Construction Emissions (Pounds per Day)	3.2-13
3.2-5	Operational Emissions	3.2-14
3.2-6	Estimated Carbon Monoxide Concentrations	3.2-16
3.3-1	Estimated Sales by BOE Retail Category	3.3-13
3.3-2	Out of Market Area Costco Sales Distributed Sales and Estimated Amount Recapture	3.3-16
3.3-3	Project Impacts and Project Impacts Less New Demand (\$ in Millions)	3.3-20
3.4-1	Regional Faults in the Vicinity of the Proposed Project	3.4-3
3.4-2	Modified Mercalli Intensity Scale	3.4-4
3.5-1	Listed Sites in the Vicinity of the Project Site	3.5-3
3.5-2a	Ukiah Airport Land Use Compatibility Safety Zones	3.5-10
3.5-2b	Ukiah Airport Land Use Compatibility Safety Zones	3.5-11
3.7-1	City of Ukiah General Plan Consistency	3.7-4
3.8-1	Existing Noise Environment at Project Site	3.8-6
3.8-2	Maximum Allowable Noise Exposure Transportation Noise Sources	3.8-11
3.8-3	Noise Level Performance Standards	3.8-12
3.8-4	Typical Construction Noise Levels	3.8-15
3.8-5	Typical Noise Levels from Construction Equipment	3.8-15
3.8-6	Traffic Noise Levels along Roadways in the Project Vicinity	3.8-19
3.9-1	Summary of Neighborhood and Community Parks Facilities in Ukiah	3.9-3
3.10-1	Definitions for Intersection Level of Service	3.10-7
3.10-2	Level of Service Criteria for Freeway Segments	3.10-9
3.10-3	Existing Intersection Levels of Service (LOS)	3.10-11
3.10-4	Existing PM Peak Hour Queues Near Talmage Road-SR 222 Interchange	3.10-12
3.10-5	Existing Freeway Segment PM Peak-Hour Levels of Service (LOS)	3.10-12
3.10-6	Existing Costco Sizes and PM Peak Hour Trips/Rates	3.10-20
3.10-7	Project Trip Generation Summary	3.10-21
3.10-8	Project Trip Distribution/Assignment Patterns	3.10-24
3.10-9	Existing Plus Project Intersection Levels of Service (LOS)	3.10-24
3.10-10	Existing Plus Project PM Peak Hour Queues near Talmage Road-SR 222 Interchange	3.10-25
3.10-11	Existing Plus Project Freeway Segment PM Peak-Hour Levels of Service (LOS)	3.10-26
3.10-12	Summary of Near-Term Plus Project Level of Service Calculations	3.10-31
3.10-13	PM Peak Hour Queues near Talmage Road-SR 222 Interchange – Near-Term Plus Project	3.10-32
3.10-14	Future Year 2030 Plus Project Intersection Levels of Service (LOS)	3.10-35
3.10-15	Future Year 2030 Plus Project Freeway Segment PM Peak-Hour Levels of Service (LOS)	3.10-36
3.10-16	Future Year 2030 Plus Project PM Peak Hour Queues near Talmage Road-SR 222 Interchange	3.10-37
3.11-1	Atmospheric Lifetimes and Global Warming Potentials	3.11-2
3.11-2	List of Recommended Actions by Sector	3.11-11

	<u>Page</u>
3.11-3 Operational Emissions	3.11-17
3.12-1 Special-Status Species Potentially Occurring in the Study Area	3.12-4
3.13-1 Ukiah Population and Housing Trends	3.13-1
3.13-2 Final Allocation – City of Ukiah	3.13-3
4-1 Cumulative Projects	4-4
5-1 Summary of Alternatives	5-11

# EXECUTIVE SUMMARY

---

## Summary

### Project Overview

The proposed Costco Wholesale Project (Project) includes the construction of a new 148,000 square-foot Costco Wholesale warehouse and a fuel station on approximately 15.33 acres. The fuel station will have 16 pumps (with the capacity to expand to 20 pumps in the future). The proposed Costco would include a bakery, pharmacy, optical center, hearing aid testing center, food court, photo center, tire center, and fuel station along with the sales of between 3,800 and 4,000 products. The tire center would be a 5,692 square-foot attached building with member access through the inside of the main Costco building and would include retail tire sales and a tire installation facility. The fuel station is separate from the main building site, and would include a 2,816 square-foot canopy and 16 fuel pumps (expandable to 20 pumps). The fuel station would be located in the southeast corner of the site adjacent to US 101. Store hours are anticipated to be 10:00 a.m. to 8:30 p.m. Monday through Friday, 9:30 a.m. to 6:00 p.m. on Saturday, and 10:00 a.m. to 6:00 p.m. on Sunday. Fuel station hours would be Monday through Friday, 6:00 a.m. to 9:30 p.m., Saturday and Sunday from 6:00 a.m. to 7:00 p.m. Delivery hours will generally occur between 4:00 a.m. and 2:30 p.m. The Costco facility would employ approximately 175 to 200 people.

A boundary line adjustment would be required in order to consolidate the twelve existing parcels into two parcels. The entire project site (twelve parcels) would be rezoned to Retail Commercial. A site development permit will be required for the proposed building and site layout.

### Environmental Impacts and Mitigation Measures

All impacts and mitigation measures identified in this EIR are summarized in **Table ES-1**, Summary of Impacts, at the end of this chapter. The summary table includes all impact statements, mitigation measures, and the level of significance of the impact after recommended mitigation measures are implemented. For a full discussion of potential environmental impacts, the reader is referred to the appropriate section of **Chapter 3**.

The proposed project will result in significant and unavoidable impacts associated with air quality, greenhouse gas emissions, and transportation.

## Areas of Controversy

The following topics were raised in written or oral comments received in response to the Notice of Preparation (NOP) of this EIR. This summary list is compiled based on written comments received (which are included in Appendix A to this EIR) and comments stated during the scoping meetings held by the City of Ukiah. Each of these topics is addressed in this Draft EIR.

Areas of controversy, as indicated in the scoping comment letters include the potential for urban decay, air quality and greenhouse gas emissions (primarily related to increased vehicle traffic), storm water and water quality impacts, and visual impacts to Highway 101.

## Project Alternatives

As described in Chapter 5, the EIR considered four alternatives to the proposed Projects. Of these, three were selected for further analysis:

- No Project Alternative
- Reduced Size (No Fuel Station) Alternative
- Off-site Location Alternative

The No Gas Station Expansion Alternative was selected as the Environmentally Superior Alternative (the No Project Alternative would have the least environmental effects, however CEQA requires that an alternative other than No Project be identified). However, as discussed in Section 5.5, the significant and unavoidable impacts associated with the Project, while reduced, would not be reduced to less than significant by this alternative.

**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
<b>Aesthetics</b>		
<b>Impact 3.1.1:</b> Implementation of the Project would not change the existing visual character or quality of the site and its surroundings.	None required.	LTS
<b>Impact 3.1.2:</b> Implementation of the Project may create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.	<b>Measure 3.1.2:</b> All outdoor light fixtures shall be located, aimed or shielded so as to minimize stray light trespassing across property boundaries. Fixtures shall be full cut-off and nighttime friendly, consistent with LEED goals and Green Globes criteria for light pollution reduction. The project applicant will be required to prepare a photometric plan demonstrating that lighting will not spillover onto adjacent properties. Furthermore, the Project will adhere to all City regulations relating to signage and the shielding of light in order to reduce any potential negative effects from new light sources (per Building Code Sections §3225, §3226, §3227). These standards shall be included in the Project conditions of approval as well as the mitigation monitoring and reporting program.	LTS
<b>Impact 3.1.3:</b> The Project would not contribute to a significant cumulative visual impact.	None required.	LTS
<b>Air Quality</b>		
<b>Impact 3.2.1:</b> Construction activities associated with development of the Project would not generate significant short-term emissions of criteria pollutants.	None required.	LTS
<b>Impact 3.2.2:</b> Operation of the Project would generate significant emissions of criteria air pollutants that could contribute to existing nonattainment conditions and degrade air quality.	<b>Measure 3.2.2a:</b> The Project will incorporate sustainability features in building and site design with the goal of reaching a building efficiency rating that is greater than the Title 24 requirement, in order to reduce energy consumption and associated GHG emissions. As set forth in the "Project Description," the project will incorporate the following sustainability features: <ul style="list-style-type: none"> <li>• Parking lot light standards are designed to provide even light distribution and use 20% less energy compared to a greater number of fixtures at lower heights. The use of metal halide lamps provide a color corrected white light and a higher level of perceived brightness with less energy than other lamps such as high pressure sodium.</li> <li>• Locally extracted and manufactured building materials will be utilized where feasible.</li> <li>• Pre-manufactured building components, including structural framing and metal panels, are designed to minimize waste during construction.</li> <li>• Pre-manufactured metal wall panels with insulation are designed to conserve energy by increasing R-value and solar reflectivity. Building heat absorption is reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.</li> </ul>	SU

**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
	<ul style="list-style-type: none"> <li>• Reflective roof material will meet the requirements for the USEPA's Energy Star energy efficiency program. Reflective roofs produce lower heat absorption and thereby lower energy usage during the summer months.</li> <li>• Triple glazed skylights are used on the roof to reduce the need for interior lighting. A "daylight harvesting" system monitors and adjusts the mechanical and lighting systems in order to conserve energy. The system includes the skylights, light monitors, energy efficient lighting fixtures, and associated control systems. On a typical sunny day, fewer than one third of the interior lights are needed.</li> <li>• Tree plantings are planned to reduce summer heat gain within the parking field.</li> <li>• Proposed planting incorporate a substantial amount of drought tolerant species.</li> <li>• The proposed irrigation system incorporates the use of deep root watering bubblers for parking lot shade trees to minimize water usage and ensure that water goes directly to the intended planting areas.</li> </ul> <p><b>Measure 3.2.2b:</b> The applicant shall implement a carpool/vanpool program. Such measures could include carpool ride-matching for employees, assistance with vanpool formation, provision of vanpool vehicle, or other measures.</p> <p><b>Measure 3.2.2c:</b> The applicant shall increase transit accessibility. Implement Mitigation Measure 3.10.2a.</p> <p><b>Measure 3.2.2d:</b> The applicant shall improve the pedestrian and bicycle network. Implement Mitigation Measures 3.10.2b and 2c.</p> <p><b>Measure 3.2.2e:</b> Use low VOC architectural coatings.</p>	
<b>Impact 3.2.3:</b> Project traffic would not substantially increase localized carbon monoxide concentrations at sensitive receptors in the project vicinity.	None required.	LTS
<b>Impact 3.2.4:</b> Project operation would not create objectionable odors affecting a substantial number of people.	None required.	LTS
<b>Impact 3.2.5:</b> Construction and operation of the Project would result in cumulatively considerable increases of criteria pollutant emissions.	Implement Mitigation Measures 3.2.2a through 3.2.2d.	SU
<b>Urban Decay</b>		
<b>Impact 3.3.1:</b> The Project would not result in long term commercial building vacancies and therefore would not result in increased urban decay conditions.	None required.	LTS
<b>Impact 3.3.2:</b> The Project, in conjunction with other development, would not result in long term commercial building vacancies and therefore would not result in increased urban decay conditions.	None required.	LTS



**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
<b>Geology and Soil</b>		
<p><b>Impact 3.4.1:</b> The Project could expose people to injury or structures to damage from potential rupture of a known earthquake fault, strong ground shaking, seismic-related ground failure, or landslides.</p>	<p><b>Measure 3.4.1a</b> (For Seismic Ground Shaking) - Prior to the issuance of a building permit for any portion of the Project site, the Project sponsor shall:</p> <ol style="list-style-type: none"> <li>1. Submit to the City Building Services Division a site-specific, design level geotechnical investigation prepared for each development parcel by a registered geotechnical engineer. The investigation shall comply with all applicable state and local code requirements and:               <ol style="list-style-type: none"> <li>a. Include an analysis of the expected ground motions at the site from known active faults using accepted methodologies;</li> <li>b. Determine structural design requirements as prescribed by the most current version of the California Building Code, including applicable City amendments, to ensure that structures can withstand ground accelerations expected from known active faults;</li> <li>c. Determine the final design parameters for walls, foundations, foundation slabs, utilities, roadways, parking lots, sidewalks, and other surrounding related improvements;</li> </ol> </li> <li>2. Project plans for foundation design, earthwork, and site preparation shall incorporate all of the mitigations in the site specific investigations.</li> <li>3. The Project structural engineer shall review the site specific investigations, provide any additional necessary mitigation to meet Building Code requirements, and incorporate all applicable mitigations from the investigation in the structural design plans and shall ensure that all structural plans for the Project meet current Building Code requirements.</li> <li>4. A registered City geotechnical engineer or third-party registered engineer retained to review the geotechnical reports shall review each site-specific geotechnical investigation, approve the final report, and require compliance with all geotechnical mitigations contained in the investigation in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits.</li> <li>5. The City shall review all Project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable Code requirements.</li> </ol>	LTS

**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
	<p><b>Measure 3.4.1b</b> (For liquefaction and earthquake induced settlement) – Prior to the issuance of a building permit for any portion of the Project site, the Project sponsor shall:</p> <ol style="list-style-type: none"> <li>1. Submit to the City a site-specific, design level geotechnical investigation prepared for each building site or installed facility location by a registered geotechnical engineer. The investigation shall comply with all applicable state and local code requirements and:                             <ol style="list-style-type: none"> <li>a. Provide site specific engineering requirements for mitigation of liquefiable soils;</li> <li>b. Specify liquefaction mitigations that shall use proven methods, generally accepted by registered engineers, to reduce the risk of liquefaction to a less than significant level such as:                                     <ol style="list-style-type: none"> <li>i. subsurface soil improvement,</li> <li>ii. deep foundations extending below the liquefiable layers,</li> <li>iii. structural slabs designed to span across areas of non-support,</li> <li>iv. soil cover sufficiently thick over liquefaction soil to bridge liquefaction zones,</li> <li>v. dynamic compaction,</li> <li>vi. compaction grouting,</li> <li>vii. jet grouting,</li> <li>viii. mitigation for liquefaction hazards suggested in the California Geological Survey's Geology (CGS) Guidelines for Evaluating and Mitigating Seismic Hazards (CGS Special Publication 117, 1997) including edge containment structures (berms, dikes, sea walls, retaining structures, compacted soil zones), removal or treatment of liquefiable soils, modification of site geometry, lowering the groundwater table, in-situ ground densification, deep foundations, reinforced shallow foundations, and structural design that can withstand predicted displacements.</li> </ol> </li> </ol> </li> <li>2. The geotechnical investigation shall evaluate these mitigations and identify the most effective and practicable mitigation methods for inclusion in the Project plans. These identified mitigations shall be reviewed to ensure compliance with the</li> </ol>	

**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
	<p>CGS Geology Guidelines related to protection of the public safety from liquefaction.</p> <p>3. Project plans for foundation design, earthwork, and site preparation shall incorporate all of the mitigations in the site specific investigations.</p> <p>4. The Project structural engineer shall review the site specific investigations, provide any additional necessary mitigation to meet Building Code requirements, and incorporate all applicable mitigations from the investigation in the structural design plans and shall ensure that all structural plans for the Project meet current Building Code requirements.</p> <p>5. A registered City geotechnical engineer or third-party registered engineer retained to review the geotechnical reports shall review each site-specific geotechnical investigation, approve the final report, and require compliance with all geotechnical mitigations contained in the investigation in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits.</p> <p>6. The City shall review all Project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable Code requirements.</p>	
<b>Impact 3.4.2:</b> Construction of the Project would involve grading and movement of earth, which could expose soils to erosion and result in the loss of topsoil.	None required.	LTS
<b>Impact 3.4.3:</b> The Project could be located on fill soils that are potentially unstable, or that could become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Implement Mitigation Measures 3.4.1a and 3.4.1b.	LTS
<b>Impact 3.4.4:</b> The Project would not make a cumulatively considerable contribution to cumulative effects associated with erosion, topsoil loss or increased exposure to seismic or other risks.	None required.	LTS
<b>Hazards and Hazardous Materials</b>		
<b>Impact 3.5.1:</b> The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	None required.	LTS
<b>Impact 3.5.2:</b> During construction, the Project could create a hazard to the public or the environment through upset or accident conditions involving the release of hazardous materials or hazardous wastes to the environment.	<b>Measure 3.5.2: Hazards Remediation.</b> If contaminated soil and/or groundwater are encountered or suspected contamination is encountered during Project construction activities, work shall be halted in the area, and the type and extent of the contamination shall be identified in accordance with coordination of the overseeing	LTS

**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<b>Environmental Impact</b>	<b>Mitigation Measures</b>	<b>Level of Significance After Mitigation</b>
	agency (RWQCB, DTSC, and/or MCEHD). A qualified professional, in consultation with regulatory agencies (RWQCB, DTSC, and/or MCEHD) shall then develop an appropriate method to remediate the contamination, and determine the appropriate disposal method of any contaminated soil and/or groundwater. At this time, the available studies suggest that no contaminated soil or groundwater will be found on site. Nevertheless, this mitigation measure would require remediation procedures in the unlikely event that contamination is encountered. Additionally, if required by an overseeing agency, a remediation plan shall be implemented either before or in conjunction with continued Project construction.	
<b>Impact 3.5.3:</b> The Project site is located within an airport land use plan and would not result in a safety hazard for people residing or working in the project area.	None required.	LTS
<b>Impact 3.5.4:</b> The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	None required.	LTS
<b>Impact 3.5.5:</b> The Project would not contribute to a significant cumulative impact related to hazards or hazardous materials.	None required.	LTS
<b>Hydrology and Water Quality</b>		
<b>Impact 3.6.1:</b> Project construction activities would disturb surface soils and could cause erosion, and the release of sediment and construction related water quality pollutants to receiving waters.	None required.	LTS
<b>Impact 3.6.2:</b> Subsurface excavation during Project construction could require dewatering, which may result in a discharge that could adversely affect water quality.	<p><b>Measure 3.6.2:</b> In the event that construction period dewatering is required, The Project Applicant will coordinate with the City concerning dewatering activities and compliance with the provisions in the permit, such as the effluent limitations in the permit, prior to discharge. The applicant will:</p> <ul style="list-style-type: none"> <li>• Submit a Report of Waste Discharge and Application for NPDES Permit along with a feasibility study of reuse of the groundwater to the RWQCB.</li> <li>• Discharge flows only upon receipt of the Discharge Authorization Letter from the RWQCB.</li> </ul>	LTS
<b>Impact 3.6.3:</b> Project construction could require dewatering, but would not result in significant lowering of groundwater levels.	None required.	LTS
<b>Impact 3.6.4:</b> The proposed installation of new impervious surfaces associated with the proposed Costco building and parking lot would result in an increase in impervious surfaces onsite. This could decrease stormwater infiltration and increase stormwater flows, causing downstream flooding, erosion, or sedimentation.	<b>Measure 3.6.4:</b> The Applicant shall prepare and submit to the City engineer and the North Coast Regional Water Quality Control Board for approval a Final Drainage Plan. The Final Drainage Plan shall include design/plan level depiction of the proposed stormwater drainage facilities on site, including the proposed storm drainage system, vegetated swales, and the detention basin. The following measures shall be implemented within the Final Drainage Plan, based on modeled runoff volumes and flow rates specific to with-	LTS

**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
	<p>Project conditions:</p> <ul style="list-style-type: none"> <li>The applicant shall design, implement, and maintain a stormwater retention and/or detention feature(s) such that there would be no net increase in project condition peak flows; and/or, with respect to the additional impervious surface area proposed for the project, the [applicant] shall design and implement volume- and/or flow-based Treatment Control Best Management Practices (BMPs) as defined in Attachment 4 (pages 5-6) of the State Water Resources Control Board (SWRCB) small municipal separate storm sewer systems (MS4s) General Permit (Small MS4 General Permit) (SWRCB Order 2003-0005-DWQ).</li> <li>Prior to implementation, design drawings and any related documents or specifications with respect to these required mitigation measures shall be submitted to the City of Ukiah and the North Coast Regional Water Quality Control Board.</li> </ul>	
<b>Impact 3.6.5:</b> The proposed Project would include installation of a new refueling station and new impervious surfaces. During Project operation, stormwater runoff from these areas could contain elevated pollutant levels, and could result in increased pollutant loading downstream.	None required.	LTS
<b>Impact 3.6.6:</b> Increase in the impervious surfaces under the proposed Project would not significantly affect groundwater recharge in the Project area.	None required.	LTS
<b>Impact 3.6.7:</b> The Project would not subject people and structures to increased risk of floods from the potential failure of the Coyote Dam at Lake Mendocino.	None required.	LTS
<b>Impact 3.6.8:</b> Project implementation, in conjunction with other foreseeable development in the city, could result in cumulative hydrology and water quality impacts.	Implement Mitigation Measure 3.6.4.	LTS
<b>Land Use and Planning</b>		
<b>Impact 3.7.1:</b> The proposed Project would not physically divide an established community.	None required.	LTS
<b>Impact 3.7.2:</b> The proposed Project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	None required.	LTS
<b>Impact 3.7.3:</b> The proposed Project would not conflict with any applicable habitat conservation plan or natural community conservation plan.	None required.	NI

**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
<b>Impact 3.7.4:</b> The proposed Project, in combination with other developments in the vicinity, would not contribute to potential cumulative land use impacts.	None required.	LTS
<b>Noise</b>		
<b>Impact 3.8.1:</b> Construction and grading activities associated with the development of the Project would not increase noise levels at nearby noise-sensitive receptor locations.	None required	LTS
<b>Impact 3.8.2:</b> Operational activities associated with the Project could increase ambient noise levels at nearby noise-sensitive land uses. This impact would be less than significant.	None required.	LTS
<b>Impact 3.8.3:</b> Traffic associated with operation of the Project would not result in a significant increase in noise exposure on area roadways.	None required.	LTS
<b>Impact 3.8.4:</b> Project operational activities would not expose people working in the Project area to excessive noise levels, for a Project located within an airport land use plan.	None required.	LTS
<b>Impact 3.8.5:</b> Noise associated with the Project in combination with other local development would not result in cumulatively considerable noise increases.	None required.	LTS
<b>Public Services and Utilities</b>		
<b>Impact 3.9.1:</b> Implementation of the Project would not result in the need for new or physically altered police facilities.	None required.	LTS
<b>Impact 3.9.2:</b> Implementation of the Project would not result in the need for new or physically altered fire and emergency service facilities.	None required.	LTS
<b>Impact 3.9.3:</b> Implementation of the Costco Wholesale warehouse and fuel station project would indirectly increase student enrollment at UUSD schools, but not to the extent that new facilities would be required.	None required.	LTS
<b>Impact 3.9.4:</b> The Project would not result in increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of these facilities would occur or be accelerated, nor would the Project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.	None required.	LTS
<b>Impact 3.9.5:</b> Implementation of the Project would not significantly increase the demand for water supply.	None required.	LTS
<b>Impact 3.9.6:</b> The Project would not exceed wastewater treatment requirements or require construction of new wastewater facilities or expansion of existing facilities.	None required.	LTS

**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
<b>Impact 3.9.7:</b> The Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal, and would comply with federal, State, and local statutes and regulations related to solid waste.	None required.	LTS
<b>Impact 3.9.8:</b> The Costco Wholesale warehouse Project would not exceed existing gas and electric supply or result in wasteful, inefficient, or unnecessary consumption of energy.	None required.	LTS
<b>Impact 3.9.9:</b> The Project would not make a cumulatively considerable contribution to public services and utilities impacts associated with cumulative development in the Project vicinity.	None required.	LTS
<b>Transportation and Traffic</b>		
<b>Impact 3.10.1:</b> Implementation of the Project would increase traffic volumes on area roadways. This impact is potentially significant.	<b>Measure 3.10.1:</b> Construct the Talmage Road Interchange improvements described above, including the provision of two left-turn lanes on the westbound Talmage Road approach to Airport Park Blvd. The Project applicant shall contribute proportional-share payments to the City of Ukiah for the improvements.	SU
<b>Impact 3.10.2:</b> Implementation of the Project would conflict with adopted policies, plans, or programs regarding public transit, pedestrian, or bicycle facilities, or otherwise decrease the performance or safety of such facilities.	<p><b>Measure 3.10.2a:</b> Provide a concrete pad suitable for future location of bus shelter on the northern frontage of the Project site, adjacent to the proposed sidewalk.</p> <p><b>Measure 3.10.2b:</b> The Project Applicant shall implement the following measures to reduce potential pedestrian impacts associated with the Project:</p> <ul style="list-style-type: none"> <li>• Install sidewalks along the project frontage on Airport Park Boulevard as identified in the project site plan.</li> <li>• Install high visibility crosswalk markings across driveway entrances to the project to increase visibility of pedestrians.</li> <li>• Install ADA compliant curb ramps at driveway crossings and transition points along the project frontage.</li> <li>• Install crosswalks across all four legs of the intersection of Airport Park Boulevard/Commerce Drive.</li> <li>• Provide an adequate pedestrian connection from the street frontage and main parking area to the retail store entrance (per Ordinance 1098).</li> </ul> <p><b>Measure 3.10.2c:</b> The Project Applicant shall implement the following measures to reduce potential bicycle impacts associated with the Project:</p> <ul style="list-style-type: none"> <li>• Install Class III bike lanes along the Project frontage on Airport Park Boulevard.</li> <li>• The Project Applicant shall comply with Ordinance 1098, Airport Industrial Park Planned Development, requirements to install the required number of bicycle parking spaces (long-term spaces [bicycle lockers or covered parking spaces to reduce exposure to the</li> </ul>	LTS

**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
	elements and vandalism] for Project employees and short-term spaces for Project patrons and employees [at a convenient location adjacent to the store's primary entry points]). Bicycle racks should be an appropriate design and installed correctly to ensure proper function.	
<b>Impact 3.10.3:</b> Implementation of the Project would increase traffic volumes on area roadways under Near-Term conditions. This impact is potentially significant.	<b>Implement Mitigation Measure 3.10.1</b>	SU
<b>Impact 3.10.4:</b> Implementation of the Project would increase traffic volumes on area roadways under Future (2030) conditions. This impact is potentially significant.	<b>Implement Mitigation Measure 3.10.1</b>  <b>Measure 3.10.4</b> In addition to the planned left-turn lane on the westbound approach of Airport Road, a left-turn lane on the eastbound Hastings Avenue approach should be installed at South State Street/Hastings Avenue-Airport Road. Implementation of the recommended improvements at Talmage Road/Airport Park Boulevard would result in acceptable operating conditions during both the a.m. and p.m. peak hours.	SU
<b>Impact 3.10.5:</b> Under Future plus Project conditions, traffic associated with the Project would contribute to inadequate queuing storage at Talmage Road/Airport Park Blvd. and Talmage Road/US 101 Southbound Off-Ramp. This impact is potentially significant.	<b>Implement Mitigation Measure 3.10.1</b>	SU
<b>Global Climate Change</b>		
<b>Impact 3.11.1:</b> The project could generate GHG emissions that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation adopted to reduce GHG emissions.	The project shall implement <b>Mitigation Measures 3.2.2a through 3.2.2d.</b>	SU
<b>Biological Resources</b>		
<b>Impact 3.12.1:</b> Implementation of the proposed Project may adversely impact special-status species.	<b>Measure 3.12.1:</b> The following measures shall be implemented to reduce potential impacts on nesting birds:  1. If construction-related activities are to occur during the nesting bird season (February 15 through August 31), a qualified biologist shall conduct a preconstruction survey of all potential nesting habitats within 30 days prior to the start of activities (grubbing, dirt-moving, mobilization, or other construction-related activities) and within 500 feet of construction activities. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction survey, the site shall be resurveyed. The results of these surveys shall be documented in a technical memorandum that shall be submitted to the California Department of Fish and Game (if nesting birds are documented) and the City of Ukiah.  2. If an active nest is found during the preconstruction survey, a no-work buffer of 500 feet will be established unless otherwise	LTS



**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
	<p>approved by the California Department of Fish and Game (DFG). The qualified biologist will coordinate with DFG to determine the appropriate nest avoidance, monitoring, and protective measures appropriate for the species and site conditions. In addition to establishment of a no-work buffer, these measures may include daily or spot-check monitoring of the nesting activity as deemed appropriate by DFG.</p> <p>3. If the preconstruction survey indicates that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. Trees and shrubs that have been determined to be unoccupied by birds or that are located more than 500 feet from active nests may be removed (500 feet is the distance regularly recommended by DFG to prevent impacts to active avian nests).</p>	
<b>Impact 3.12.2:</b> Implementation of the proposed Project would not conflict with any local policies or ordinances for the protection of biological resources.	None required.	LTS
<b>Impact 3.12.3:</b> Implementation of the proposed Project would not contribute to a significant cumulative impact to biological resources.	None required.	LTS
<b>Population and Housing</b>		
<b>Impact 3.13.1:</b> The Project would not induce substantial population growth or concentration of population in the area, either directly or indirectly.	None required.	LTS
<b>Impact 3.13.2:</b> The Project, in conjunction with past, present and reasonably foreseeable projects, would not contribute to a cumulatively considerable effect related to population, or housing.	None required.	LTS
<b>Cultural Resources</b>		
<b>Impact 3.14.1:</b> Implementation of the proposed project could result in a substantial adverse change to historic resources as defined by CEQA Section 15064.5.	None required.	NI
<b>Impact 3.14.2:</b> Ground-disturbing activities associated with implementation of the proposed project could result in the substantial adverse change of previously unknown archaeological or paleontological resources as defined by CEQA Section 15064.5.	<p><b>Measure 3.14.2:</b> If cultural resources are encountered, all activity in the vicinity of the find shall cease until it can be evaluated by a qualified archaeologist and a Native American representative. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. If the archaeologist and Native American representative determine that the resources may be</p>	LTS

**TABLE ES-1  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

Environmental Impact	Mitigation Measures	Level of Significance After Mitigation
<p><b>Impact 3.14.3:</b> Ground-disturbing construction associated with implementation of the proposed project could result in damage to previously unidentified human remains.</p>	<p>significant, they will notify the City of Ukiah. An appropriate treatment plan for the resources should be developed. The archaeologist shall consult with Native American representatives in determining appropriate treatment for prehistoric or Native American cultural resources.</p> <p>In considering any suggested mitigation proposed by the archaeologist and Native American representative, the City will determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) will be instituted. Work may proceed in other parts of the project area while mitigation for cultural resources is being carried out.</p>	LTS
<p><b>Impact 3.14.4:</b> The Project would not make a cumulatively considerable contribution to cumulative effects to cultural resources.</p>	None required.	LTS

# CHAPTER 1

---

## Introduction

### 1.1 Purpose and Use of this EIR

The City of Ukiah (City) has prepared this Draft Environmental Impact Report (EIR) to provide the public and Responsible and Trustee Agencies with information about the potential environmental effects of the Costco Wholesale Project (Project). This EIR was prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended, Public Resources Code [PRC] Section 21000, et seq.), and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.).

As described in the CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses potential environmental effects of a proposed project, as well as identifies mitigation measures and alternatives to the project that could reduce or avoid adverse environmental impacts. CEQA requires that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority. The Costco Wholesale Project constitutes a “project” under CEQA. The EIR is an informational document used in the planning and decision-making process. It is not the purpose of an EIR to recommend either approval or denial of a project.

The procedures required by CEQA “are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects” (Public Resources Code [PRC] Section 21002). As a general rule “public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects” (*Ibid.*). However, “in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof” (*Ibid.*).

Stated differently, under CEQA, a lead agency must make certain determinations before it can approve or carry out a project if the EIR reveals that the project will result in one or more significant environmental impacts.

The lead agency must “certify” the final EIR. According to the CEQA Guidelines, “certification” consists of three separate steps. The agency’s decision-making body must conclude, first, that the document “has been completed in compliance with CEQA;” second, that the body has reviewed and considered the information within the EIR prior to approving the project; and third, that “the

final EIR reflects the lead agency’s independent judgment and analysis” (CEQA Guidelines, Section 15090(a); see also PRC Section 21082.1(c)(3)).

Before approving a project for which a certified final EIR has identified significant environmental effects, the lead agency must make one or more specific written findings for each of the identified significant impacts. These findings are as follows:

1. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the EIR.
2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
3. Specific economic, legal, social, technological, or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR (CEQA Guidelines Section 15091(a)).

If there remain significant environmental effects, even with the adoption of all feasible mitigation measures or alternatives, the agency must adopt a “statement of overriding considerations” before it can proceed with the project. The statement of overriding considerations must be supported by substantial evidence in the record (CEQA Guidelines Sections 15091(b)).

These overriding considerations include the economic, legal, social, technological, or other benefits of the project. The lead agency must balance these potential benefits against the project’s unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a project outweigh the unavoidable adverse environmental effects, the lead agency may consider the adverse environmental impacts to be “acceptable” (CEQA Guidelines Section 15093(a)). These benefits should be set forth in the statement of overriding considerations, and may be based on the final EIR and/or other information in the record of proceedings (CEQA Guidelines Section 15093(b)).

## **1.2 Environmental Review**

### **1.2.1 Type of Environmental Document**

Subsequent to receiving the application for environmental review, the City of Ukiah, the Lead Agency for the proposed Project, determined that the proposed Project was subject to CEQA and determined that an EIR was the appropriate environmental document. Having determined an EIR would be required, the City elected not to prepare an Initial Study Checklist, as permitted by Section 15060(d) of the CEQA Guidelines.

This EIR is a “project” EIR, pursuant to CEQA Guidelines Section 15161. A project EIR examines the environmental impacts of a specific development project.

## 1.2.2 EIR Scoping

On November 7, 2011, the City issued a Notice of Preparation (NOP) of the Draft EIR to governmental agencies and organizations and persons interested in the Project (included in **Appendix A**). The NOP review period ended on December 6, 2011. The NOP was distributed in particular to governmental agencies, organizations, and persons interested in the proposed Project. The City sent the NOP to agencies with statutory responsibilities in connection with the proposed Project with the request for their input on the scope and content of the environmental information that should be addressed in the EIR. The City Planning and Community Development Department held a Scoping Meeting on November 21, 2011 to take comments regarding the scope of the EIR in response to the NOP.

The City received six comment letters responding to the NOP (included in Appendix A). Environmental issues raised in the comment letters include the following:

- Traffic impacts to the ramps of U.S. Route 101 and Route 222
- Cumulative traffic impacts (see Ukiah Valley Plan)
- Indirect (traffic) air emissions
- Health Risk Analysis for gasoline sales
- Greenhouse Gas emissions
- Impacts to archaeological resources or sacred lands
- Increase in storm water volumes
- Increase in storm water pollutants
- Visual impacts on Highway 101
- Potential for urban decay within the unincorporated [County] area

## 1.2.3 Draft EIR

Pursuant to CEQA, this EIR is an informational document for use by governmental agencies and the public to identify and evaluate potential environmental consequences of the proposed project, to evaluate and recommend mitigation measures that would substantially lessen or eliminate adverse impacts, and to examine a range of feasible alternatives to the proposed project. The Draft EIR includes the information required by CEQA Guidelines Sections 15122 through 15133.

## 1.2.4 Public Review

The Draft EIR is available for public review and comment for the period identified on the Notice of Availability accompanying this document. During the review and comment period written comments (including email) regarding the Draft EIR may be submitted to the City at the address below. Oral comments will be received at the public hearing on the Draft EIR, which shall be held as indicated on the Notice of Availability.

City of Ukiah  
Planning and Community Development Department  
300 Seminary Ave.  
Ukiah, CA 95482  
Email: kjordan@cityofukiah.com

## 1.2.5 Final EIR and EIR Certification

Following the public review and comment period for the Draft EIR, the City will prepare responses that address all substantive written and oral comments on the Draft EIR's environmental analyses received within the specified review period. The responses and any other revisions to the Draft EIR will be prepared as a Response to Comments document. The Draft EIR and its Appendices, together with the Response to Comments document will constitute a Final EIR (commonly referred to collectively as "EIR") for the proposed project.

## 1.2.6 Mitigation Monitoring and Reporting Program

Throughout this EIR, mitigation measures have been clearly identified and presented in language that will facilitate establishment of a mitigation monitoring and reporting program. These identified mitigation measures are listed in **Table ES-1**. CEQA statutes (PRC Section 21081.6(a)(1)) require public agencies, as part of the certification of an EIR, to prepare and approve a mitigation monitoring and reporting program. This program should be structured to ensure that changes to the project that the lead agency has adopted to mitigate or avoid significant environmental impacts are carried out during project implementation. A mitigation monitoring and reporting program will be prepared at the time of the Final EIR for this Project and will identify the specific timing and roles and responsibilities for the implementation of mitigation measures.

## 1.3 Document Organization

This Draft EIR document is organized as follows:

**Executive Summary** – This section summarizes the Project and the conclusions of the Draft EIR. A summary table is included and organized to allow the reader to easily identify potentially significant effects, proposed mitigation measures, and any residual environmental impacts after implementation of mitigation measures. A summary of the Project alternatives and the environmentally superior alternative is also provided. The Executive Summary also identifies areas of controversy regarding the Project that are known to the City as of publication of this Draft EIR.

**Chapter 1, Introduction** – This chapter describes the purpose and organization of the EIR, and the EIR preparation, review, and certification process.

**Chapter 2, Project Description** – This chapter describes the proposed Project. The description includes, with text and graphics, the location and boundaries of the proposed Project, a statement of objectives sought by the proposed Project, and a description of the Project's characteristics. The Project description includes a list of City approvals required to implement the Project, and

the permits and approvals from other federal, state, and local agencies that may have review or approval responsibilities for any aspect of the Project.

**Chapter 3, Environmental Setting, Impacts, and Mitigation Measures** – This chapter includes the detailed environmental analysis. For each environmental issue, this chapter discussed the environmental and regulatory setting, the methodology used, the analysis of potential impacts (including direct, indirect, and cumulative impacts), and, if necessary, a discussion of potentially feasible mitigation measures.

**Chapter 4, Other CEQA Considerations** – This chapter discusses several issues required to be included in an EIR, including effects not found to be significant, significant and unavoidable impacts, significant irreversible environmental changes, cumulative impacts, and the potential for the Project to induce urban growth and development.

**Chapter 5, Alternatives** – This chapter describes alternatives to the Project that would avoid or substantially reduce one or more significant impacts while attaining most of the basic objectives of the Project, and evaluates the comparative merits of the alternatives.

**Chapter 6, Report Preparers** – This chapter provides the names of the agency staff and consultants who prepared the EIR, and agencies or individuals consulted during preparation of the EIR.

**Chapter 7, List of Acronyms** – This chapter lists the acronyms used in this Draft EIR in alphabetical order.

**Appendices** – The appendices include environmental scoping information and technical reports and data used in the preparation of the Draft EIR.





# CHAPTER 2

---

## Project Description

### 2.1 Introduction

The proposed Costco Wholesale Project (Project) includes the construction of a new 148,000 square-foot Costco Wholesale warehouse and a fuel station on approximately 15.33 acres. The fuel station will have 16 pumps (with the capacity to expand to 20 pumps in the future). The proposed Costco would include a bakery, pharmacy, optical center, hearing aid testing center, food court, photo center, tire center, and fuel station along with the sales of between 3,800 and 4,000 products. The tire center would be a 5,692 square-foot attached building with member access through the inside of the main Costco building and would include retail tire sales and a tire installation facility. The fuel station is separate from the main building site, and would include a 2,816 square-foot canopy and 16 fuel pumps (expandable to 20 pumps). The fuel station would be located in the southeast corner of the site adjacent to US 101. Store hours are anticipated to be 10:00 a.m. to 8:30 p.m. Monday through Friday, 9:30 a.m. to 6:00 p.m. on Saturday, and 10:00 a.m. to 6:00 p.m. on Sunday. Fuel station hours would be Monday through Friday, 6:00 a.m. to 9:30 p.m., Saturday and Sunday from 6:00 a.m. to 7:00 p.m. Delivery hours will generally occur between 4:00 a.m. and 2:30 p.m. The Costco facility would employ approximately 175 to 200 people.

A boundary line adjustment would be required in order to consolidate the twelve existing parcels into two parcels. The entire project site (twelve parcels) would be rezoned to Retail Commercial. A site development permit will be required for the proposed building and site layout.

### 2.2 Project Location

The Project site is located in the City of Ukiah, Mendocino County, California (**Figure 2-1**). The City of Ukiah is located approximately 110 miles north of San Francisco, and is situated along US 101 in southeastern Mendocino County. US 101 freeway traverses the City of Ukiah in a north/south direction. State Route (SR) 222, also known as Talmage Road, is a short east/west state highway that intersects US 101 in the southern portion of the City of Ukiah. US 101 connects Ukiah to Santa Rosa and San Francisco, providing major regional access to the City. SR 253, located at the south end of Ukiah, begins at US 101 and travels in an east/west direction connecting Ukiah with SR 1 along the coast.

The Project site consists of at least portions of twelve parcels totaling 15.33 acres (Assessor's Parcel Numbers 180-110-8 through 10, 180-080-57 through 59, and 180-080-62 through 67). The Project site is bounded by commercial uses (north and south), US 101 (east), and Airport Park Boulevard

(west) (**Figure 2-2**). The site is within the Airport Industrial Park (AIP) Planned Development. The Airport Industrial Park is bounded by Talmage Road to the north, Ukiah Municipal Airport to the west, and US 101 to the east and south.

## 2.3 Project Setting

### 2.3.1 Project Site

The ±15.33-acre Project site is located immediately west of US 101 on Airport Park Boulevard. The site is undeveloped, containing ruderal vegetation (primarily non-native grasses), with some landscaping trees adjacent to US 101.

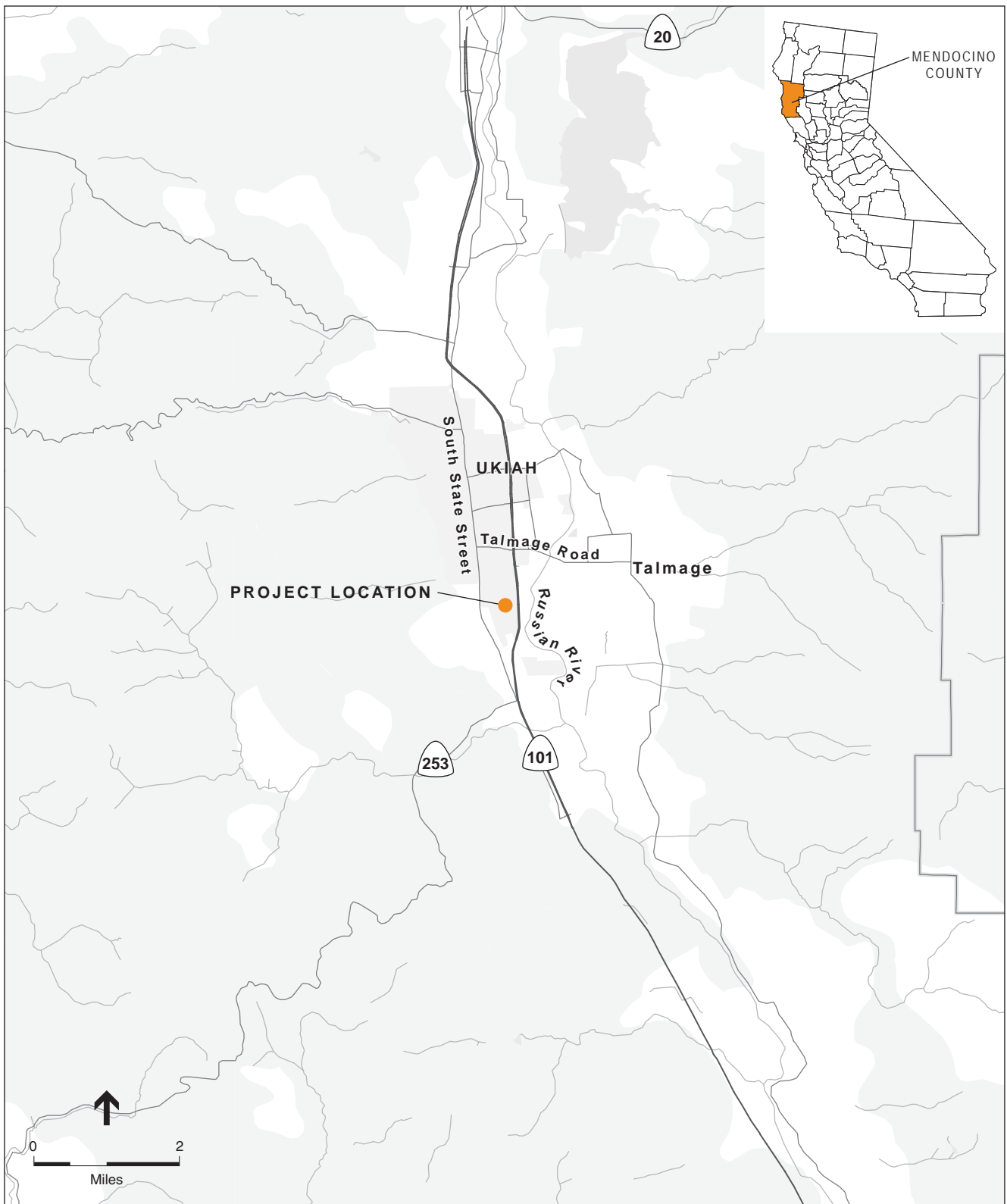
### 2.3.2 Surrounding Land Uses

The following uses surround the Project site:

- North: Several retail stores including the Ken Fowler Auto Center (directly north of the adjacent cul-de-sac), Food Maxx, Staples, and Walmart. The Talmage Road/US 101 interchange is north of the existing Walmart.
- South: An undeveloped City-owned parcel lies immediately south. The Mendocino Brewing Company is located southwest of the Project site. Residential uses are located approximately 2000 feet south and southwest, beyond the Mendocino County Brewing Company and agricultural or undeveloped lands.
- East: US 101 is located east of the Project site. Unincorporated (County) lands used primarily for agriculture are located east of US 101.
- West: Airport Park Boulevard is located along the western edge of the Project site. The Ukiah Municipal Airport property is located approximately 700 feet to the west. Beyond the airport lie commercial and residential uses (nearest residential use approximately 2000 feet southwest).

## Land Use Designation and Zoning

The Project site is located within the Airport Industrial Park (within one mile of the Ukiah Municipal Airport). The City of Ukiah General Plan designates the Project site as a Master Plan Area, which allows for Planned Development. The Project site is designated as Airport Industrial Park Planned Development (AIP-PD). The City's Airport Industrial Park Planned Development Ordinance (Ordinance 1098), the controlling zoning document, allows for a mixture of industrial, commercial, and office land uses within the AIP-PD. The parcels making up the proposed Project site are designated as Light Manufacturing/Mixed-Use and Industrial/Auto Commercial. The Light Manufacturing/Mixed-Use designation permits retail commercial stores (including the Project) with the securing of a Conditional Use Permit; however, retail commercial uses are not permitted in the Industrial/Auto Commercial designation. Therefore, the applicant has requested rezoning of the entire site to Retail Commercial. With the rezoning, the project would require a Site Development Permit. The Site Development Permit requires submittal of a site plan, elevations, signage details, floor plan, landscaping plan, and parking plan.



SOURCE: DeLorme Street Atlas, 2000; and ESA, 2011

Ukiah Costco Project . 211169  
**Figure 2-1**  
Regional Locator Map



SOURCE: NAIP, 2009; and ESA, 2011

Ukiah Costco Project . 211169

**Figure 2-2**  
Project Location

The Project site is also subject to the AIP-PD Development Standards and Design Guidelines. Standards listed under these provisions include such items as building height, screening, sidewalk requirements, landscaping, lighting, building exteriors, and other design and circulation amenities. Furthermore, a lot line adjustment will be required in order to consolidate the multiple existing parcels into two parcels.

## 2.4 Description of the Project

### 2.4.1 Project Objectives

The following project objectives have been identified by the City (lead agency):

- To locate regional retail development within the existing commercial areas.
- To locate retail development within the existing commercial areas of the City.
- To enhance the retail opportunities within the City of Ukiah.
- To further develop the Airport Industrial Park in accordance with the City's general plan and Ordinance 1098.
- To encourage development that generates enough revenue to the City to pay for the City services the development receives.
- To encourage urban design that enhances the US 101 corridor.
- To fulfill the City's role as a regional retail center and reduce the number of vehicle trips to retail centers in Sonoma County, thereby reducing regional air pollution and greenhouse gas emissions.
- To increase job opportunities in the City.

In addition, the following objectives have been identified by the applicant:

- Provide a Costco facility on a site with good access in a central location within the trade area.
- Provide a Costco facility in a location that is convenient for its employees to travel to work
- Increase the number of employees and contribute to the local jobs/housing balance.
- Provide a Costco facility to better serve existing Costco members within the greater Ukiah area.
- Enhance the area with an economically viable development which is architecturally designed to be sensitive to the Ukiah community and compatible with Costco's needs for a new warehouse.

### 2.4.2 Buildings and Operations

The proposed Project includes the construction of a new Costco Wholesale warehouse and 16-pump fuel station on approximately 15.33 acres (see **Figure 2-3**). For purposes of the EIR, we assume a store size of 148,000 square feet and a future expansion of the fuel station to 20 pumps.

The warehouse design has one customer entrance to the main Costco store located at the southeast corner. The proposed Costco would include a bakery, pharmacy, optical center, hearing aid testing center, food court, photo center, tire center, and fuel station along with the sales of between 3,800 and 4,000 products. The tire center would be a 5,692 square-foot attached building with member access through the inside of the main Costco building and would include retail tire sales and a tire installation facility. The installation facility would have four bays that face south to allow access from the parking lot. The building would be flat roofed, with some variations in the roofline, standing 34-feet at the tallest point. Building materials consist primarily of cement and metal ribbed panels (see **Figure 2-6**).

The truck loading dock would be located at the north edge of the building. It would face east and include three individual side-by-side loading bays. The bay doors would be equipped with sealed gaskets to limit noise impacts. A low screen wall would be constructed along the edge of the dock, facing north. A transformer and two trash compactors would also be located along the north edge of the building. Dense landscape material and mounding is designed to provide screening to this area.

The Costco facility would employ approximately 175 to 200 people, both part-time and full-time (benefits are provided to both full and part-time employees).

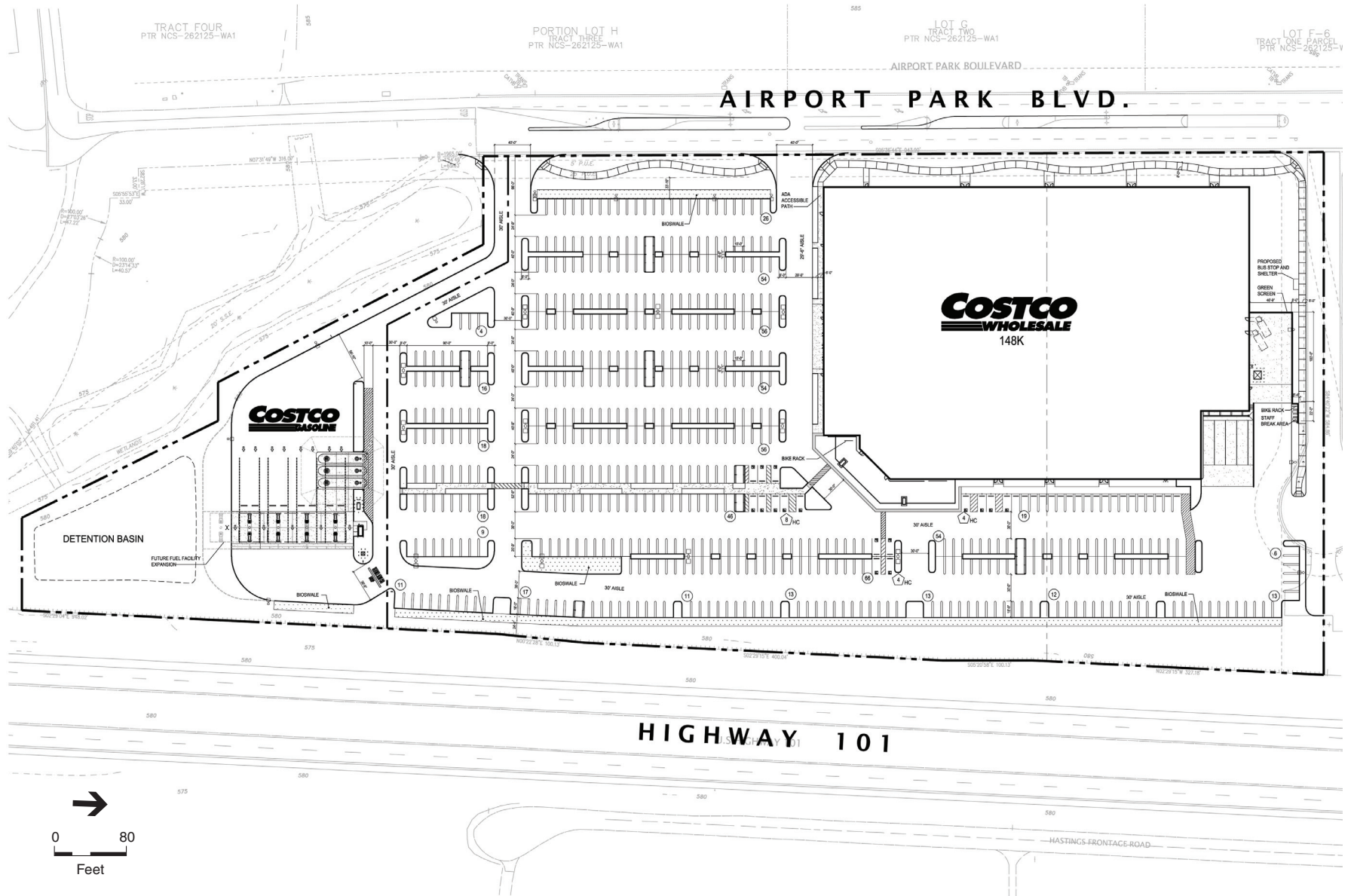
## **Gas Station**

The gas station would include a 2,816 square foot canopy and would be located in the southeast corner of the site adjacent to US 101. A 75 square foot controller enclosure would be located on the north side of the fuel station to house the control equipment for the gas station. The gas station would be built with steel walls and finished with paint to match the warehouse building colors. There would be four covered fueling bays, each with two gas pumps which could fuel two cars each. The gas station would have fueling capacity for 16 cars at any given time. There would be eight stacking lanes which would allow 40 cars to wait for fueling pumps. The gas station site includes space for the addition of a fifth fueling bay, allowing for an additional four pumps (20 total pumps). The EIR assumes that 20 pumps would be the ultimate configuration.

The fueling pumps would be fully automated and self-serving for Costco members only. A Costco attendant will be present in order to oversee operations and assist members if need be. Three underground fuel tanks would be installed at the northern edge of the gas station. The gas station will include landscaping on the north side in order to screen both the controller and air separator. Lights will be semi-recessed into the canopy to provide lighting during operating hours and low level security lighting when closed.

Operation of the gas facility is subject to the requirements of local, state, and federal regulators, including the Ukiah Fire Department, Mendocino County Environmental Health, the Mendocino County Air Quality Management District, the State Water Resources Control Board, the California Environmental Protection Agency, and the United States Environmental Protection Agency. The gasoline throughput (annual gallons dispensed) will be determined by the allowable limits established by the Mendocino County Air Quality Management District.





SOURCE: Mulvanny G2, 2013; and ESA, 2013

Ukiah Costco Project . 211169

**Figure 2-3**  
Site Plan

## Signs and Lighting

The Project would include building signage in the Costco red and blue colors. The warehouse wall signage will consist of externally illuminated reverse pan channel letters and the gas station signage will also be externally illuminated.

Lighting fixtures would be located on the building approximately every 40 feet around the exterior of the building for safety and security. The parking lot would be lighted with standard downward pointing lights, each containing two 875 watt metal-halide bulbs affixed to a 37-foot light pole.

## Truck Deliveries

Ten delivery trucks, on average, are expected in a typical weekday. In an average week, approximately 50 to 100 trucks will call upon the Costco warehouse, tire center and gas facility combined. Warehouse deliveries will occur from 4:00 a.m. to 2:30 p.m., with two to three trucks per hour (typical). Most deliveries will be complete before 10:00 a.m. (prior to the store opening time). The typical truck route is from US 101 to Talmage Road, and south on Airport Park Blvd. to the Project site.

Deliveries to the warehouse are made primarily in Costco trucks from its freight consolidation facility in Tracy, California. Truck sizes will range from 26 feet long for single axle trailers, to 54 feet long for double-axle trailers.

Fuel deliveries to the gasoline station will typically require two to three trucks per day. The largest fuel trucks are approximately 70 feet long. Fuel delivery trucks will park over the underground tanks located on the north side of the gas facility. Trucks parked at the underground tanks will not block access to the fueling stations. The gas facility itself is located in the southern end of the Project site, which avoids traffic and queuing conflicts with the warehouse.

The tire center typically receives shipments of tires and pick-up of old tires two or three times per week in balanced deliveries (combined delivery/pick up). Shipments are transported in single or double trailer trucks of up to 60 feet in length. Deliveries to and from the tire center will be scheduled prior to the store hours, typically around 6:00 a.m.

## Sustainable Building Features

The typical features incorporated into new Costco warehouses to conserve energy and natural resources, while lowering operating costs, include the following:

- Parking lot light standards are designed to provide even light distribution and use 20% less energy compared to a greater number of fixtures at lower heights. The use of metal halide lamps provide a color corrected white light and a higher level of perceived brightness with less energy than other lamps such as high pressure sodium.
- New building materials are typically extracted and manufactured within the region.
- Pre-manufactured building components, including structural framing and metal panels, are designed to minimize waste during construction.



- Pre-manufactured metal wall panels with insulation are designed to conserve energy by increasing R-value and solar reflectivity. Building heat absorption is reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.
- Reflective roof material will meet the requirements for the USEPA's Energy Star energy efficiency program. Reflective roofs produce lower heat absorption and thereby lower energy usage during the summer months.
- Triple glazed skylights are used on the roof to reduce the need for interior lighting. A "daylight harvesting" system monitors and adjusts the mechanical and lighting systems in order to conserve energy. The system includes the skylights, light monitors, energy efficient lighting fixtures, and associated control systems. On a typical sunny day, fewer than one third of the interior lights are needed.
- Tree plantings are planned to reduce summer heat gain within the parking field.
- Proposed planting incorporate a substantial amount of drought tolerant species.
- The proposed irrigation system incorporates the use of deep root watering bubblers for parking lot shade trees to minimize water usage and ensure that water goes directly to the intended planting areas.

## Hours of Operation

Store hours are anticipated to be 10:00 a.m. to 8:30 p.m. Monday through Friday, 9:30 a.m. to 6:00 p.m. on Saturday, and 10:00 a.m. to 6:00 p.m. on Sunday. Fuel station hours would be Monday through Friday 6:00 a.m. to 9:30 p.m., Saturday and Sunday from 6:00 a.m. to 7:00 p.m. Delivery hours would generally occur between 4:00 a.m. and 2:30 p.m.

## 2.4.3 Site Improvements

### Access and Parking

The Project site is located on Airport Park Blvd. Access is provided at three points: two on Airport Park Blvd. and a third on the north side from the cul-de-sac adjacent to the property. A meandering sidewalk runs along the Airport Park Blvd. frontage.

The proposed parking lot is located east and south of the warehouse building. 608 parking stalls are provided, 16 of which are accessible stalls. The proposed number of parking spaces meets the City's Zoning Code requirements of 1 space per 250 square feet of retail and shopping center uses (592 stalls). The parking lot includes three bio-swales between parking aisles, oriented north-south.

### Pedestrian Circulation

A series of pedestrian paths connects the warehouse to Airport Park Blvd. Pathways connect the two main fields of the parking lot to the southeastern entrance of the warehouse.

## Storm Drainage

The Project site is served by City storm drain lines and adjacent swales. The on-site storm water system includes several bioswales, a series of catch basins, and a detention basin located at the southern end of the property. See **Figure 2-4, Preliminary Grading and Drainage Plan**.

## Landscaping

The Project includes perimeter and parking lot landscaping. Tree plantings are also located on the north and southwest sides of the warehouse. The bioswales and detention basin areas include groundcover. See **Figure 2-5, Landscaping Plan**. Landscaping standards, including shade coverage, are included in AIP Ordinance 1098. As part of the site plan review, staff will determine compliance with the intent of AIP Ordinance 1098.

## 2.5 Regulatory Requirements, Permits, and Approvals

The principal discretionary permits and approvals for the Project would be granted by the City of Ukiah. The City will use information contained in this EIR during the decision-making process. Additional permits and approvals from other agencies may be necessary prior to the development of the Project.

### 2.5.1 City of Ukiah

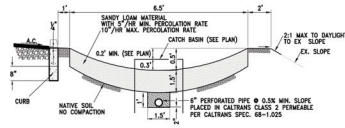
The Project is considered a major discretionary project and will require several approvals by the City:

- A zoning amendment to rezone the parcels to Retail Commercial;
- A site development permit; and
- A lot line adjustment to consolidate the existing parcels into two parcels.

As part of the site development permit, the Planning Commission must find the Project consistent with the Airport Industrial Park Planned Development Ordinance (No. 1098) and may approve any modifications from the AIP development standards as authorized by Ordinance 1098. The Planning Commission will make a recommendation on the proposed rezoning, which must be approved by the City Council.

Other ministerial permits and approvals required for the Project by the City may include:

- Building Permit(s);
- Encroachment Permits for off-site improvements;
- Grading Permit;
- Sign Permit;
- Fire Department Permit; and
- Approval of construction plans by Public Works Department and Electric Utility Department.



- NOTES:
1. TRADE SHALL BE GRADED TO DRAIN TOWARD OUTLET AT A MINIMUM SLOPE OF 0.1%.
  2. ALL PERFORATED PIPE SHALL HAVE A MINIMUM OF THREE (3) 1/2" HOLES PER FOOT SPACED ALONG THE LENGTH OF THE PIPE AND NOT LESS THAN THREE (3) HOLES PER SQUARE FOOT OF PIPE.
  3. GRADE NOTES VARY BY PLAN.

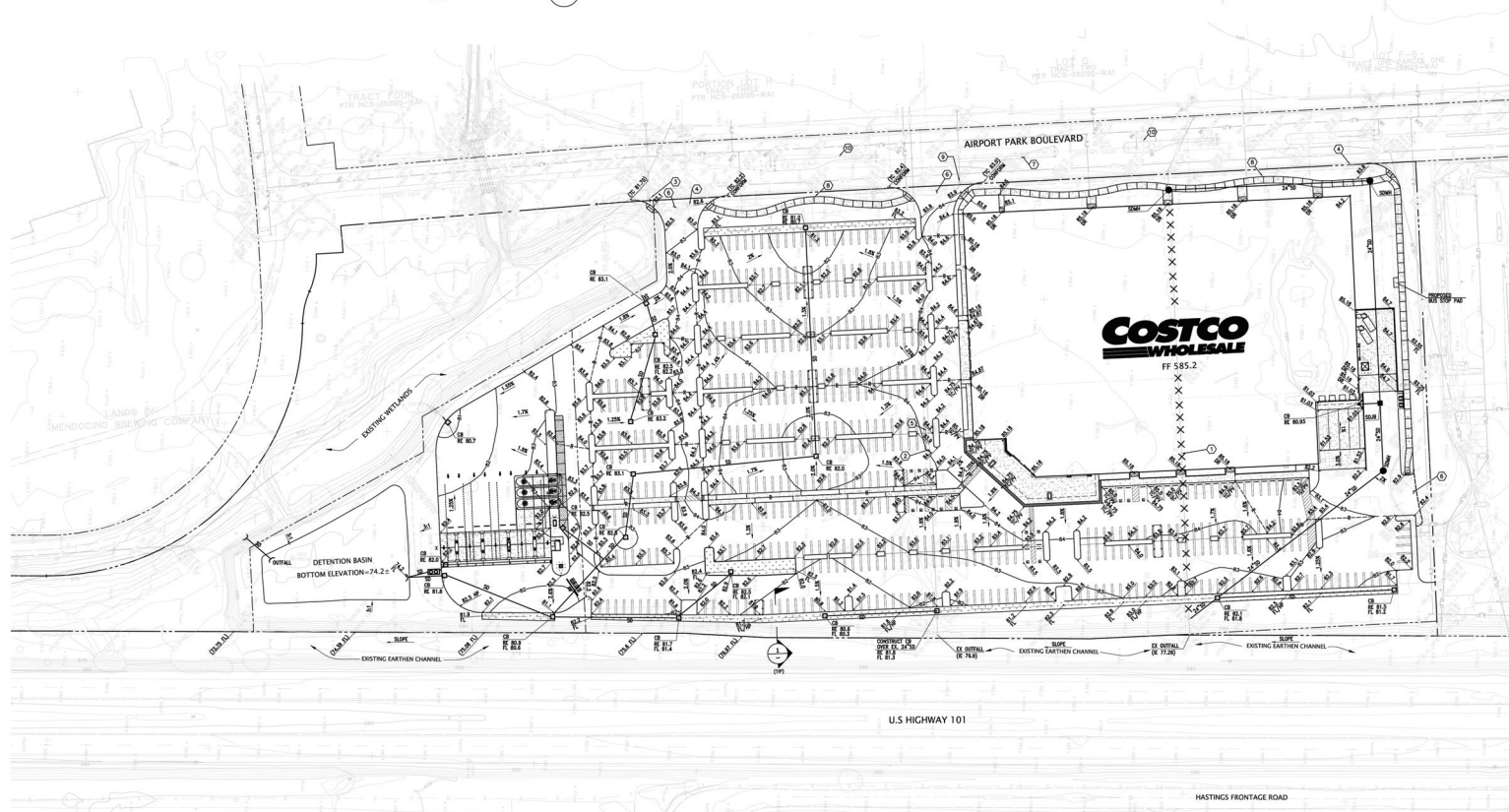
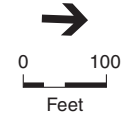
STORM WATER TREATMENT PLANT 1  
N.T.S.

KEY NOTES

1. EXISTING STORM DRAIN LINE TO BE RELOCATED PER CITY STDS & REQ'S.
2. EXISTING PUBLIC 24" STORM DRAIN LINE TO REMAIN IN PLACE.
3. EXISTING CURB INLET TO BE CONVERTED TO A FLAT-GRATE INLET.
4. EXISTING UTILITY BOX TO BE RELOCATED.
5. EXISTING CATCH BASIN TO REMAIN. LID TO BE ADJUSTED TO FINISHED GRADE, W/ NEW SOLID GRATED LID.
6. CONSTRUCT 40' WIDE CITY STD. DRIVEWAY.
7. EXISTING PORTION OF MEDIAN ISLAND TO BE REMOVED.
8. SIDEWALK TO BE FLUSH WITH EXISTING UTILITY BOX.
9. CONVERT EXISTING CURB INLET INTO FLAT GRATED CATCH BASIN.
10. SEE IMPROVEMENT PLANS BY WENZLER AND KELLY FOR OFFSITE IMPROVEMENTS.

LEGEND

- ▲ AREA DRAIN
- STORM DRAIN CATCH BASIN
- STORM DRAIN JUNCTION BOX
- FLOW LINE
- FF FISH POOL
- PV PAVEMENT
- ME ME ELEVATION
- TC TOP OF CURB
- SB SPLIT SEWER
- S.D. STORM DRAIN LINE
- STORM WATER TREATMENT PLANTER





## LANDSCAPE LEGEND

### TREES

SYMBOL	BOTANICAL / COMMON NAME	SHADE AREA	SIZE
	Sequoia Sempervirens 'Soquel' / Soquel Redwood	314 SF	24" box, matched standards
	Acer Rubrum 'October Glory' / October Glory Maple	254 SF	24" box, matched standards
	Pyrus calleryana 'Aristocrat' / Aristocrat Flowering Pear	491 SF	24" box, matched standards
	Chitalpa Taskentensis 'Pink Dawn' / Pink Dawn Chitalpa	254 SF	24" box, matched standards
	Ulmus parvifolia 'Dynasty' / Dynasty Chinese Elm	314 SF	24" box, matched standards
	Zelkova serrata 'Village Green' / Village Green Japanese Zelkova	314 SF	24" box, matched standards

### SHRUB LEGEND

	Lagerstroemia hyb. 'Makogee' / Lavender Flowering Crape Myrtle	24" box, matched standards
	Lagerstroemia hyb. 'Tuscarora' / Pink Red Flowering Crape Myrtle	24" box, matched standards
	MIX OF SHRUBS AND GROUND COVERS SHALL BE PROVIDED INCLUDING THE FOLLOWING POTENTIAL PLANT OPTIONS BELOW:	

### SHRUBS, PERENNIALS, AND GRASSES

SHRUBS		HERBACEOUS PERENNIALS		ORNAMENTAL GRASSES	
	SIZE				
Berberis thunbergii 'Rose Glow' / Japanese Barberry	5 gal.	Dianella caerulea 'Becca' / Becca Dianella	1 gal.	Festuca mairei / Atlas Fescue	1 gal.
Callistemon viminalis 'Little John' / Little John (Dwarf) Bottlebrush	5 gal.	Dianella caerulea 'Little Becca' / Little Becca	1 gal.	Pennisetum setaceum 'Rubrum' / Purple Fountain Grass	1 gal.
Callistemon viminalis 'Little John' / Little John (Dwarf) Bottlebrush	1 gal.	Dianella revoluta 'Big Rev' / Big Rev Dianella	1 gal.	Pennisetum orientale / Oriental Fountain Grass	1 gal.
Dioscorea vegeta / Fortnight Lily	5 gal.	Dianella revoluta 'Little Rev' / Little Rev Dianella	1 gal.		
Elaeagnus pungens / Silverberry	15 gal.	Dianella caerulea 'Cassa Blue' / Cassa Blue Dianella	1 gal.		
Escallonia 'Fradesi' / Frades Escallonia	15 gal.	Lomandra longifolia 'Breeze' / Breeze Lomandra	1 gal.		
Lantana hyb. 'Radiation' / Radiation Lantana	5 gal.	Phormium tenax 'Monrovia Red' / Monrovia Red New Zealand Flax	15 gal.		
		Ligustrum japonicum 'Tesamini' / Tesamini Japanese Privet	15 gal.		
		Plumbago auriculata / Cape Plumbago	5 gal.		
		Rhus Ovata / Sugar Bush	15 gal.		
		Rosa 'meidiflora' Coral Drift / Coral Drift Rose	2 gal.		
		Rose 'meigabio' Red Drift / Red Drift Rose	2 gal.		
		Rose Flower Carpet 'Appleblossom' / Appleblossom Flower Carpet Rose	2 gal.		

### IRRIGATION SYSTEM STATEMENT

THE IRRIGATION SYSTEM WILL BE A WATER EFFICIENT LOW FLOW, POINT SOURCE SYSTEM DESIGNED TO PROVIDE ADEQUATE WATERING TO SUPPORT PLANT GROWTH AND PREVENT SEVERE ROOTED PLANT MATERIAL WHILE AVOIDING EXCESS WATER APPLICATION. THE SYSTEM WILL BE PROGRAMMABLE, ALLOWING OPERATION DURING THE NIGHT AND EARLY MORNING HOURS. WITH MULTIPLE START TIMES AND CYCLES, THE SYSTEM WILL INTERFACE WITH A WEATHER-BASED SENSER THAT WILL ADJUST THE AMOUNT OF WATER APPLIED TO THE PLANT MATERIAL BASED ON DAILY WEATHER CONDITIONS. IRRIGATION MATERIALS SPECIFIED FOR THE SITE WILL BE SELECTED ON THE BASIS OF DURABILITY AND EASE OF MAINTENANCE.







EAST ELEVATION



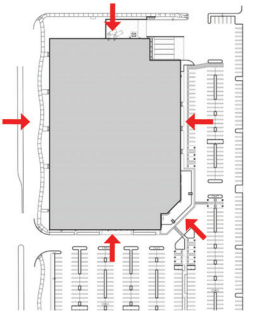
ENTRY ELEVATION



SOUTH ELEVATION



WEST ELEVATION



NORTH ELEVATION

SOURCE: Mulvanny G2, 2013; and ESA, 2013

## 2.5.2 Other Governmental Agency Approvals

Additional subsequent approvals and permits that may be required from local, regional, state, and federal agencies are identified below.

- Mendocino County Airport Land Use Commission - Determination of consistency with the Mendocino County Airport Comprehensive Land Use Plan (CLUP). The review by the Airport Land Use Commission is required due to the zoning amendment (Public Resources Code Section 21676(b)).
- North Coast Regional Water Quality Control Board – coverage under the nationwide National Pollution Discharge Elimination System (NPDES) general permit for storm water discharges associated with construction.
- California Department of Transportation (Caltrans) – Encroachment authority (and potential permit approval) over any work performed within the US 101 right-of-way.
- California Department of Alcoholic Beverage Control – Off-sale License
- Mendocino County Air Quality Management District – Potential approval of a Dust Mitigation Plan.
- Mendocino County Environmental Health Department – Hazardous Materials Business Plan and/or Hazardous Materials/Waste Registration Form.

## **CHAPTER 3**

---

# **Environmental Impacts, Setting, and Mitigation Measures**

## **3.1 Aesthetics**

### **3.1.1 Introduction**

This section addresses potential impacts related to aesthetics, or visual quality, of the Project area. The environmental setting presents an overview of the visual character and quality of the Project area. The regulatory setting section includes a description of applicable state, local, and regional plans and/or programs and associated goals and policies. This chapter concludes with a description of the potential aesthetic impacts of the Project including: a discussion of the significance criteria used in evaluating the impacts, analysis of the impacts, and the identification of feasible mitigation measures to avoid or lessen the impacts.

### **3.1.2 Environmental Setting**

#### **Regional Setting**

Mountainous and sometimes rugged ridgelines frame the eastern and western boundaries of the county, providing visually distinct valley regions in the area. Some areas are densely forested with evergreen trees, while others are relatively open in comparison, dominated by mature oak trees set amid scrub and grasslands. Water in the form of creeks, streams, and rivers is often a prominent feature in the landscape.

#### **Project Location**

The Project site is located in the City of Ukiah, an incorporated city in Mendocino County, California (see Figure 3-1). The City of Ukiah is located approximately 110 miles north of San Francisco, and is situated along US 101 in southeastern Mendocino County. The Project site is located on the east side of Airport Park Boulevard within the Airport Industrial Park Planned Development in the southern portion of the City of Ukiah.

The proposed project includes the construction of a new Costco Wholesale warehouse and fuel station on approximately 15.33 acres. Access to the site is provided from Airport Park Boulevard via Talmage Road.

## Surrounding Land Uses

The Project site is located within the Airport Industrial Park. Most of the Park to the north of the site is developed, while the southerly portion includes more vacant sites, including the proposed Project site. The following uses surround the Project site:

- *North:* Several retail stores including the Ken Fowler Auto Center, Food Maxx, Staples, and Walmart. The Talmage Road/US 101 interchange is north of the existing Walmart. A tire store and a medium-density residential neighborhood are located north of Talmage Road.
- *South:* The Mendocino Brewing Company, several undeveloped parcels, and the continuation of US 101.
- *East:* US 101 is located east of the Project site. Agricultural land uses lie east of US 101.
- *West:* Airport Park Boulevard is located along the western edge of the Project site. The Ukiah Municipal Airport property is located approximately 700 feet to the west.

## Project Site

The 15.33 acres site is a vacant site with an existing commercial development. The site consists of ruderal grasslands. The only significant vegetation are the landscaping to the east, along the U.S. 101 right-of-way, and the riparian vegetation on the parcel directly south of the Project site. Some utility structures (future connection points) are located on the west side of the project. The site is maintained to keep the vegetation low. Due to the disturbed state and the lack of any notable visual features, the site is considered to be of low visual quality.

## View Points

The proposed Project site can be seen from motorists traveling along US 101 as well as by existing businesses north, northwest, and south of the site (see **Figure 3.1-1**). Views of the Project site from the medium density residential units located approximately 2000 feet southwest from the project site are diminished by their distance from the Project site and are largely obstructed by fencing, existing vegetation, and the Mendocino Brewing Company (see **Figure 3.1-1**). The most direct views of the Project site are from the various businesses north/northwest of the Project site and from motorists traveling along Airport Park Boulevard and US 101, where they will have direct views of the site due to limited amount vegetation on the project site and the lack of existing landscaping (see **Figure 3.1-2**).

## Sensitive Receptors

Sensitive receptors typically subject to the potential effects of visual changes resulting from construction of the proposed expansion consist of motorists traveling on local roadways and regional highways; and residents living adjacent to or in the vicinity of areas subject to construction activities associated with the proposed Project. The only sensitive receptors potentially subject to the effects of visual change associated with the proposed Project consist of medium density residential units located approximately 2000 feet southwest from the project site and motorists traveling





SOURCE: NAIP, 2009; and ESA, 2012

Ukiah Costco Project . 211169

**Figure 3.1-1**  
Viewpoints



PHOTOGRAPH 1. View of the project site from the north.



PHOTOGRAPH 2. View of the project site from the east (across Hwy 101).





PHOTOGRAPH 3. Looking north from the south end of the project site.



PHOTOGRAPH 4. View of the project site from the west.

along US 101 and Airport Park Boulevard. US 101 and Talmage Road are designated Gateways in the Ukiah General Plan (the Project site is visible from US 101 but not from Talmage Road). As described above, views of the Project site from the residential area southwest of the Project site are diminished by their distance from the Project site and are largely obstructed by fencing, existing vegetation, and the Mendocino Brewing Company. Views of the Project site from motorists on US 101 and Airport Park Boulevard are largely unimpeded although some existing vegetation is present.

Other commercial and industrial land uses in the vicinity of the Project are not considered sensitive receptors.

### **Scenic Roadways**

US 101 through the Ukiah Valley is a local General Plan Scenic Corridor providing visitors and residents access to the beauty of the valley (City of Ukiah, 1995/2004); however, no highways in Mendocino County have been officially designated as state scenic highways by either the County or the California Department of Transportation (Caltrans, 2010).

### **Scenic Vistas**

The Project site is located in a developed commercial and industrial area of Ukiah. No scenic vistas are located within or adjacent to the Project site; however, in the distance to the east and west, hills provide background to area views.

### **Light and Glare**

Existing sources of light and glare in the Project area are mostly from outdoor lamps in the parking lots surrounding existing commercial uses and from outdoor lights illuminating the existing businesses in the immediate area. Motorists traveling along US 101 and Airport Park Boulevard also contribute to nighttime sources of light and glare in the Project area.

## **3.1.3 Regulatory Setting**

### **State**

#### ***California Scenic Highway Program***

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of

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

As described above, according to the Caltrans list of designated scenic highways under the California Scenic Highway Program, only SR 1 and SR 20 are "eligible" for designation as scenic highways within the County, but have not been officially designated as such. The Project site is not visible from SR 20 and is not in the vicinity of SR 1.

## Local

### ***City of Ukiah General Plan and Growth Management Plan***

The following goals and policies from the Ukiah General Plan relate to the aesthetics of or near the Project area:

**Goal OC-28:** Visually enhance the Highway 101 corridor through the Planning Area.

*Policy OC-28.1:* Upgrade the visual appearance of the corridor along Highway 101.

**Goal CD-3:** Provide an aesthetically pleasing urban landscape.

**Goal CD-4:** Seek uniform, attractive landscaping standards for non-single family residential development throughout the Valley.

*Policy CD-4.1:* Establish and enforce landscaping standards in all non-single family residential, multi-family residential, commercial, and industrial development and all redevelopment projects.

*Policy CD-4.2:* Encourage planting of native trees and plants.

*Policy CD-4.3:* Require landscaping that will result in the creation of new street canopies.

**Goal CD-5:** Preserve and enhance the scenic setting of the Ukiah Valley.

*Policy CD-5.3:* Encourage an attractive US 101 viewshed.

**Goal CD-6:** Ensure community separation and identification.

*Policy CD-6.1:* Enhance, protect and preserve views and visually important community separators.

**Goal CD-7:** Improve the appearance of area gateways.

*Policy CD-7.1:* Establish public policy to enhance and improve the appearance of area gateways.

**Goal CD-8:** Recognize that general area appearance - especially of orchards and vistas - is a cultural and visual resource.

*Policy CD-8.1:* Encourage the preservation of scenic views, vistas, and streetscapes.

**Goal CD-17:** Require commercial and industrial parking lots to be designed and sited so as to increase the attractiveness of the areas in which they are located.

*Policy CD-17.1:* Require commercial and industrial parking lots to be designed subservient to the structure it serves.

### **City of Ukiah Development Code**

Division 9, Chapter 2 of the City's Development Code (Zoning) requires that a landscaping and lighting plan commensurate with the size and scale of the proposed development project be prepared. Landscaping plans must be submitted as a required component of all precise development plans accompanying planned development zoning applications at the time of application filing (§9167(E)(10)). In addition, Division 3, Chapter 7 of the Development Code (Building) contains specific regulations relating to the size, location, number, and illumination of all signs (§3225, §3226, §3227).

Airport Industrial Park Ordinance 1098 provides development standards for the Airport Industrial Park Planned Development. The overall purpose of the Airport Industrial Park Planned Development is to provide for a coordinated development of compatible industrial, office, and commercial land uses. It details both allowed and permitted uses within each land use category, regulates nuisances, and provides development standards and design guidelines, including landscaping guidelines.

## **3.1.4 Impacts and Mitigation Measures**

### **Methodology**

The general approach for assessing visual change is based on the Federal Highway Administration (FHWA) method of visual resource analysis (which is also used for state highway projects by Caltrans). This method follows three basic steps: (1) defining the existing environment in terms of visual character and quality as well as viewer sensitivity and exposure; (2) assessing the degree of resource change and viewer response; and (3) determining the significance of the visual impact. This approach is consistent with criteria from the *CEQA Guidelines* Appendix G listed below. Reviews of the proposed site plan for the Project, and a subsequent field survey on February 8, 2012, were conducted in order to analyze the existing visual characteristics of the project area.

### **Significance Criteria**

The significance criteria for this analysis were adapted from criteria presented in Appendix G of the *CEQA Guidelines* and based on the professional judgment of the City of Ukiah and its consultants. The Project would result in a significant impact if it would:

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

The proposed Project is in a developed commercial area and will not affect a designated or recognized scenic vista and is not in the vicinity of a designated state scenic highway, bullets one and three above are not further analyzed in this EIR. However, the Ukiah General Plan recognized the need to “visually enhance” the US 101 corridor. Therefore, highway travelers are considered sensitive receptors, and are considered in the analysis of potential degradation of visual character or quality, below.

## Impact Analysis

### **Impact 3.1.1: Implementation of the Project would not change the existing visual character or quality of the site and its surroundings. This impact would be less than significant.**

The existing visual character of the Project area is developed commercial and light industrial uses that include the existing Ken Fowler Auto Center, Food Maxx, Staples, Walmart, other freestanding stores, and surface parking. The Project site is currently undeveloped with little existing vegetation and no landscaping. Much of the surrounding commercial development in the Project area has a similar layout to the proposed Project (i.e., large freestanding structures with large surface-level parking lots) and thus has similar visual characteristics.

The proposed project includes the construction of a new Costco Wholesale Warehouse and fuel station on approximately 15.33 acres. The warehouse building includes a 5,692 square-foot attached tire center with member access through the inside of the main Costco building and vehicle bays on the exterior. The warehouse is 34 feet high (floor to top of roof) and 447' wide (on the east elevation, which faces Highway 101). The fuel station would have 16 vehicle stations (and an option to expand to 20 stations) and a 2,816 square-foot canopy located in the southeast corner of the site adjacent to US 101. The 3-foot tall canopy is 14.5 above the ground, and is 32 feet wide on the street side elevations, by 120 feet long (allowing eight lanes of cars to access the fueling stations). Refer to Figures 2-3 (Preliminary Site Plan), 2-5 (Preliminary Landscaping Plan), and 2-6 (Preliminary Elevations).

As discussed in the setting above, sensitive receptors (medium density residential units) are located approximately 2000 feet southwest from the Project site, however, views of the Project site are diminished by their distance from the Project site and are largely obstructed by fencing, existing vegetation, and the Mendocino Brewing Company. Thus, direct views from these properties would not be significantly affected. Views of the Project site from motorists on US 101 and Airport Park Boulevard are largely unimpeded although some existing vegetation is present. Views of the

Project site by these motorists would change with construction of the proposed Costco Wholesale Warehouse; however, the proposed Project would be consistent with the existing scale and architectural character found throughout the existing developed area. The Project would include landscaping, not only to provide parking lot shade, but also to enhance the visual quality of the Project site and to make it visually cohesive with surrounding commercial development.

In summary, the proposed Project would be located on a site that is currently undeveloped; however the site itself doesn't have any visually distinctive characteristics and is of a low visual quality (as described in Section 3.1.2). The existing visual character of the Project area is developed commercial and light industrial uses. The relationship between the Project site and sensitive receptors would not significantly change. As described above, sensitive receptor views of the Project site are diminished by their distance from the Project site and are largely obstructed by fencing, existing vegetation, and the Mendocino Brewing Company. The views of the project site from roadways will change as the project site is transformed to a developed use; however, the proposed Project is consistent with the existing visual character of the Project area. Furthermore, the Project will include landscaping that may enhance the visual quality of the site and will also partially obscure the Project site from motorists. The proposed Project would not substantially degrade the visual character of the Project site or its surroundings. This impact is considered **less than significant**.

**Mitigation:** None required.

---

**Impact 3.1.2: Implementation of the Project may create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area. This impact is considered potentially significant.**

The proposed Project would include parking lot light poles and building-mounted lighting and signage that is illuminated during the nighttime hours. Building signage would be the Costco red and blue corporate colors. Signage would be scaled according to the mass of the building. Wall signage is not intended to illuminate areas for visibility; rather, it is simply intended to be visible at night. As such, the proposed intensity of illumination is much lower than light fixtures, which greatly reduces its potential to spillover onto nearby land uses. Warehouse and gas station wall signage would consist of externally illuminated reverse pan channel letters. Lighting fixtures would be located on the building approximately every 40 feet around the exterior of the building for safety and security. The parking lot would be lighted with standard downward pointing lights, each containing two 875 watt metal-halide bulbs affixed to a 37-foot light pole. The lighting fixtures would consist of a "shoe box" style design. This style of lighting is consistent with LEED goals and Green Globes criteria for light pollution reduction and is considered nighttime friendly. Nighttime friendly fixtures have no uplight, meet the Illuminating Engineering Society of North America (IESNA) definition for full cutoff optics and reduce high angle brightness. These measures of luminaire performance are consistent with sustainability standards for light pollution reduction. The photometric plan prepared for the project indicates adequate night lighting for safety and security purposes, with no significant spillover onto adjacent properties. The proposed project does not include any glass or other reflective materials that would result in glare to adjacent roadways or receptors during daytime hours.



While each of these lighting elements (parking lot, signage, building) are individually minor, the potential for excess lighting on the site exists if not properly controlled. Therefore, the light and glare impact is **potentially significant**. The mitigation measures below would make the proposed fixture types and performance standards mandatory and ensure implementation.

### Mitigation Measures

**Measure 3.1.2:** All outdoor light fixtures shall be located, aimed or shielded so as to minimize stray light trespassing across property boundaries. Fixtures shall be full cut-off and nighttime friendly, consistent with LEED goals and Green Globes criteria for light pollution reduction. The project applicant will be required to prepare a photometric plan demonstrating that lighting will not spillover onto adjacent properties. Furthermore, the Project will adhere to all City regulations relating to signage and the shielding of light in order to reduce any potential negative effects from new light sources (per Building Code Sections §3225, §3226, §3227). These standards shall be included in the Project conditions of approval as well as the mitigation monitoring and reporting program.

**Impact Significance after Mitigation:** By shielding project related lighting and directing it away from adjacent properties, the project will not result in light spillover or glare. With the implementation of Mitigation 3.1-2 listed above, this impact would be reduced to a **less-than-significant** level.

---

## Cumulative Impacts

### Impact 3.1.3: The Project would not contribute to a significant cumulative visual impact.

The “cumulative projects” identified in Chapter 4 are either not in the same viewshed as the proposed Project or do not substantially change the character of the area. Only the Branches Chop House and Guillon projects are arguably near enough to interact visually (see **Figure 4-1**). These projects are within a previously developed area and are consistent with the commercial character of the area. Further, the proposed project will not significantly impact the visual character and quality of the area. Therefore, the “cumulative projects,” combined with the proposed project, would not create a significant cumulative impact for degradation of visual character and quality.

The “cumulative projects” identified in Chapter 4 would create new sources of light and glare. However, these projects would be subject to City standards and conditions to reduce light spillover, light and glare, and degradation of the night sky. Nighttime lighting from these projects would be difficult to directly discern from the project site. For these reasons, the cumulative visual impacts associated with the implementation of the Project are **less than significant**.

**Mitigation:** None required.

### 3.1.5 References

California Department of Transportation (Caltrans), 2010. California Scenic Highway Program, [www.dot.ca.gov/hq/LandArch/scenic/schwy.htm](http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm), accessed November 3, 2011.

City of Ukiah, 1995/2004. *General Plan and Growth Management Plan*, adopted December 5, 1995; revised in 2004.

Federal Highway Administration (FHWA), 1981. *Visual Impact Assessment for Highway Projects*, March 1981.

Mendocino County, 2009. *The County of Mendocino General Plan*, August 2009.

## 3.2 Air Quality

### 3.2.1 Introduction

This section provides an overview of the existing air quality at the Project site and surrounding region, the regulatory framework, an analysis of potential impacts to air quality that would result from implementation of the Project, and identification of mitigation measures.

### 3.2.2 Setting

#### Physical Setting

##### *Regional Setting*

The Project is located in the City of Ukiah in Mendocino County, which is located within the North Coast Air Basin (NCAB), as established by the California Air Resources Board (CARB). The NCAB includes Mendocino, Humboldt, Trinity, Del Norte Counties, and Northern Sonoma County. The NCAB extends south from the coast of Oregon between 30 and 100 miles wide. The Coastal Range and Pacific Ocean border to the west, the Sacramento Valley to the east and the Klamath Mountains in the north.

##### **Climate**

The surrounding climate is characterized by warm, dry summers and cool, damp winters. Summer highs reach 90 to 100 degrees Fahrenheit, while nighttime temperatures range in the 50s and 60s. Highs in the 50s and 60s are common during wintertime. Freezing temperatures are common on clear winter and fall nights. Most of the rainfall occurs during the winter, averaging 38 inches per year. December and January are the wettest months which average 7 to 8 inches of precipitation. Winds are generally from the northwest, especially during the summer. Winds rarely flow from the south when low pressure systems over the Pacific affect Northern California and during warm weather where low-level marine air penetrates into the valley through the Russian River Valley. Wind speeds are usually light up to 50 percent of the time. Temperature inversions occur frequently where higher elevation warm air traps cold air near the surface.

Two temperature inversions affect the region: elevated inversions and ground based inversions. Elevated inversions are caused by marine air penetration and/or subsidence (sinking air caused by strong high pressure systems). Ground-based inversions occur when cold night air sinks into the valley from ridge tops. Inversions create a very stable layer of air because vertical mixing is prevented near the surface. During late fall and winter, ground-based inversions (the most restrictive of vertical mixing) often occur during clear, cold nights and are weakened or “burned off” by the sun. Extreme inversions may last days to weeks and allow stagnant air to become dense with air emissions, sometimes to unhealthy levels.

## Local Setting

### Ambient Pollutant Levels at Nearby Monitoring Stations

The Mendocino County Air Quality Management District (MCAQMD) maintains several monitoring stations in the Project vicinity that monitor air quality and compliance with associated ambient standards. The closest station to the Project site is the East Gobbi Street Monitoring Station, approximately 1.3 miles north of the Project site. The pollutants monitored at this station are ozone (O<sub>3</sub>) and carbon monoxide (CO). The Ukiah County Library Monitoring Station (1.7 miles north, northwest of the Project site) was used to collect data for particulate matter less than ten microns (PM<sub>10</sub>) and particulate matter less than 2.5 microns (PM<sub>2.5</sub>). The most recent published data for ozone and particulates at the East Gobbi Street and Ukiah County Library Monitoring Stations are presented in **Table 3.2-1**.

**TABLE 3.2-1  
 AIR QUALITY DATA SUMMARY (2008–2010) FOR THE PROJECT AREA <sup>a</sup>**

Pollutant	Standard <sup>b</sup>	2008	2009	2010
<b>Ozone (O<sub>3</sub>) (E Gobbi St.)</b>				
Highest 1 Hour Average, ppm <sup>a</sup>		0.090	0.094	<b>0.097</b>
State Exceedance Days <sup>b</sup>	0.09	0	0	1
Highest 8 Hour Average, ppm <sup>a</sup>		<b>0.072</b>	0.064	0.051
State Exceedance Days <sup>b</sup>	0.07	1	0	0
National Exceedance Days <sup>b</sup>	0.075	0	0	0
<b>Particulate Matter (PM<sub>10</sub>) (County Library)</b>				
Highest 24 Hour State Average, µg/m <sup>3</sup> <sup>a</sup>		<b>220.6</b>	NA <sup>d</sup>	NA <sup>d</sup>
Estimated State Exceedance Days <sup>c</sup>	50	6.5	NA <sup>d</sup>	NA <sup>d</sup>
Highest 24 Hour National Average, µg/m <sup>3</sup> <sup>a</sup>		<b>222.3</b>	NA <sup>d</sup>	NA <sup>d</sup>
Estimated National Exceedance Days <sup>c</sup>	150	7.0	NA <sup>d</sup>	NA <sup>d</sup>
State Annual Average, µg/m <sup>3</sup> <sup>a</sup>	20	19.3	NA <sup>d</sup>	NA <sup>d</sup>
<b>Particulate Matter (PM<sub>2.5</sub>) (County Library)</b>				
Highest 24 Hour Average, µg/m <sup>3</sup> <sup>a</sup>		31.6	25.9	22.0
Estimated National Exceedance Days <sup>c</sup>	35	0	NA <sup>d</sup>	0
State Annual Average, µg/m <sup>3</sup> <sup>a</sup>	12	7.9	NA <sup>d</sup>	NA <sup>d</sup>

NOTES: Values shown in **bold** type are in excess of applicable standard. NA = Not Available.

- ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter.
- The term, "state exceedance days," refers to the number of days in a given year during which concentrations were higher than the state standard. The term, "national exceedance days" refers to the number of days in a given year during which concentrations were higher than the corresponding national standard.
- PM<sub>10</sub> and PM<sub>2.5</sub> are not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.
- There was insufficient data available throughout the year to determine the value. Excessive PM<sub>10</sub> and PM<sub>2.5</sub> due to statewide fires beginning June 20<sup>th</sup>, 2008. Statistics not provided by ARB.

SOURCE: California Air Resources Board, 2012a. Air Quality Data Summaries, 2008–2012; www.arb.ca.gov/adam, accessed March 2, 2012

### **Criteria Air Pollutants**

These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria set forth in the Federal Clean Air Act (FCAA). California has adopted more stringent ambient air quality standards for the criteria air pollutants (referred to as State Ambient Air Quality Standards, or state standards) and has adopted air quality standards for some pollutants for which there is no corresponding national standard. The Federal and State standards and the status of the MCAQMD are discussed in Section 3.2.3.

**Ozone.** Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NOx). ROG and NOx are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NOx under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

**Carbon Monoxide.** Ambient carbon monoxide (CO) concentrations normally are considered a local effect and typically correspond closely to the spatial and temporal distributions of vehicular traffic. Wind speed and atmospheric mixing also influence CO concentrations. Under inversion conditions, CO concentrations may be distributed more uniformly over an area that may extend some distance from vehicular sources. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses.

CO concentrations have declined dramatically in California due to existing controls and programs and most areas of the state including the Project region have no problem meeting the CO state and federal standards. CO measurements and modeling were important in the early 1980’s when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, lower emission levels from new vehicles, and improvements in fuels.

**Respirable Particulate Matter (PM10 and PM2.5).** PM10 and PM2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. (A micron is one-millionth of a meter). PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Some sources of particulate matter, such as wood burning in fireplaces, demolition, and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can

contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility. Large dust particles (diameter greater than ten microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance rather than a health hazard. The remaining fraction, PM10 and PM2.5, are a health concern particularly at levels above the federal and state ambient air quality standards. PM2.5 (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus, are able to penetrate to the deepest parts of the lungs. Scientific studies have suggested links between fine particulate matter and numerous health problems including asthma, bronchitis, acute and chronic respiratory symptoms such as shortness of breath and painful breathing. Recent studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Children are more susceptible to the health risks of PM10 and PM2.5 because their immune and respiratory systems are still developing.

Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health (Dockery and Pope, 2006). CARB has estimated that achieving the ambient air quality standards for PM10 could reduce premature mortality rates by 6,500 cases per year (CARB, 2002).

**Nitrogen Dioxide (NO<sub>2</sub>).** NO<sub>2</sub> is a reddish brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO<sub>2</sub>. Aside from its contribution to ozone formation, NO<sub>2</sub> can increase the risk of acute and chronic respiratory disease and reduce visibility. NO<sub>2</sub> may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

NO<sub>2</sub> is an air quality concern because it acts a respiratory irritant and is a precursor of ozone. NO<sub>2</sub> is a major component of the group of gaseous nitrogen compounds commonly referred to as nitrogen oxides (NO<sub>x</sub>). Nitrogen oxides are produced by fuel combustion in motor vehicles, industrial stationary sources (such as industrial activities), ships, aircraft, and rail transit. Typically, nitrogen oxides emitted from fuel combustion are in the form of nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>). NO is often converted to NO<sub>2</sub> when it reacts with ozone or undergoes photochemical reactions in the atmosphere. Therefore, emissions of NO<sub>2</sub> from combustion sources are typically evaluated based on the amount of NO<sub>x</sub> emitted from the source.

**Sulfur dioxide (SO<sub>2</sub>).** SO<sub>2</sub> is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO<sub>2</sub> is also a precursor to the formation of atmospheric sulfate, particulate matter and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain. The maximum SO<sub>2</sub> concentrations recorded in the Project area are well below federal and state standards. Accordingly, the region is in attainment status with both federal and state SO<sub>2</sub> standards.

**Lead.** Ambient lead concentrations meet both the federal and state standards in the Project area. Lead has a range of adverse neurotoxin health effects, and was formerly released into the atmosphere primarily via leaded gasoline products. The phase-out of leaded gasoline in California resulted in

decreasing levels of atmospheric lead. The Project would not introduce any new sources of lead emissions; consequently, lead emissions are not required to be quantified and are not further evaluated in this analysis.

### **Non-Criteria Air Pollutants**

**Toxic Air Contaminants (TACs).** Non-criteria air pollutants or TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds, including particulate emissions from diesel-fueled engines.

**Odorous Emissions.** Though offensive odors from stationary sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency and intensity of the source; wind speed and direction; and the sensitivity of receptors. Generally, increasing the distance between the receptor and the source will mitigate odor impacts.

### **Sensitive Receptors**

Land uses such as schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because infants and children, the elderly, and people with health afflictions, especially respiratory ailments, are more susceptible to respiratory infections and other air-quality-related health problems than the general public. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present.

The nearest sensitive receptors to the Project are medium density residential units located approximately 2,000 feet southwest from the Project site.

### **Urban Heat Island Effect**

The “urban heat island” refers to the effect of urbanized areas on surface and air temperature compared to their rural surroundings. Buildings, roads, and other “hardscape” create an island of higher temperatures within the regional landscape. As described by the Environmental Protection Agency, “[u]rban heat islands are caused by development and the changes in radiative and thermal properties of urban infrastructure as well as the impacts buildings can have on the local micro-climate—for example tall buildings can slow the rate at which cities cool off at night. Heat islands are influenced by a city’s geographic location and by local weather patterns, and their intensity changes on a daily and seasonal basis.” (USEPA 2008, p. 6). The term is generally used to refer to community-wide effects, particularly for large metropolitan cities. However, it is worth considering urban heat islands in the context of individual development projects. The potential adverse effects of the urban heat island effect include: increased energy consumption; elevated emissions of air pollutants and greenhouse gases; compromised human health and comfort; and impaired water

quality. These issues are also related: increased temperature may lead to increased energy consumption, which has implications for air quality and greenhouse gas emissions. In addition to energy-related increases in air emissions, elevated air temperatures increase the rate of ground-level ozone formation. These environmental issues are discussed in various places in this DEIR. Air quality, including climate, criteria air pollutants and air quality related health effects are discussed in this section. Greenhouse gases are discussed in Section 3.11, Climate Change. Water quality (including the issue of heat impairment) is discussed in Section 3.6, Hydrology.

Communities have adopted various strategies to deal with these environmental impacts, such as increasing vegetation and using more energy efficient building materials. These strategies are often part of more general energy savings or “sustainability” practices and are not identified as “urban heat island effect” mitigation, but nevertheless provide the benefits of reducing surface and atmospheric heat islands. These energy saving measures are discussed in Section 3.2.4, below, and cross referenced in Chapters 3.11 and 3.6.

### 3.2.3 Regulatory Setting and Applicable Air Quality Regulations

#### Federal

The Federal Clean Air Act (FCAA) requires the U.S. Environmental Protection Agency (USEPA) to identify National Ambient Air Quality Standards (NAAQS or national standards) to protect public health and welfare. National standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM10, PM2.5, and lead. **Table 3.2-2** shows current national and state ambient air quality standards and provides a brief discussion of the related health effects and principal sources for each pollutant.



**TABLE 3.2-2  
STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES**

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
<b>Ozone</b>	1 hour	0.09 ppm	---	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when ROG and NOx react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.070 ppm	0.075 ppm		
<b>Carbon Monoxide</b>	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, CO interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
	8 hours (Lake Tahoe)	6.0 ppm	---		
<b>Nitrogen Dioxide</b>	1 hour	0.18 ppm	100 ppb	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030 ppm	53 ppb		
<b>Sulfur Dioxide</b>	1 hour	0.25 ppm	75 ppb	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm (certain areas)		
<b>Respirable Particulate Matter (PM10)</b>	24 hours	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	May irritate eyes and respiratory tract, decreases in lung capacity, can cause cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 µg/m <sup>3</sup>	---		
<b>Fine Particulate Matter (PM2.5)</b>	24 hours	---	35 µg/m <sup>3</sup>	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.
	Annual Avg.	12 µg/m <sup>3</sup>	15.0 µg/m <sup>3</sup>		
<b>Lead</b>	Monthly Ave.	1.5 µg/m <sup>3</sup>	---	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 µg/m <sup>3</sup>		
<b>Hydrogen Sulfide</b>	1 hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)	Geothermal power plants, petroleum production and refining.
<b>Sulfates</b>	24 hour	25 µg/m <sup>3</sup>	No National Standard	Breathing difficulties, aggravates asthma, reduced visibility	Produced by the reaction in the air of SO <sub>2</sub> .
<b>Visibility Reducing Particles</b>	8 hour (Lake Tahoe)	Extinction of 0.07/km; visibility of 30 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism.	See PM2.5.

ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter.

SOURCES: California Air Resources Board (CARB), 2012b. *Ambient Air Quality Standards*, available at [www.arb.ca.gov/research/aaqs/aaqs2.pdf](http://www.arb.ca.gov/research/aaqs/aaqs2.pdf) Standards last updated February 7, 2012; and CARB, 2009. *ARB Fact Sheet: Air Pollution Sources, Effects and Control*, [www.arb.ca.gov/research/health/fs/fs2/fs2.htm](http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm), page last updated December 2009.

Pursuant to the 1990 Federal Clean Air Act Amendments (FCAAA), the USEPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant, based on whether or not the NAAQS had been achieved. **Table 3.2-3** shows the current attainment status of the Project vicinity. As shown, the County is in attainment for all Federal criteria air pollutants.

**TABLE 3.2-3  
 MENDOCINO COUNTY ATTAINMENT STATUS**

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone – one hour	No Federal Standard <sup>a</sup>	Attainment
Ozone – eight hour	Unclassified/Attainment	Attainment <sup>b</sup>
PM10	Unclassified	Nonattainment
PM2.5	Unclassified/Attainment	Unclassified
CO	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Lead	No Designation	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

a. Federal One Hour Ozone National Ambient Air Quality Standard was revoked on June 15, 2005  
 b. The State 8-hour ozone standard was approved by the CARB on April 28, 2005, and became effective May 17, 2006.  
 c. A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.

SOURCE: California Air Resources Board (CARB), 2011. *Area Designations Maps – State and National*, available at [www.arb.ca.gov/deg/adm/adm.htm](http://www.arb.ca.gov/deg/adm/adm.htm); page last reviewed September 13, 2011 and accessed March 3, 2012.

The FCAAA requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAAA added requirements for states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has responsibility to review all state SIPs to determine if they conform to the mandates of the FCAAA and will achieve air quality goals when implemented. If the USEPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the nonattainment area and may impose additional control measures. Failure to submit an approvable SIP or to implement the plan within mandated timeframes can result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Regulation of TACs, termed Hazardous Air Pollutants (HAPs) under federal regulations, is achieved through federal, State and local controls on individual sources. The 1977 Clean Air Act Amendments required the USEPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare. These substances include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible

hazard, based on scientific studies of exposure to humans and other mammals. There is uncertainty in the precise degree of hazard.

## **State**

CARB manages air quality, regulates mobile emissions sources, and oversees the activities of county Air Pollution Control Districts and regional Air Quality Management Districts. CARB establishes state ambient air quality standards and vehicle emissions standards.

California has adopted ambient standards that are more stringent than the federal standards for the criteria air pollutants. These are shown in Table 3.2-2. Under the California Clean Air Act (CCAA) patterned after the FCAA, areas have been designated as attainment or nonattainment with respect to the state standards. Table 3.2-3 summarizes the attainment status with California standards in the Project vicinity. The area is nonattainment for the California PM10 standards and attainment or unclassified for all the other California standards.

## **Title 24**

California Code of Regulations (CCR) Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. Since then, Title 24 has been amended with the recognition that energy-efficient buildings require less electricity and reduce fuel consumption, which in turn decreases associated air pollutant emissions.

## **Toxic Air Contaminants**

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

In August 1998, CARB identified particulate emissions from diesel-fueled engines (diesel particulate matter, or DPM) as TACs. CARB subsequently developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB, 2000). The document represents proposals to reduce diesel particulate emissions, with the goal of reducing emissions and associated health risks by 75 percent in 2010 and by 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra low sulfur diesel fuel on diesel-fueled engines.

CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* in 2005 (CARB, 2005). The primary goal in developing the handbook was to provide information that will help keep California's children and other vulnerable populations out of harm's way with

respect to nearby sources of air pollution. The handbook highlights recent studies that have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities (i.e., distribution centers, rail yards, chrome platers, etc.). However, the health risk is greatly reduced with distance. For that reason, CARB provided some general recommendations aimed at keeping appropriate distances between sources of air pollution and sensitive land uses, such as residences.

## Local Rules and Regulations

### ***Mendocino County Air Quality Management District***

#### **Rules and Regulations**

Local prohibitions applicable to the Project site include MCAQMD Rule F-430 (Fugitive Dust Emissions). Reasonable precautions involve covering open bodied trucks when transporting materials likely to give rise to airborne dust, watering dry disturbed soil road surfaces, and ceasing earthmoving activities when sustained winds exceed 15 miles per hour. Other prohibitions include Rule 1-410 (Visible Emissions) and Rule 1-440 (Sulfur Dioxide Emissions).

### ***City of Ukiah 1995 General Plan***

On December 6, 1995, the City Council adopted the current general plan. The following policies of the 1995 General Plan relate to the proposed Project:

***Policy OC-31.1:*** Concentrate development to encourage mass transit and limit automobile use.

***Policy OC-32.1:*** The City and County shall require all air quality mitigation measures to be reasonable, effective, feasible, measurable, and implementable concurrent with Project development.

***Policy OC-37.2:*** Work to reduce particulate emissions from construction activities.

***Policy OC-38.1:*** Require “clean air” heat sources in new construction.

## 3.2.4 Impacts and Mitigation Measures

### **Significance Criteria**

According to Appendix G of the CEQA *Guidelines*, a Project would have a significant effect on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any nonattainment pollutant (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

### **Criteria Pollutants**

In June 2010, the MCAQMD formally recommended (MCAQMD, 2010a) that project analysis should follow the updated BAAQMD *CEQA Air Quality Guidelines* (BAAQMD, 2011) for the CEQA process. In October 2011, the MCAQMD clarified and revised several threshold recommendations (MCAQMD, 2010b). Subsequently, emissions would be considered potentially significant if they exceed the following:

#### **Construction**

- PM10 – 82 pounds per day (exhaust only); and
- PM2.5 – 54 pounds per day (exhaust only).

#### **Operations**

- ROG – 180 pounds per day;
- NOx – 42 pounds per day;
- CO – 125 tons per year;
- PM10 – 82 pounds per day; and
- PM2.5 – 54 pounds per day.

### **Toxic Air Contaminants**

The operation of any project with the potential to expose sensitive receptors to substantial levels of TACs (such as DPM) would be deemed to have a potentially significant impact. As noted above, the MCAQMD has recommended the use of the BAAQMD thresholds for CEQA analyses. The BAAQMD typically recommends detailed toxics analysis if the TAC source and sensitive receptors are within close proximity (1,000 feet or less), or if the source is a known generator of substantial TACs (i.e., a refinery) (BAAQMD, 2012). The Project is not within 1,000 feet of sensitive receptors. In addition, since the Project is located substantially further from sensitive receptors (with the nearest residence about 2,000 feet away) than the screening distances included in the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB, 2005) for distribution centers (1,000 feet) and large gasoline stations (300 feet), TAC exposure would be minimal. Furthermore, with the Project only expected to generate an average of 12 to 13 trucks per day, the Project would not actually meet the CARB definition of a distribution center (a facility that accommodates more than 100 trucks per day or 40 trucks with transport refrigeration units (TRUs)). Based on the above considerations, the impact due to TACs would be less than significant and is not analyzed further below.

### **Methodology**

Project-related air quality impacts fall into two categories: short-term impacts due to construction, and long-term impacts due to Project operation. First, during Project construction (short-term), the Project would affect local particulate concentrations primarily due to fugitive dust sources. Under Project operations (long-term), the Project would result in an increase in emissions primarily due to motor vehicle trips. Other sources include minor area sources such as equipment (e.g., HVACs, refrigeration equipment, rooftop units), landscaping maintenance, and use of consumer products. Emissions were calculated by using California Emissions Estimator Model (CalEEMod) version

2011.1.1 (South Coast Air Quality Management District, 2011). CalEEMod is a computer program that can be used to estimate anticipated emissions associated with land development projects in California, and is the preferred model of the MCAQMD. CalEEMod has separate databases for specific counties and air districts. The Mendocino County database was used for the proposed project. The model calculates criteria pollutant emissions, including CO, PM10, PM2.5 and the O<sub>3</sub> precursors ROG and NO<sub>x</sub>. Output operational emissions data are separated into energy use, area sources, and mobile sources. The area sources are landscape maintenance equipment, consumer products, and architectural coatings used for routine maintenance. Consumer products (e.g., household cleaners, air fresheners, automotive products, and personal care products) emit ROG. Mobile sources are the vehicles used by patrons, staff, and vendors for commercial businesses.

In addition, the California Line Source Dispersion Model version 4 (CALINE-4) was used to determine localized CO concentrations associated with Project traffic on the roadway network. It is the standard modeling program used to assess CO impacts near transportation facilities.

**Appendix B** of this EIR provides detailed emission calculations used in this analysis.

## Impact Analysis

### **Impact 3.2.1: Construction activities associated with development of the Project would not generate significant short-term emissions of criteria pollutants.**

Construction of the Project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the Project site. In addition, fugitive dust emissions would result from site preparation and excavation activities. Mobile source emissions, primarily ROG and NO<sub>x</sub>, would result from the use of construction equipment. Fugitive dust emissions would result from a variety of site preparation activities and vehicle travel on paved and unpaved surfaces. Construction equipment exhaust also would include some PM10 emissions.

PM10 and PM2.5 emissions from construction would vary greatly from day to day depending on the level of activity, the equipment being operated, silt content of the soil, and the prevailing weather. Larger-diameter dust particles (i.e., greater than 30 microns) generally fall out of the atmosphere within several hundred feet of construction sites, and represent more of a soiling nuisance than a health hazard. Smaller-diameter particles (e.g., PM10 and PM2.5) are associated with adverse health effects and generally remain airborne until removed from the atmosphere by moisture. Therefore, unmitigated construction dust emissions could result in significant local effects.

Construction of the Project would involve grading, paving, building construction, and architectural coating. The CalEEMod software was used to calculate the Project's construction emissions. The Project would include construction of a 148,000 square foot Costco, 20 pump gas station, and 625 space parking lot. The default construction duration was estimated to be approximately 18 months. Emissions are based on CalEEMod default construction data and criteria pollutant emission factors. The results of the analysis are summarized in **Table 3.2-4**.

**TABLE 3.2-4  
 PROJECT CONSTRUCTION EMISSIONS  
 (POUNDS PER DAY)<sup>a</sup>**

<b>Project Construction</b>	<b>ROG</b>	<b>NOx</b>	<b>CO</b>	<b>PM10 (Exhaust)</b>	<b>PM2.5 (Exhaust)</b>
Year 2013	14	111	67	6	6
Year 2014	474	53	63	3	3
MCAQMD Thresholds of Significance <sup>b</sup>	NA	NA	NA	82	54
Significant (Yes or No)?	No	No	No	No	No

Values in **bold** are in excess of the applicable MCAQMD significance threshold. NA = Not Available (no standard)  
 a. Project construction emissions estimates were made using CalEEMod. See Appendix AQ for additional information.  
 b. The MCAQMD only specify thresholds for PM10 and PM2.5.

As shown in Table 3.2-4, construction of the proposed Project would not violate the air quality standards, therefore it would not conflict or obstruct implementation of the air quality plan and would have a **less-than-significant** impact. Furthermore, the Project must adhere to MCAQMD Rule 430 which would further reduce fugitive dust emissions.

**Mitigation:** None required.

**Impact 3.2.2: Operation of the Project would generate significant emissions of criteria air pollutants that could contribute to existing nonattainment conditions and degrade air quality.**

Operational criteria pollutant emissions for the Project would be generated primarily from on-road vehicular traffic, area sources, and energy use (natural gas). CalEEMod was used to estimate emissions from these operational sources. The results of this analysis are summarized in **Table 3.2-5**. As shown in Table 3.2-5, build-out of the Project would exceed the MCAQMD thresholds of significance for NOx, PM10, and PM2.5. Most of the Project-related emissions are associated with motor vehicles travelling to and from the Project site.

**TABLE 3.2-5  
 OPERATIONAL EMISSIONS<sup>a, b</sup>**

Project Data	ROG (lbs/day)	NOx (lbs/day)	CO (tons/year)	PM10 (lbs/day)	PM2.5 (lbs/day)
<b>Unmitigated Emissions</b>					
Area Sources	11	0	0	0	0
Energy Sources	<1	<1	<1	<1	<1
Mobile Sources	85	<b>194</b>	126	<b>6,343</b>	<b>633</b>
Total	96	<b>194</b>	126	<b>6,343</b>	<b>633</b>
<b>Mitigated Emissions</b>					
Area Sources	11	0	0	0	0
Energy Sources	<1	<1	<1	<1	<1
Mobile Sources	81	<b>181</b>	119	<b>5,717</b>	<b>571</b>
Total	92	<b>181</b>	119	<b>5,717</b>	<b>571</b>
MCAQMD Thresholds of Significance	180	42	125	82	54
Significant (Yes or No)?	No	Yes	No	Yes	Yes

Net values in **bold** are in excess of the applicable MCAQMD significance threshold.

a. Project emissions estimates were made using CalEEMod. See Appendix B for additional information.  
 b. Values for each pollutant are the greater of summer or winter (except for CO, which is an annual value).

### Mitigation Measures

**Measure 3.2.2a:** The Project will incorporate sustainability features in building and site design with the goal of reaching a building efficiency rating that is greater than the Title 24 requirement, in order to reduce energy consumption and associated GHG emissions. As set forth in the "Project Description," the project will incorporate the following sustainability features:

- Parking lot light standards are designed to provide even light distribution and use 20% less energy compared to a greater number of fixtures at lower heights. The use of metal halide lamps provide a color corrected white light and a higher level of perceived brightness with less energy than other lamps such as high pressure sodium.
- Locally extracted and manufactured building materials will be utilized where feasible.
- Pre-manufactured building components, including structural framing and metal panels, are designed to minimize waste during construction.
- Pre-manufactured metal wall panels with insulation are designed to conserve energy by increasing R-value and solar reflectivity. Building heat absorption is reduced by a decrease in the thermal mass of the metal wall when compared to a typical masonry block wall.
- Reflective roof material will meet the requirements for the USEPA’s Energy Star energy efficiency program. Reflective roofs produce lower heat absorption and thereby lower energy usage during the summer months.
- Triple glazed skylights are used on the roof to reduce the need for interior lighting. A “daylight harvesting” system monitors and adjusts the mechanical and lighting systems in order to conserve energy. The system includes the skylights, light monitors, energy efficient lighting fixtures, and associated control systems. On a typical sunny day, fewer than one third of the interior lights are needed.



- Tree plantings are planned to reduce summer heat gain within the parking field.
- Proposed planting incorporate a substantial amount of drought tolerant species.
- The proposed irrigation system incorporates the use of deep root watering bubblers for parking lot shade trees to minimize water usage and ensure that water goes directly to the intended planting areas.

**Measure 3.2.2b:** The applicant shall implement a carpool/vanpool program. Such measures could include carpool ride-matching for employees, assistance with vanpool formation, provision of vanpool vehicle, or other measures.

**Measure 3.2.2c:** The applicant shall increase transit accessibility. Implement Mitigation Measure 3.10.2a.

**Measure 3.2.2d:** The applicant shall improve the pedestrian and bicycle network. Implement Mitigation Measure 3.10.2b and 2c.

**Measure 3.2.2e:** Use low VOC architectural coatings.

**Impact Significance After Mitigation: Significant and Unavoidable.** Although the mitigation measures would reduce the amount of criteria pollutants, they would not reduce emissions to less than significant levels. The majority of all emissions are mobile (vehicular), and due to the nature of the project (warehouse retail), additional substantial reductions in the amount of vehicular traffic is not feasible.

---

**Impact 3.2.3: Project traffic would not substantially increase localized carbon monoxide concentrations at sensitive receptors in the project vicinity.**

**Carbon Monoxide (CO) Hotspot Analysis**

CO is a localized pollutant of concern. A project that exceeds the mass CO threshold of 125 tons per year should be further analyzed to determine if there is a significant impact to air quality. Although this mass threshold was not exceeded (see Table 3.2-5 above), a CO hotspot analysis was performed on the worst intersection due to the substantial increase in traffic volumes and to account for Mendocino County's specific fleet mix.

Traffic generated by the project was analyzed to determine its potential to affect CO concentrations along surface streets and at sensitive receptors in the project area, as depicted in **Table 3.2-6**. The modeling method included background CO concentration levels obtained from Ukiah East Gobbi Street Monitoring station, and traffic projections prepared for the project at the most affected streets with sensitive receptors in the project vicinity (Airport Park Blvd and Talmage Road). As these residences would be the most affected by project-related traffic, it was assumed that if CO concentrations on these roadway segments would not exceed the ambient air quality standards, the project's contribution to impacts at other intersections would be less than significant.

**TABLE 3.2-6  
 ESTIMATED CARBON MONOXIDE CONCENTRATIONS**

Receptor Location	Averaging Time (hrs.)	Concentrations (ppm) <sup>a</sup>				
		State Standard	Existing	Existing plus Project	Cumulative No Project	Cumulative plus Project
50 feet north of Airport Park Blvd, north of Talmage	1	20	0.3	0.5	0.5	0.5
	8	9	0.2	0.3	0.3	0.3
75 feet north of Talmage, west of Airport Park Blvd	1	20	0.2	0.3	0.3	0.3
	8	9	0.1	0.2	0.2	0.2

<sup>a</sup> CO was modeled using CALINE-4 and focuses on the average daily traffic. Background concentrations of CO were input into the model at 3.4 ppm for 8 hour and 5.6 ppm for 1 hour. Weighted-average emission factors were derived from EMFAC2011 and are based on Mendocino County fleet mix and specific traffic volumes at the intersection. See Appendix AQ for additional information.

As shown in **Table 3.2-6**, the analysis demonstrated that no exceedances of the CO one or eight hour standard would occur at any of the receptors located close to the roadways. Furthermore, future years would have even lower background concentrations and vehicle emission factors. The project would contribute a very small increment to localized CO concentrations. Thus, project-related CO emissions would be **less than significant**.

**Mitigation:** None required.

**Impact 3.2.4: Project operation would not create objectionable odors affecting a substantial number of people.**

Types of land uses that typically pose potential odor problems include agriculture, wastewater treatment plants, food processing and rendering facilities, chemical plants, composting facilities, landfills, waste transfer stations, and dairies. The Project does not include any of these land uses or similar land uses. Therefore, the Project would not create objectionable odors that would affect a substantial number of people, and odor impacts would be **less than significant**.

**Mitigation:** None required.

**Cumulative Impacts**

**Impact 3.2.5: Construction and operation of the Project would result in cumulatively considerable increases of criteria pollutant emissions.**

Several other commercial projects have been approved or proposed in Ukiah. A complete list of cumulative projects can be found in Table 4-1 of Chapter 4. According to the MCAQMD and BAAQMD, no single Project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a Project’s individual emissions contribute to existing cumulatively

significant adverse air quality impacts. In addition, according to the BAAQMD *CEQA Air Quality Guidelines*, if a Project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions (BAAQMD, 2011). Alternatively, if a Project does not exceed the identified significance thresholds, then the Project's contribution to the cumulative impact would not be considered cumulatively considerable and would result in less-than-significant air quality impacts.<sup>1</sup>

Construction emissions would result in less-than-significant impact, however, operational emissions would result in a significant and unavoidable impact for criteria air pollutants. Therefore Project emissions would not be cumulatively considerable over the short-term duration of construction but would be cumulatively considerable for the long-term Project operations and would result in a **significant and unavoidable** cumulative impact.

**Mitigation:** Implement Mitigation Measures 3.2.2a through 3.2.2d.

**Impact Significance After Mitigation:** Significant and Unavoidable.

---

### 3.2.5 References

Bay Area Air Quality Management District (BAAQMD), 2011. *CEQA Air Quality Guidelines*, adopted May 2011.

Bay Area Air Quality Management District (BAAQMD), 2012. Personal communication via telephone with Sigalle Michael – Senior Environmental Planner with the BAAQMD, September 13, 2012.

California Air Resources Board (CARB), 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, October 2000.

California Air Resources Board (CARB), 2002. *Public Hearing to Consider Amendments to the Ambient Air Quality Standards for Particulate Matter and Sulfates*. May 3, 2002.

California Air Resources Board (CARB), 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005.

California Air Resources Board (CARB), 2009. *ARB Fact Sheet: Air Pollution Sources, Effects and Control*, [www.arb.ca.gov/research/health/fs/fs2/fs2.htm](http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm), Accessed December 2009.

California Air Resources Board (CARB), 2011. *Area Designations Maps – State and National*, [www.arb.ca.gov/desig/adm/adm.htm](http://www.arb.ca.gov/desig/adm/adm.htm), page last reviewed September 13, 2011 and accessed March 3, 2012.

---

<sup>1</sup> Cumulative impacts are addressed in this manner because the attainment plans, which form the basis of project-level significance thresholds, are prepared to address basin-wide (cumulative) air quality impacts.

- California Air Resources Board (CARB), 2012a. *Air Quality Data Summaries*, 2008–2012; [www.arb.ca.gov/adam](http://www.arb.ca.gov/adam), accessed March 2, 2012.
- California Air Resources Board (CARB), 2012b. *Ambient Air Quality Standards*, [www.arb.ca.gov/research/aaqs/aaqs2.pdf](http://www.arb.ca.gov/research/aaqs/aaqs2.pdf), Standards last updated February 7, 2012
- Dockery, D. W., and Pope, C.A., III, 2006. *Health Effects of Fine Particulate Air Pollution: Lines that Connect*. Journal Air & Waste Management Association, pp. 30-37. June 2012.
- Mendocino County Air Quality Management District (MCAQMD), 2010a. *New MCAQMD Interim CEQA Criteria and GHG Pollutant Thresholds*, June 3, 2010.
- Mendocino County Air Quality Management District (MCAQMD), 2010b. *Clarification of Interim CEQA Criteria and GHG Pollutant Thresholds*, October 7, 2010.
- United States Environmental Protection Agency (USEPA), 2008. *Reducing Urban Heat Islands: Compendium of Strategies*, October 2008.

## 3.3 Urban Decay

This chapter analyzes the potential of the proposed Costco Wholesale Project (Project) to result in urban decay impacts. The chapter discusses the various factors involved in assessing such impacts and considers whether implementation of the Project would lead to significant adverse physical effects in the built environment within the Project market area. The analysis and findings presented in this section are based on the information contained in the “Costco Wholesale Warehouse Urban Decay Analysis” prepared in April 2012 by ALH | ECON and included in this DEIR as Appendix F.

### 3.3.1 Introduction

According to the California Environmental Quality Act (CEQA) Guidelines (15358 [b]), impacts to be analyzed in an EIR must be “related to physical changes” in the environment. While the CEQA Guidelines (15131 [a]) do not directly require an analysis of a project’s social or economic effects because such impacts are not in and of themselves considered significant effects on the environment, the Guidelines also state:

An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes caused in turn by economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.

The CEQA Guidelines also provide that physical effects on the environment related to changes in land use, population, and growth rate induced by a project may be indirect or secondary impacts of the project and should be analyzed in an EIR if the physical effects would be significant (see Guidelines 15358[a][2]).

The State of California Fifth District Court of Appeal ruled that CEQA can require analysis of physical urban decay or deterioration resulting from the development of new shopping centers (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) F044943 (Super. Ct. No. 249669)).<sup>1</sup> The Court also ruled that the cumulative impact analysis for the proposed shopping centers should consider all other past, present, or reasonably foreseeable future retail projects within the project’s market area.

For the purposes of this analysis, urban decay is defined as physical deterioration to properties or structures that is so prevalent, substantial, and lasting for a significant period of time that it impairs the proper utilization of the properties and structures, and the health, safety, and welfare of the surrounding community. The manifestations of urban decay include such visible conditions as plywood-boarded doors and windows, uncontrolled truck parking, long term unauthorized use of the properties and parking lots, extensive gang and other graffiti and offensive words painted

---

<sup>1</sup> In using the term “urban decay,” the Appeals Court specifically noted that “urban decay” is distinct from “urban blight,” which, per the California Health & Safety Code (Sections 33030 to 33039) definition, is not applicable to this project.

on buildings, dumping of refuse on site, overturned dumpsters, broken parking barriers, broken glass littering the site, dead trees and shrubbery together with weeds, lack of building maintenance, homeless encampments, and unsightly and dilapidated fencing.

It is important to recognize that, like most CEQA requirements, this standard is focused on impacts to the physical environment and as such it requires the consideration of conditions of disinvestment that could result in the decay of real property as a result of the defined project.<sup>2</sup>

## 3.3.2 Environmental Setting

### Project Market Area

The market area for the Ukiah Costco Wholesale Project is the geographical area from which a substantial majority (e.g. 70 to 90 percent) of the store's sales will originate. ALH | ECON conducted market analysis and fieldwork in the Ukiah region and beyond to estimate the market area for the planned Costco store - i.e., the area from which the majority of shoppers will originate. Typically, the definition of a market area is based on the principle that most consumers will travel to the shopping destination most convenient to their homes given the type of goods available. In this instance, given Costco's focus on selling heavily discounted, bulk sale products, the market area definition is premised upon the expectation that Costco will achieve a large consumer draw. The main determinant of the market area, therefore, was consideration of the next nearest Costco stores, and the geographic area located in closest proximity to the planned Ukiah Costco store. This was accomplished by mapping the locations of all the nearest Costco stores and then determining travel time and distance from various map locations to the Ukiah Costco store location and other Costco stores. From this, the geographic area was identified within which the Ukiah Costco store would comprise the closest store requiring the least vehicular travel time and distance.

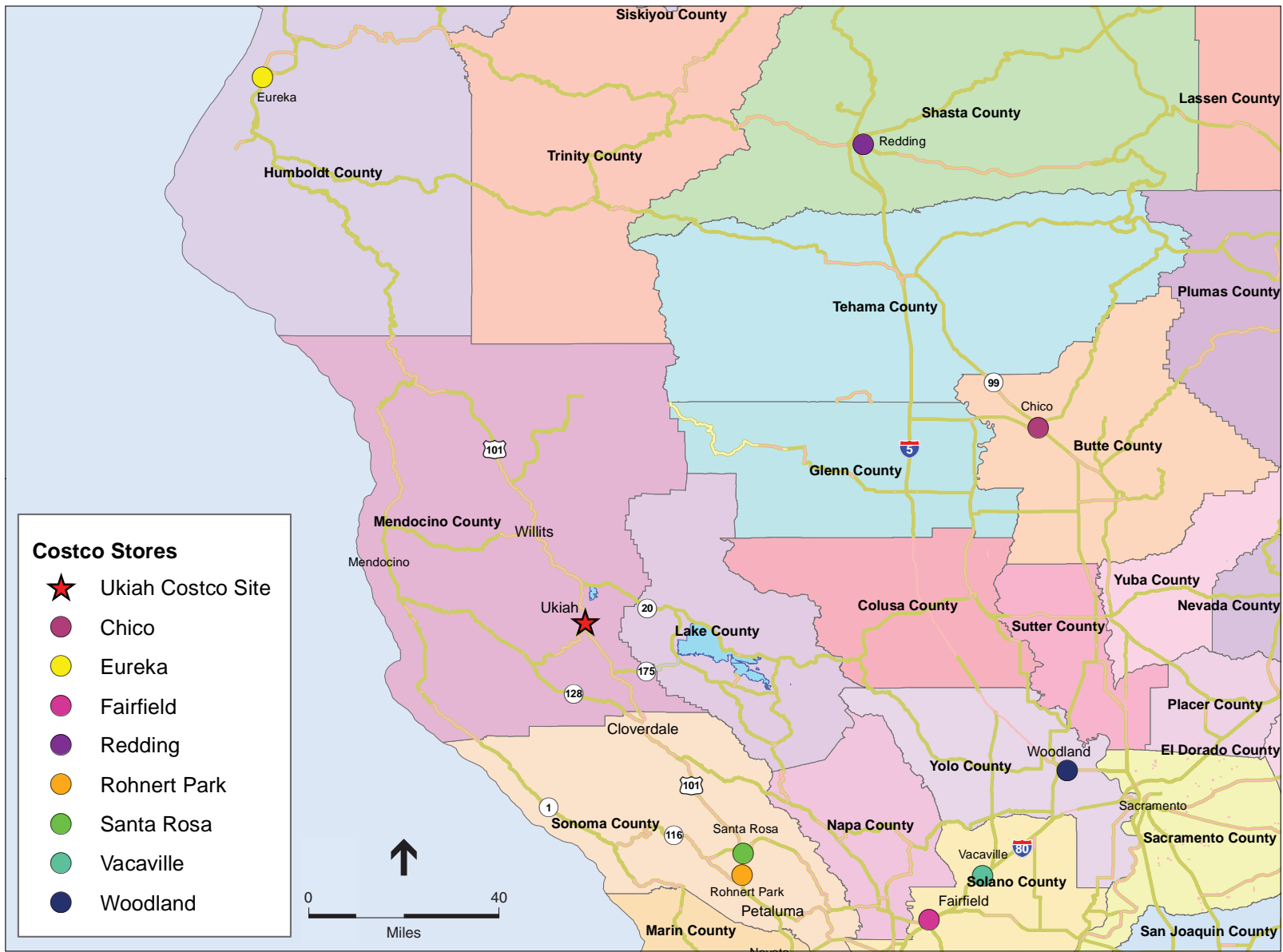
**Figure 3.3-1** presents a map with Costco store locations throughout much of northern California. These include stores in Santa Rosa and Rohnert Park to the south of Ukiah, stores in Woodland and Chico generally to the east of Ukiah, and stores in Redding and Eureka to the north. This map shows that Costco locations are relatively sparse in the lesser populated areas of northern California and more common in the denser areas of the region.

Combining the mapped Costco store locations in **Figure 3.3-1** with travel time and distance research resulted in a market area definition including all of Mendocino County and a large portion of Lake County. Specifically, the Lake County area is defined as the more populated areas surrounding Clear Lake, generally to the north of Highway 29. Areas to the south of Highway 29 in Lake County were determined to be closer to the Santa Rosa Costco store, and thus the market area does not include all of Lake County.

A map of the market area is presented in **Figure 3.3-2**. This map indicates the inclusion of all of northern Lake County in the market area. This is the result of the method of defining the Lake

---

<sup>2</sup> These conditions are distinct from conditions of blight which are defined by the California Health and Safety Code (Sections 33030-33039) which instead set the standards for the adoption of redevelopment project areas.



SOURCE: ALH, 2011; and ESA, 2012

Ukiah Costco Project . 211169

**Figure 3.3-1**  
Select Northern California Costco Store Locations



SOURCE: ALH, 2011; and ESA, 2012

Ukiah Costco Project . 211169  
**Figure 3.3-2**  
 Ukiah Costco Market Area



County portion of the market area, which is based on census tracts. For areas not defined on a geopolitical basis, such as cities or counties, census tracts provide a strong basis for defining a market area. This is because census tracts are defined to capture population nodes but are generally small enough to allow customization of an area. An additional benefit is the greater ability to obtain and analyze data at the census tract level while retaining the potential for replication by interested parties. Because of the relatively sparse population base in Lake County, the census tracts are large and generally radiate out from Clear Lake. Therefore, the census tracts that best capture the population base around the lake also extend to the northern portion of the county. This is not an undesirable result, because consumers in this area are also likely to travel to Ukiah for major purchases, and, most importantly, this area is not heavily populated, thus their inclusion is not a critical component of the estimated market area and associated consumer retail demand.

The Mendocino County border serves as the southern limit of the market area. As referenced above, this determination was based on travel time and distance logistics between the proposed Ukiah Costco location and the next nearest Costco store location. For Cloverdale, located just over the Mendocino border in Sonoma County, the travel analysis clearly indicated that Santa Rosa is a more convenient destination than Ukiah. Thus Cloverdale is not included in the market area. Moreover, residents of this part of Sonoma County have more retail choices to the south in Windsor, Santa Rosa, and other cities. Excluding Cloverdale from the market area is a conservative assumption in terms of estimating retail demand in the analysis of sales impacts and cumulative impacts, yet as discussed below, the analysis still assumes some increment of Costco store demand will originate from outside the market area, so Cloverdale residents or businesses are not analytically precluded from shopping at the Costco store.

## Market Area Sales

ALH | ECON estimates that market area residents will generate 85% of the sales for the planned Ukiah Costco store and that consumers traveling from outside the market area (e.g., travelers to the region, Cloverdale residents, etc.) will generate the remaining 15% of revenues.

This distribution of sales is consistent with findings published by major research organizations, such as the Urban Land Institute (ULI) and the International Council of Shopping Centers (ICSC), which indicate that a retail store's trade area generally supplies 70% to 90% of the store's sales, while the remaining 10% to 30% of sales are attributed to consumers residing outside of the related market area. For example, ULI states the following in its Shopping Center Development Handbook, Third Edition:

“A site generally has a primary and a secondary trade area, and it might have a tertiary area. The primary trade area should generally supply 70 to 80 percent of the sales generated by the site. These boundaries are set by geographical and psychological obstacles.”

ULI is a nonprofit research and education organization representing the entire spectrum of land use and real estate development disciplines. Among real estate, retail, and economic development professionals, this organization is considered a preeminent educational forum. Information published by the International Council of Shopping Centers (ICSC), a trade association for the

shopping center industry, also provides background about market area definitions. In the publication *Developing Successful Retail in Secondary & Rural Markets*, the ICSC says:

“A trade area is the geographic market that you will be offering to potential retailers as a consumer market. . . . Defining a retail trade area is an art and a science. In general, a trade area should reflect the geography from which 75-90 percent of retail sales are generated. Different stores can have different trade areas based on their individual drawing power and the competitive market context.”

Discussions with local commercial real estate brokers and government officials support both the definition of the market area and the 15% estimate of out-of-area demand, given the Ukiah Costco’s proximity to Highway 101, the market draw of existing retailers in Ukiah, and Costco’s strong market appeal.

### **Major Commercial Areas in and near Ukiah**

Ukiah is the retail hub of Mendocino County, drawing customers from nearby cities and unincorporated areas, as well as tourists who travel to and through the area on Highway 101. Ukiah’s retail is generally concentrated in five nodes within the Ukiah city boundaries and another area mostly outside of the city boundaries on North State Street. Approaching Ukiah from the south, the first of these nodes is along Airport Park Boulevard near the Talmage Road exit from Highway 101. In addition to the planned Costco store site, this section of Ukiah hosts a Walmart, Food Maxx supermarket, Michael’s craft store, Sears Hometown Store, Staples office supply, Friedman’s Home Improvement (“Friedman’s”), a Furniture Design Center, and Tractor Supply. A branch location of downtown Ukiah’s Schat’s Bakery is located in the Friedman’s store. Shopper volume in this area was moderate during ALH Economics’ field research in January 2012 and occupancy was strong with 2-3 small shop vacancies in a newer shopping area near the Sears Hometown Store, which relocated in 2011 from an older retail center to the north. Several of the properties in this area (e.g., Hampton Inn & Suites, Tractor Supply) are on the newer-side, and a 4,200-square-foot U.S. Cellular Store recently opened near the Sears Hometown Store.

The intersection of South State and Gobbi streets is the center of a second, smaller retail node in Ukiah. A large Safeway store featuring Safeway’s newer lifestyle orientation, which includes a Starbucks and a US Bank branch, is located at the northeast corner of the intersection. Ukiah Natural Foods, which remodeled a couple years ago, anchors a strip center on the southeast corner, and a Rite Aid drug store is located on the northwest corner at 680 South State Street. Each of these three stores had moderate-to-high shopper volumes during ALH Economics’ field research.

Downtown Ukiah is a separate shopping area, which features smaller retail stores, restaurants, professional offices, and service businesses such as hair salons, tattoo and piercing parlors, and banks. Retail buildings in the downtown are typically older and emphasize the historic character of the city. The scale and mix of businesses attracts local residents who enjoy the more pedestrian-oriented shopping experience, as well as out-of-town visitors looking for unique gifts and dining options. Most of the retail spaces in the downtown are occupied by shops, restaurants,

and service-oriented tenants, though there were a number of smaller vacancies that were being marketed along S. School and State streets, as well as the smaller perpendicular streets. The type of retail shops include pet supplies, shoes, independent book stores, boutiques, toy stores, art galleries, and gifts. Downtown also includes popular eateries, such as Schat's Courthouse Bakery Cafe, Patrona, and Ukiah Brewing Company, a successful brew pub, and many other coffee shops and restaurants.

As of January 2012, when ALH Economics conducted fieldwork, there were approximately 10-12 small shop vacancies in the main downtown area. One of these vacancies, on S. School Street, has been rented to an unknown tenant and one vacancy, at the outskirts of the downtown area, is the result of Mendocino Baby relocating to School Street. The space taken by Mendocino Baby was a former electronics store and was vacant only briefly prior to Mendocino Baby's relocation. A building known as the former Palace Hotel has been vacant for more than 20 years due to the high costs of retrofitting the 110-year-old structure. The building is in need of many repairs, including repairs pertaining to water damage. The City is trying to maximize City regulatory measures to encourage the property owner to make necessary repairs.

Downtown Ukiah experienced a major vacancy in January 2012 when the U.S. Postal Service closed the historic downtown post office. Operations from this post office were moved to an annex at the edge of Ukiah. This closure was fought by a substantial citizen base, but to no avail. In addition, the California Court system is planning to develop a new courthouse to serve Mendocino County. The current Courthouse in downtown Ukiah is overcrowded and has significant security deficiencies, functional deficiencies, and problems with access under the Americans with Disabilities Act. Accordingly, the Court system proposes to develop a new modern, secure courthouse. A recent Environmental Impact Report for the project identified two alternative site locations for the new courthouse. Both locations are still in Ukiah. One site (the Library Site) is approximately one full block away from the current location, and thus still generally within the downtown area. The other site (the Railroad Depot site) is several blocks more distant, somewhat adjoining the downtown area but not located downtown.

The post office closure has added to the downtown vacancies and the future courthouse closure will do so as well. With the post office closure there is likely less pedestrian and other traffic in downtown Ukiah, and hence less support for downtown businesses. The post office site has a new owner and proposed improvements, but a tenant has not been identified. Future relocation of the courthouse could further exacerbate this loss in pedestrian traffic, depending upon the selected site. For many downtown businesses, especially restaurants, the courthouse-related business comprises a strong component of their customer base.

On the northern and southern outskirts of the main Downtown area, commercial buildings become interspersed with light industrial and office uses, such as car repair and commercial truck rental facilities amongst fast food restaurants. A stand-alone Grocery Outlet store (a discount-oriented food store with a very limited selection of general merchandise goods) located at 1203 North State Street is interspersed among these industrial and commercial uses in the area north of Downtown. The south end of State Street includes approximately six commercial vacancies, including the

former Ukiah Lumber (which has been partially reoccupied). Despite its vacancy, the Ukiah Lumber property is very well maintained, characterized by recent maintenance activity. The northern end of State Street includes two vacancies plus a third vacancy undergoing improvements. One of these vacancies is a commercial space in a small retail strip center at the southwest corner of Ford Road and North State Street that is anticipated to be rebuilt after suffering fire damage.

East of downtown are two larger shopping centers, Pear Tree Center and Ukiah Orchard Shopping Center, which have a number of larger retail stores. Pear Tree Center is an older center that has maintained its occupancy by attracting new anchor tenants over time. A Big Kmart store in this center was replaced by a Home Depot in the 2003-2004 timeframe and in 2009 a Kohl's store opened in the space previously operated by Mervyns. These are both excellent examples of anchor retail backfilling. JC Penney, Ross Dress for Less, Big 5 Sporting Goods, and a large Lucky supermarket also operate anchor or junior anchor stores in Pear Tree Center. The JC Penney recently completed some store upgrades. In January 2012 ALH Economics noted two small shop space vacancies within Pear Tree Center that were being marketed and two that were not being marketed. Ukiah Orchard Shopping Center, which faces South Orchard Avenue on the southeast corner of the intersection with East Perkins Avenue, is anchored by a CVS drug store and a Big Lots. This older center has two shop space vacancies. One of these vacancies was created when the Sears Hometown Store relocated in 2011 to Airport Park Boulevard. Prior long-term vacancies are now occupied by an approximate 7,400-square-foot dialysis center and a 4,400-square-foot Chinese restaurant.

The final local shopping node includes Ukiah Crossroads, another older shopping center located just beyond Ukiah's northern city boundaries at the northeast corner of Ford Road and North State Street. An older, vacant restaurant called Fjord's is located on an outparcel adjacent to this shopping center. Ukiah Crossroads is a 110,500-square-foot center anchored by a 61,000-square-foot Raley's supermarket. ALH Economics notes that the Raley's was undergoing remodeling during the time of the field research. Other tenants include O'Reilly Auto Parts, Dollar Tree, Fashion Bug, and local service businesses.

### **Willits Retail Market**

The City of Willits, which is approximately 29 miles north of Ukiah on Highway 101, offers a narrower mix of retail options than Ukiah, owing to its smaller population base and less central location. Most of the larger stores and retail centers are located along Highway 101/Main Street, including Evergreen Village Shopping Center and Willits Shopping Center. Smaller restaurants, service retailers, and hotels also operate in the corridor between these two larger centers. Given the distance to Ukiah and other retail areas, Willits residents shop locally for most groceries and convenience items but travel to Ukiah for a more diverse selection of apparel, general merchandise, and other goods.

Willits Shopping Center is an older center but features a larger Safeway store that was remodeled into Safeway's Lifestyle store format. This supermarket includes a pharmacy, a Starbucks, a Signature Café, and a more upscale selection of grocery items, similar to the Safeway store in

Ukiah. In addition, the Willits Safeway has an affiliated gas station. A few smaller retailers (pizza, copy shop, salon, hardware store, fitness center) are also located in the center, and there is a mix of smaller stores nearby. During field research, ALH Economics noted no vacancies within the center and it appeared that the Safeway was adding to or remodeling a section of the pharmacy area.

Evergreen Village Shopping Center is near the southern end of Willits across from a Best Western Hotel. This retail center is anchored by a 39,500-square-foot Ray's Foods supermarket and a Rite Aid drug store. Ray's Foods is a regional grocery retailer with other stores located in the more rural areas of Northern California and Oregon. Other tenants include a Dollar Tree, Goodwill, Curves Gym, a Radio Shack, fast food restaurants, and other local retail and services. The property is older, but well kept. During field research ALH Economics noted two smaller shop space vacancies that were being marketed.

### **Other Mendocino County Locations**

Aside from Ukiah and Willits, there are no substantial shopping nodes or larger stores within the eastern part of Mendocino County. ALH Economics did identify smaller concentrations of retail in several of the unincorporated market area cities. These stores often included a mini-market for groceries, a service station, small restaurants, and local services that are generally less competitive with the Project. Residents who live nearby make convenience purchases at these establishments while traveling further to Ukiah or Willits for larger shopping trips.

The balance of Mendocino County is also located in the market area. The cities or communities located in this portion of the county include Covelo, Boonville, Elk, Fort Bragg, Gualala, Mendocino, Philo, Point Arena, and others. All of these communities maintain relatively small retail bases, and are either tourist-oriented or focused primarily on providing shopper convenience needs. As such, these retail markets provide a narrow range of goods and are not competitive with Ukiah.

## **3.3.3 Regulatory Setting**

### **Local**

#### ***City of Ukiah General Plan***

Within the Community Design chapter of the General Plan, the City of Ukiah has the following goals and policies related to urban decay:

**Goal CD-7:** Improve the appearance of area gateways.

***Policy CD-7.1:*** Establish public policy to enhance and improve area gateways.

*Implementation Measure CD-7.1(a):* Utilize redevelopment powers and other property improvement incentives to encourage property owners to rebuild, restore, or generally enhance the appearance of gateway areas.

*Implementation Measures CD-7.1(b):* Utilize volunteer efforts and make available public rights-of-way for planting trees and flowers to improve the gateway streetscape.

### ***City of Ukiah Municipal Code***

The Ukiah City Code, Chapter 11 describes the requirements for Private Commercially Zoned Property Maintenance. Specifically, Section 3402 describes prohibited nuisances, including graffiti, broken windows, overgrown vegetation, and dilapidated building exteriors that may be detrimental to the nearby property values and the public welfare. Other sections of Chapter 11 delineate the City's authority to abate nuisance conditions.

### ***City of Ukiah Redevelopment Agency***

The project site, along with the majority of the City of Ukiah, is within the Ukiah Redevelopment District. With the elimination of Redevelopment agencies, future public investment in the Redevelopment District may be limited.

## **3.3.4 Impacts and Mitigation Measures**

### **Methodology**

ALH Economics uses a retail model that estimates retail spending potential for an area based upon household counts, income, and consumer spending patterns. The model then computes the extent to which the area is or is not capturing this spending potential based upon taxable sales data published by the State of California Board of Equalization (BOE) or provided by local government municipal tax consultants. This analysis can be most readily conducted for cities, groupings of cities, or counties, consistent with the geographies reported by the BOE.

For any study area, retail categories in which spending by locals is not fully captured are called "leakage" categories, while retail categories in which more sales are captured than are generated by residents are called "attraction" categories. This type of study is generically called a retail demand, sales attraction, and spending leakage analysis. Generally, attraction categories signal particular strengths of a retail market while leakage categories signal particular weaknesses. ALH Economics' model, as well as variations developed by other urban economic and real estate consultants, compares projected spending to actual sales.

For the purpose of generating a Retail Demand, Sales Attraction, and Spending Leakage Analysis for the Project's market area, as well as the City of Ukiah, ALH Economics obtained taxable retail sales data for 4th quarter 2009 through 3rd quarter 2010 as reported by the BOE and adjusted the taxable sales to reflect total sales. These were the most recent BOE data available at the time the EIR's NOP was released. Using the retail sales data, combined with household counts estimated by the U.S. Census for Ukiah and the market area (including the Lake County market area census tracts) and income estimates provided by Claritas, Inc., ALH Economics conducted Retail Demand, Sales Attraction, and Spending Leakage Analyses. These analyses compared total estimated household spending to actual retail sales in both the City of Ukiah and the market area. Sales estimates for the market area were prepared based on the available countywide BOE data, which were then benchmarked to retail sales estimates prepared by Claritas for the portion of the market area not coincident with existing county boundaries (i.e., the Lake County portion of the market area).

### **Study Tasks**

ALH Economics engaged in numerous tasks to complete this assignment. These tasks included the following:

- Identified the Project's market area, i.e., the area from which the majority of the Project consumers are anticipated to originate;
- Conducted fieldwork to review the Project site and evaluate existing market conditions;
- Estimated the planned Project's sales;
- Estimated market area retail sales;
- Conducted retail sales leakage analyses for the Project's market area and the City of Ukiah;
- Estimated demand generated by households added to the market area by the time the Project is developed;
- Estimated the Project's impacts on existing relevant retailers;
- Identified planned retail projects in the market area;
- Assessed the cumulative impacts of planned retail projects in the market area and other relevant areas; and
- Assessed the extent to which opening of the Costco Wholesale Warehouse and the cumulative projects may or may not contribute to urban decay.

### **Study Resources**

Many resources were relied upon for this study. This included information provided by Costco as well as planning departments for the cities of Ukiah, Willits, Cloverdale, and Lakeport, the community development department for the City of Fort Bragg, the City Manager in the City of Point Arena, and the planning departments in Mendocino and Lake counties. Government data from the California Board of Equalization (BOE), the California Department of Transportation, United States Census 2010, and American Community Survey 2010 were also important for understanding retail sales, demographic trends, and mean household income estimates. Additional retail sales and demographic information prepared by Claritas, Inc., a national provider of demographic and economic data, were also analyzed in the development of sales estimates. United States Census 2010 TIGER/Line shape file data were utilized in the preparation of the map documents.

Business-specific data identifying retailers in the market area and beyond were obtained from internet research; Nielsen's Trade Dimensions data, which provides store information and performance estimates for select retailers; and the web sites and annual reports of individual retailers and shopping center owners. Retail MAXIM's "Perspectives on Retail Real Estate and Finance," for 2004, 2006, 2008, 2010, and 2011 were used for historical sales per square foot trends and the United States Bureau of Labor Statistics Consumer Price Index for the Consumer Price Index. Retail market performance data were provided by CoStar, a commercial real estate information company. Finally, insight and information were provided by commercial real estate brokers from Cassidy Turley, Keegan & Coppin, HL Commercial Real Estate, RE/MAX, Terranomics, and by local government officials from the cities of Ukiah, Willits, Lakeport, and Cloverdale and Mendocino and Lake counties.

## Significance Criteria

For the purposes of this EIR, implementation of the proposed project would have a significant effect on urban decay if it would:

Create multiple long-term store vacancies or result in the abandonment of multiple buildings within the retail market served by the proposed project, which results in the physical deterioration of properties or structures that impairs the proper utilization of the properties or structures, or the health, safety, and welfare of the surrounding community.

In accordance with CEQA Guidelines, a project's economic impacts on a community are only considered significant if they lead to adverse physical changes in the environment.

## Impact Analysis

**Impact 3.3.1: The Project would not result in long term commercial building vacancies and therefore would not result in increased urban decay conditions.**

### ***Projected Sales***

For the purpose of the study Costco provided two sales estimates, one for the first year and one several years later at stabilization. These estimates were \$85 million and \$120 million, respectively. These sales figures are equivalent to annual average sales of \$593 per square foot (based on \$85 million in sales) and \$837 per square foot (based on \$120 million in sales)<sup>3</sup>. These figures are *inclusive* of sales tax. According to figures reported in Costco's 10K on file with the SEC, for the fiscal year ending August 28, 2011, the average Costco store, which totals approximately 143,000 square feet, achieved \$147 million in sales in fiscal year 2011. The national average sales level equated to sales performance of approximately \$1,030 per square foot. The SEC figures are *exclusive* of sales tax.

As the preceding figures indicate, the Costco stabilized store sales estimate of \$120 million is less than the average Costco store. The same is the case with the estimated sales per square foot figure. These lower sales characteristics are attributable to the nature of the anticipated market area, with stores in less urbanized areas anticipated by Costco to perform lower than the national average. Costco representatives shared with ALH Economics performance data for other stores with similar market characteristics. Based on these data and Costco's representations, ALH Economics deemed the \$120 million store sales figure to be a reasonable figure upon stabilization.

The following analysis, which provides the basis for the urban decay analysis, assumes the store sales at the \$120 million performance level. This figure is approximately 40% higher than Costco's first year store sales estimate. Therefore, the analysis is very conservative in its approach, which assumes the maximum store sales will be achieved during the store's first full year of operations rather than several years later after the store has become established in the marketplace and developed a customer following. To support the urban decay analysis the sales estimates were converted to sales excluding sales tax. Based on Mendocino County taxes, post-

---

<sup>3</sup> Square footage for this calculation is less than the 148,000 total, which includes ancillary (non-sales) space. Sales area was determined using the proposed floor plan.



tax sales \$120 million is equivalent to \$113.8 million pre-tax sales. The estimated Project sales are then broken down by retail category, as shown in **Table 3.3-1**.<sup>4</sup>

**TABLE 3.3-1  
 ESTIMATED SALES BY BOE RETAIL CATEGORY**

<b>Retail Category</b>	<b>Percentage Distribution of Sales</b>	<b>Estimated 2013 Sales (in millions)</b>
Motor Vehicle & Parts Dealers	3.4%	\$3.9
Home Furnishings & Appliances	9.0%	\$10.2
Building Materials	1.7%	\$1.9
Food & Beverage	49.5%	\$56.3
Gasoline Stations	12.0%	\$13.6
Clothing & Accessories	3.0%	\$3.4
General Merchandise	8.5%	\$9.7
Food Services & Drinking Places	0.9%	\$1.0
Other Retail	12.1%	\$13.7
<b>Total</b>	<b>100.0%</b>	<b>\$113.8</b>

SOURCE: ALH/ECON, 2012.

**Store Sales by Type and Location of Customer**

**Business vs. Household Shoppers**

Costco’s membership includes business and household members. Businesses with resale licenses do not pay sales tax on the purchased items. As these items are not considered taxable retail sales, they are not competitive with the existing retail base (they can be thought of as business to business sales, rather than consumer spending). Based on both national and regional data this analysis assumes that roughly 15% of Ukiah Costco store sales will be to wholesale business customers, i.e., customers whose typical purchases are not reported as retail purchases, and 85% will be to household and business customers that qualify to pay sales tax on taxable items. The exceptions to are gasoline sales, all of which are allocated to retail consumers as all of these sales are assumed to be taxed, and food sales (many of which are not taxed, and thus not affected by wholesale vs. retail customer sales). The result is that the Costco store sales competitive with other retailers totals \$98.7 million. The balance of the sales, or \$15.0 million, is assumed to be generated by wholesale customers and not competitive with the retail base.<sup>5</sup>

**Estimate of Sales Generated by Market Area Residents**

ALH Economics estimates that market area residents will generate 85% of the sales for the planned Ukiah Costco store and that consumers traveling from outside the market area (e.g., travelers to the region, Cloverdale residents, etc.) will generate the remaining 15% of revenues. Thus, of total retail store sales (\$98.7 million), \$83.9 million are estimated to be generated by household

<sup>4</sup> See ALH ECON 2012, pages 10-14, for more information on the retail categories and sales distribution.

<sup>5</sup> See ALH ECON 2012, Exhibit 2 for a breakdown of retail vs. wholesale customers by category.

consumers located within the market area, and \$12.8 million are estimated to be generated by wholesale business customers within the market area.<sup>6</sup>

### **Sales Impacts**

The urban decay analysis evaluated the extent that the proposed Costco Wholesale Project would be expected to attract or capture new sales to the market area and/or divert sales from existing retailers. Sales diverted from other retailers represent the future “sales shift” impacts that represent the adverse effect on these retailers from the new competition from the project.

### **Recapture of Existing Sales Leakage**

One potential source of demand for new retail space such as the Costco store is the share of market area residents’ shopping that occurs outside of the market area, comprising the estimated retail leakage. In other words, given the identification of retail leakage, market area households clearly spend some proportion of their incomes at retail stores outside the market area, including the concentration of retail in Santa Rosa as well as retail accessible to market area residents in the western portion of Mendocino County. If the addition of the Costco makes the market area a more convenient shopping destination, local and regional demand could increase through the recapture of these sales.

### **Types of Leakage**

The market area experiences \$188.1 million in retail sales leakage.<sup>7</sup> Because of the broad range of goods sold at Costco, all of the identified leakage categories are relevant to the Project. In addition to this market area leakage, Costco provided information about sales achieved at other regional Costco stores that are generated by residents and businesses from within the planned Ukiah Costco store market area. Once the Ukiah Costco store is opened, it is logical to assume that most of these sales will be redirected to the Ukiah Costco store. It is conservative to consider, however, that a portion of these sales may continue to be directed to other Costco stores, depending upon the reason why the retail or business shopper is shopping outside the market area.

Based upon information provided by Costco, market area residents and businesses spent \$20.6 million at the Santa Rosa Costco store in 2011, including \$3.3 million in gasoline sales. A lesser sales amount of \$4.9 at the Rohnert Park store was generated by market area residents, including \$1.0 million in gasoline sales. These sales were generated by 10,797 Gold Star and 7,538 Business members from within the market area, comprising average sales of \$1,742 per market area Costco member.<sup>8</sup> These \$25.5 million in total sales generated from within the market area have the potential to be recaptured and directed instead to the planned Ukiah store. Yet, as with all Costco sales, some of these sales are generated by wholesale businesses, and thus are not comparable to retail sales generated by market area residents. Therefore, the analysis assumes that 85% of non-gasoline sales are generated by retail consumers, but that 100% of gasoline sales are generated by retail consumers. In addition, most (95%) of these retail purchases are assumed to be

---

<sup>6</sup> See ALH ECON 2012, Exhibit 5 for a breakdown of market area and out-of-market sales.

<sup>7</sup> See ALH ECON 2012, Exhibit 16 for retail leakage.

<sup>8</sup> In addition to Gold Star and Business memberships, Costco has Executive Memberships, which may be either business or personal, and are included in these membership figures.

recaptured by the Ukiah Costco store. For lack of more detailed information from Costco, the analysis assumes the non-gasoline sales are distributed by retail category consistent with all Costco sales.

Given the adjustments for wholesale consumer purchases and sales taxes, the \$25.5 million in sales inclusive of sales taxes is equivalent to \$21.0 million in retail consumer purchases, of which \$3.6 million comprises gasoline sales. These \$21.0 million in consumer retail purchases by Ukiah market area Costco members at the Santa Rosa and Rohnert Park Costco stores are assumed to comprise sales leakage above and beyond the noted market area leakage.

### **Recaptured Leakage**

The enhanced shopping opportunities provided by the Costco store will serve to help recapture existing retail leakage. The amount of recaptured leakage will depend upon the estimated amount of Costco sales in the associated retail category and the depth of the estimated retail leakage. The analysis assumes that if estimated Project sales are less than 25% of the estimated leakage, then 100% of the Project's sales are anticipated to be absorbed through leakage. If the Project sales are equal to 25% to 50% of the leakage, then 50% of the Project sales are anticipated to be absorbed through leakage. If the Project sales comprise more than 50% of the estimated leakage then only 25% or less of the Project sales are anticipated to be absorbed through leakage.

**Categories Comprising All Recaptured Leakage.** There are five retail categories where the Project's sales are assumed to be accounted for through recaptured leakage. These include the \$2.8 million in motor vehicles & parts dealer sales, \$1.4 million in building materials & garden equipment sales, \$2.5 million in clothing & clothing accessories sales, \$7.0 million in general merchandise sales, and \$0.7 million in food services & drinking places sales. These sales were assumed to be absorbed through recaptured leakage because they each comprise a relatively small portion of the estimated retail leakage, i.e., less than 25% of leakage. Even with these amounts of sales accounted for through recaptured leakage there will still remain a total of (\$363.8) million leakage distributed among these five categories. The Costco store's offerings in these categories will help broaden market area offerings but will not meet all resident shopping needs in this category. Thus there will continue to be a need for market area residents to patronize out of market area retailers in these categories. Alternatively, there could be demand for yet additional new retail in the market area, assuming it is provided in market segments meeting consumer needs.

**Categories with Partial Recaptured Leakage.** There are two other categories of Project sales with noted leakage that have the potential for some recapture. These categories include the Project's \$7.4 million sales in home furnishings & appliances generated by market area retail consumers and \$9.9 million in other retail sales. For these categories, however, ALH Economics does not assume that all Project sales will represent recaptured leakage. This is because the Project sales in these categories comprise a very large percentage of the leakage, and it is unlikely that the Costco store will be able to meet such a high percentage of unmet retail customer shopping needs. For example, the store's estimated \$7.4 million in market area home furnishings & appliance store retail consumer sales is equal to 34% of the estimated leakage, while the store's \$9.9 million in unmet market area other retail sales is equal to 43% of the estimated leakage. Because of these high percentages, the

analysis assumes that only a portion of the market area leakage is absorbed by the store sales. These portions are 50% for home furnishings & appliances and 25% for other retail.<sup>9</sup> In other words, market area consumers will continue to make home furnishings & appliances and other retail purchases outside the market area to meet their shopping needs, such that some portion of Project sales in these categories may constitute sales diverted from existing market area retailers.

**Categories with Recaptured Out of Market Area Costco Retail Sales.** In addition to the market area’s estimated leakage, there will be the potential for existing market area retail consumer purchases made at Costco stores in Santa Rosa and Rohnert Park to be redirected to the Ukiah Costco store. As referenced above, these sales total \$25.5 million, of which \$21.0 million comprise estimated retail consumer purchases. The adjustment from total sales inclusive of taxes to consumer retail purchases is presented in **Table 3.3-2**, below. This table also identifies the estimated recaptured out of market area Costco member purchases, assuming a 95% recapture rate. The result is a total of \$20.0 million in sales recaptured from the Santa Rosa and Rohnert Park stores

**TABLE 3.3-2  
 OUT OF MARKET AREA COSTCO SALES  
 DISTRIBUTED SALES AND ESTIMATED AMOUNT RECAPTURE**

Retail Category	Distributed Sales Including Taxes	Retail Sales Adjustment Factor (pre-tax)	Out of Market Area Sales	
			Amount	Recaptured
Motor Vehicle & Parts Dealers	\$841,745	80	\$670,596	\$637,066
Home Furnishings & Appliance Stores	\$2,215,771	80%	\$1,765,244	\$1,676,982
Building Materials	\$420,873	80%	\$335,298	\$318,533
Food & Beverage Stores	\$11,716,632	83%	\$9,763,082	\$9,274,928
Gasoline Stations	\$4,300,000	85%	\$3,644,068	\$3,461,864
Clothing & Clothing Accessories Stores	\$742,716	80%	\$591,702	\$486,652
General Merchandise Stores	\$2,104,363	80%	\$1,676,489	\$1,592,664
Food Services & Drinking Places	\$222,815	80%	\$177,511	\$168,635
Other Retail Group	\$2,935,085	81%	\$2,382,586	\$2,263,457
<b>Total</b>	<b>\$25,500,000</b>	<b>NA</b>	<b>\$21,006,575</b>	<b>\$19,956,246</b>

SOURCE: ALH/ECON, 2012.

Notably, there are two categories of estimated recaptured sales that were not otherwise identified as retail leakage categories in the market area. These include the food & beverage store sales and gasoline station sales. While these categories do not analytically appear as leakage categories, it is clear from the volume of sales achieved by the Costco stores in Santa Rosa and Rohnert Park from within the market area that leakage does occur. This leakage, however, is subsumed within the overall sales attraction achieved by both the City of Ukiah and the market area, and is thus masked. Nevertheless, there is a very strong potential for such sales to be recaptured by the Ukiah Costco store.

<sup>9</sup> Since the “other retail” category was over 40% and represents a wide range of good, a conservative capture of 25% was used rather than 50%.

### **Total Project Recaptured Leakage**

ALH Economics indicates that almost \$40.5 million in Project sales will be achieved through recaptured sales leakage across all the major merchandising categories. While this recaptured sales leakage amount translates into new market area sales, the portion of the recaptured sales not comprising recaptured Costco sales, i.e., \$20.5 million, will occur to the detriment of other existing retailers. Because of the nature of the leakage, this recapture will occur from retailers located beyond the market area boundaries. Because of the wide geography of the market area boundaries, and in the absence of a detailed survey of market area residents, it is difficult to identify which existing retailers may experience sales reductions as a result of the Project's recaptured leakage. In turn, the recaptured sales span a wide range of retail categories, with the recaptured sales ranging from \$0.7 million in food & drinking places to \$7.0 million in general merchandise stores. Because of these two factors, it is unlikely that the Project's recapture of market area shopper retail leakage will result in losses outside the market area such that any particular store would lose sufficient sales directly attributable to the Project resulting in store closure, and thus would not lead to urban decay in this more generalized area.

### **Remaining Leakage**

ALH Economics indicates that after the Costco store's absorption of retail leakage a large amount of market area retail leakage will still remain. This includes categories such as motor vehicles & parts, general merchandise, clothing & accessories, and other retail. This leakage is estimated to total approximately \$382.1 million inclusive of motor vehicles & parts and \$234.80 million excluding motor vehicles & parts. Retail market activity has been relatively subdued in recent years. However, this remaining leakage indicates that when retailers are ready to make new investments, the market area as a whole has the potential to support a greater critical mass of retail than is currently supported. Ukiah is the retail core of the market area. Therefore, the remaining leakage indicates that there is the potential for yet additional large-scale retail opportunities in Ukiah to meet market area shopping needs. The potential for yet other retailers to gain support from the market area will be enhanced after the Costco store opens, due to the greater market visibility and draw achieved by the Costco store.

### **Sales Impact**

The Project is anticipated to generate a potential \$46.7 million in sales diverted from other market area retailers (\$83.9 million Project sales "in market" minus recapture of existing sales leakage and out-of-area Costco sales equals \$46.7 million). The ALH Economics report examines the effect of this sales shift to various market area retailers, including:

- **Food & Beverage Stores.** These stores include discount stores, conventional stores, niche stores, and ethnic-oriented stores. \$31.4 million of the sales impact would be diverted food sales, equal to 6.4% of the market area retail sales base. The ALH Economics report identifies 26 grocery stores in the market area that may be impacted. Of these, the Walmart and Food Maxx in the Airport Industrial Park may experience a disproportionate impact due to their proximity to the Project. However, these two stores are strong performers. Stores more susceptible may include the Lucky and Grocery Outlet in Ukiah, Ray's Food Place in Willits, and Grocery Outlet in Lakeport. There is the potential for one of these stores to close.

- Home Furnishings & Appliance Stores. These sales total \$2.0 million. This represents approximately 7,667 square feet of sales floor space. This is not expected to cause an undue hardship to a single store when spread throughout the market area. However, due to this small size, should a vacancy occur, the potential is very high for backfill, and the potential for urban decay low.
- Gasoline stations. The gas station impacts are estimated at \$8.1 million. Due to the nature of gasoline sales (timing and location) it is not anticipated that a particular gas station (even one with comparatively higher prices) will feel the full burden of this sales shift.
- Other Retail. The other \$5.2 million in sales occur in a variety of goods (including pharmacy, pet supply, office, sporting goods, jewelry, and books). The level of impact (2.8% of market area sales) is too low, and the product types too distributed, to anticipate a significant impact a particular store.
- Downtown Ukiah. The Downtown does not have any grocery stores that would compete with the Project, although it does have a bakery/café (Schat's). While the type and quantity of baked goods sold at Costco do not directly compare to small bakeries, it could have an effect. Conversely, several members of the commercial real estate community believe that losses to this and other downtown stores may be offset by increased shoppers in Ukiah who may patronize downtown businesses.

### ***Potential for Urban Decay***

In developing a conclusion regarding the potential for urban decay, ALH Economics relied on the definition presented earlier in this section, which focused on determining whether or not physical deterioration would likely result from the opening of the Project and other cumulative retail developments. ALH Economics' conclusion is based on consideration of current market conditions, findings regarding diverted sales, and the backfilling potential of existing store spaces, as summarized below:

- ***Current Market Conditions.*** Field research, market research, and interviews that ALH Economics conducted indicated that prevailing market area retail market conditions are generally stable, with no major gains or losses occurring in the market. While there are numerous smaller vacancies, the overall vacancy rates in the market area's major commercial markets are indicative of relatively healthy retail markets. Recent market activity, especially in downtown Ukiah, indicates positive movement in the market, and a marked interest in downtown Ukiah. This bodes well for the perpetuation of the downtown retail market, even following the recent closure of the downtown U.S. Post Office and pending the relocation of the County Courthouse in the next several years. In general, retail landlords appear to be making necessary improvements to keep their properties competitive and/or prepare for longer term redevelopment of their sites. A key example of this is frequent obvious upkeep of the former Ukiah Lumber property on S. State Street. Only a few properties in the market area, especially in the Ukiah area, are indicative of poor repair. These are individual isolated properties and therefore are not indicative of rampant areas of poor repair and decline.
- ***Diverted Sales, Store Closures, and Additional Retail Leakage.*** The analysis estimates that after recapture of existing market area leakage, existing Costco store sales, and new demand generated by household growth, there is the potential for food retailers to close in the market area. However, even with development of the Costco store and other cumulative projects, the market area as a whole is anticipated to be characterized by continued retail leakage in a number of retail categories. This remaining leakage provides an opportunity for other retailers to enter the marketplace focused on satisfying unmet retail demand. This

potential will be greatest in Ukiah, which is the center of the regional retail market, and where the retail draw is anticipated to grow with the added attraction of the Costco store.

- **Backfilling Potential.** The market area has a demonstrated history of attracting new tenants when larger retail properties have become vacant. This includes Home Depot replacing Big Kmart and Kohl's replacing Mervyn's. There have been no similar large scale tenant replacements since the 2009 replacement of Mervyn's; however, opportunities for this type of replacement have not arisen since that time, with no new major vacancies emerging. Instead, major retailers have demonstrated an interest in coming to Ukiah, including the proposed expansion of the existing Walmart and Costco itself. These actions indicate that Ukiah has market appeal to regional retailers. Accordingly, ALH Economics believes that there is the potential for large scale vacancies that may become available pursuant to food store closures, especially in Ukiah, to be backfilled by major retailers looking to expand in a regional retail market like Ukiah, especially once the economy rebounds more markedly and retailers resume major investments and expansion. While Ukiah's experience in backfilling grocery space is limited due to lack of opportunity, experience in other commercial markets indicates the potential for reuse of these kinds of spaces.
- **Land Use Flexibility.** In addition to the potential for backfilling, some existing retail properties have flexibility regarding prospective alternative users. The most notable example of this is the Grocery Outlet space in Ukiah. This property is zoned Heavy Commercial C-2. Therefore, if the Grocery Outlet closes due to competitive pressure from Costco or the cumulative projects, the space can be used for a range of alternate uses without any change in land use designation. These uses are varied, and include uses similar to many businesses located nearby, including business service; cabinet shop, sign shop, and machine shop; construction sales and service; equipment repair shop; kennel, pet shop, and pet services; warehousing and distribution; and wholesale store, among others.

In conclusion, while some existing stores may experience negative impacts following the addition of the Costco store and other cumulative retail developments, there is limited evidence to suggest that closed store spaces will exhibit traditional signs of deterioration and decay, such as graffiti, refuse dumping, and dilapidated fencing. Existing vacant spaces in the Pear Tree Center where Lucky is located, one of the stores identified as possibly susceptible to closure, appear well-maintained. This indicates that this property owner is motivated to provide strong property maintenance. Ukiah's only recent history with vacated large scale retail spaces, such as those that might be vacated by Lucky or Food Maxx if one or more of those stores closes, is backfilling by retailers not previously present in Ukiah. This, plus the recent activity leasing space in downtown Ukiah by yet other businesses new to Ukiah, indicates that Ukiah is an inherently appealing retail market.

Ukiah's inherent appeal as a retail market is likely to only get stronger after shoppers travel to Costco more frequently and from a greater distance than usual to shop in Ukiah. Moreover, some properties are well-located and have multiple alternate uses, such as the Grocery Outlet space in Ukiah, enhancing their reuse potential. Finally, as evidenced by the level of maintenance currently provided at Pear Tree Center, landlords have an incentive to maintain their properties, to retain and enhance their marketability. It should be noted that when tenants vacate prior to lease expiration, they continue to be responsible for rent and their share of building operating expenses. While not all tenants will have the wherewithal to continue these payments, national or regional retailers such as Food Maxx are more likely to have this capability. This is an important consideration

because landlords will continue to receive income on these vacated spaces, which means they would have available financial resources to continue to maintain their properties.

Based upon all these findings in combination, ALH Economics concludes that the Costco store will not cause or contribute to urban decay.

**Finding of Significance**

The potential for the Costco Wholesale Project to result in urban decay in the greater Ukiah area would be **less than significant**.

**Mitigation:** None required.

**Cumulative Impacts**

**Impact 3.3.2: The Project, in conjunction with other development, would not result in long term commercial building vacancies and therefore would not result in increased urban decay conditions.**

The cumulative impact analysis considers two factors. The first is the growth in households between the time of the analysis and the time when the full economic effect of the proposed Project would occur. This factor would tend to reduce the effect of the Project on other retail businesses. The second factor is the development of other retail uses. This second factor would potentially increase the economic effects upon other existing retail businesses.

**New Demand Associated with Household Growth**

It is estimated that it will take approximately five years for Costco sales to reach stability (the \$120 million discussed above). During this time, the increase in market area households (based on a conservative 0.5% growth rate) would reduce the overall sales impact from \$46.7 million to \$37.7 million (as a percentage, a reduction from 3.0% to 2.4% of the sales base).

**TABLE 3.3-3  
 PROJECT IMPACTS AND PROJECT IMPACTS LESS NEW DEMAND (\$ IN MILLIONS)**

Retail Category	Project Impacts		Impacts Less New Demand	
	Amount	Percent of Sales Base	Amount	Percent of Sales Base
Home Furnishing & Appliances	\$2.0	6.4%	\$1.4	4.7%
Food & Beverages	\$31.4	6.4%	\$27.5	5.6%
Gasoline Stations	\$8.1	3.6%	\$5.8	2.6%
Other Retail	\$5.2	2.8%	\$3.0	1.6%
<b>Total</b>	<b>\$46.7</b>	<b>3.0%</b>	<b>\$37.7</b>	<b>2.4%</b>

SOURCES: Exhibits 17 and 19, Ukiah Costco Urban Decay Analysis (Appendix F)



### Future Retail Projects

Of the cumulative projects identified in Chapter 4, two potential cumulative retail development projects in the market area were considered in this analysis. Information about these projects was primarily derived from interviews with local government sources. The two projects located in the market area and their net amount of planned retail space are as follows:

- Guillon, Phase I, a 16,000-square-foot building located 0.3 miles from the Costco site, approved, with 10,000 square feet occupied by a Sears Home Store that relocated from elsewhere in Ukiah and 6,000 square feet remaining vacant; and
- Aaron's, an approved building conversion 2.4 miles from the Costco site, involving conversion of 6,417 square feet to retail for furniture rental.

For the sake of the cumulative analysis ALH Economics assumes both of these projects will be developed somewhat coincident with the timeframe for the Project.

Sales figures for the two cumulative projects are estimated by ALH. No tenant is identified for the vacant portion of the Guillon project, so a generic sales per square foot is assigned to this space. The generic figure corresponds with a sales estimate for the broad "other retail" category. The sales estimate for Aarons, which is a furniture rental supply company, is based on average annual sales estimates for U.S. rental furniture chains. Both of these sales estimates are pursuant to data aggregated and reported by Retail Maxim, a retail industry resource and publication.

The resulting sales figures are \$2.2 million for the vacant Guillon project space and \$1.3 million for the Aaron's, for a cumulative total of \$3.5 million. The cumulative retail projects will compete with the Project's market area only to the extent that their market areas overlap. For the two cited projects, it is assumed that there is 100 overlap between their market areas and the Costco market area. Pursuant to these market area overlap assumptions, \$3.5 million of cumulative project estimated sales are assumed to be competitive with the Project and generated by residents within the Project's market area. These retail sales are then distributed by retail category, which allocates the \$2.2 million in Guillon project sales to the other retail category and the \$1.3 million in Aaron's sales to the home furnishings and appliance stores category.

In an analysis parallel to the Costco impact analysis, the cumulative project impact analysis takes into consideration the anticipated sales by retail category from the Costco store and the cumulative projects, focusing on the sales anticipated to originate from each project's market area. As with the Costco's sales impact analysis, the cumulative projects analysis includes recapture of a portion of the estimated market area leakage for retail categories where leakage was identified, recaptured Costco sales, and captured new market area demand. The assumptions underlying the share of sales recaptured for the cumulative projects are similar to the assumptions described for the Costco's impact analysis.

The results indicate maximum cumulative project impacts on market area retailers totaling \$40.0 million (see Exhibit 24 of Appendix F). This compares to the Costco's impact analysis of \$37.7 million. Both of these figures reflect consideration of captured new market area demand. The incremental increase in the cumulative case is not considered significant. In any case, the

extent to which store closures become problematic for the market area's retail space depends upon the long term strength of Ukiah and the surrounding commercial corridors as well as the likelihood of any future vacancies causing urban decay. As discussed in Impact 3.3.1, the City of Ukiah retail market is determined to be relatively strong, and store closures that could occur are likely to be backfilled or redeveloped within a reasonable timeframe.

Based upon these findings, the urban decay analysis concludes that the introduction of the proposed project and cumulative projects would not likely cause urban decay (ALH | ECON, 2012).

#### **Finding of Significance**

The potential for the Costco Wholesale Project, in conjunction with other development, to result in urban decay in the greater Ukiah area would be **less than significant**, and the project would not make a cumulatively considerable contribution to cumulative urban decay impacts.

**Mitigation:** None required.

---

### **3.3.5 References**

ALH ECON, 2012. *ALH Urban & Regional Economics, Costco Wholesale Warehouse Urban Decay Analysis*, August, 2012.

## 3.4 Geology and Soils

### 3.4.1 Introduction

This section identifies and evaluates the changes in conditions related to geology, soils, and seismic conditions associated with implementation of the proposed Project. The analysis addresses potentially significant geology and soil effects, and recommends mitigation measures, where necessary, to reduce significant or potentially significant environmental impacts.

### 3.4.2 Environmental Setting

#### Regional Geology

The Project site lies within the geologic region of California referred to as the Coast Ranges geomorphic province.<sup>1</sup> The Coast Ranges province lies between the Pacific Ocean and the Great Valley (Sacramento and San Joaquin valleys) provinces and stretches from the Oregon border to the Santa Ynez Mountains near Santa Barbara. Much of the Coast Range province is composed of marine sedimentary deposits and volcanic rocks that form northwest trending mountain ridges and valleys, running subparallel to the San Andreas Fault Zone. The Coast Ranges can be further divided into the northern and southern ranges which are separated by the San Francisco Bay. The Northern Coast Ranges are comprised largely of the Franciscan Complex or Assemblage, which consists primarily of graywacke, shale, greenstone (altered volcanic rocks), basalt, chert (ancient silica-rich ocean deposits), and sandstone that originated as ancient sea floor sediments. Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma and Clear Lake volcanic fields (CGS, 2002).

#### Site Geology

The Project is located within the Ukiah Valley which is a north-south trending valley between the Coast Ranges and Mayacamas Mountains in Northern California. Ukiah Valley is typical of the valleys found in the Northern Coast Ranges geomorphic province, where high sediment loads from the erosion of surrounding uplifted mountainous terrain are deposited.

Bedrock formations surrounding the valley include marine sedimentary rocks, the Franciscan Complex – a heterogeneous assemblage of graywacke, shale, altered volcanics, chert, limestone, and greenstone, and unconsolidated/semi-consolidated alluvial and terrace deposits. These formations are typically very weathered and produce abundant gravel and sand sized sediments.

#### Topography

The regional topography of the Ukiah Valley generally slopes towards the Russian River, the major drainage of the valley. The Project site is relatively flat with an elevation of approximately 600 feet above sea level. The Project site is currently undeveloped.

---

<sup>1</sup> A geomorphic province is an area that possesses similar bedrock, structure, history, and age. California has 11 geomorphic provinces (CGS, 2002).

## **Soils**

A soil survey for Mendocino County was conducted by the United States Department of Agriculture, Natural Resources Conservation Service (NRCS) which creates maps of surface soils for use in land use planning decisions. On the Project site, NRCS identified and mapped three soil mapping units that make up the majority of the site: Russian Loam (0 to 2 percent slopes), Pinole gravelly loam (0 to 2 percent slopes), and Cole clay loam (0 to 2 percent slopes) (USNRCS, 1991).

The Russian Loam series is the dominant soil located on the Project site. These soils are considered to be fluvially derived which means the soils were originated from surface water deposits. The Project site soils are generally very shallow loam soils and are underlain by very fine sandy loam to silt loam and much coarser gravel deposits. These soils are well drained and have moderate soil erosion potential. The shrink-swell potential for the Project site is considered low at less than 3 percent. Shrink-swell characteristics are related to expansive soils and soils with a shrink-swell rating greater than 3 percent that can cause damage to buildings, roads, and other structures (USNRCS, 1991).

## **Seismicity**

The Project site is located in a seismically active area with an active fault relatively nearby. The Maacama fault zone is located approximately 2 miles northeast of the Project site. The Maacama Fault Zone (MFZ) extends 114 miles northward from east of Healdsburg to north central Mendocino County. The MFZ is identified by the California Geological Survey as an active fault under the Alquist-Priolo Earthquake Fault Zoning Act on the basis of historic and on-going tectonic creep along the fault and geomorphologic evidence of fault rupture. Recent evidence of moderate earthquakes on the MFZ includes moment magnitude 4.3 and 4.4 events in December 2001. The fault has not generated a known historic earthquake which resulted in surface fault rupture. However, on the basis of the length of the fault, creep rates, and evidence of displacement in the last 11,000 years, the fault is considered active and capable of generating a moment magnitude 7.1 earthquake. However, an earthquake of moment magnitude 6.6 was estimated by ABAG to be the characteristic earthquake for the MFZ; an earthquake of this magnitude would be expected to generate significant ground shaking at the Project site.

While the Moment and Richter magnitudes are a measure of the energy released in an earthquake, intensity is a measure of the earthquake ground shaking effects at a particular location. Intensity will vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material underlying an area. The Modified Mercalli Intensity (MMI) scale (Table 3.4-2) is commonly used to express the earthquake intensity and damage severity caused by earthquakes because it expresses ground shaking relative to actual physical effects observed by people and therefore is a useful scale for comparing different seismic events. MMI values range from I (earthquake not felt) to XII (damage nearly total).

## Seismic Hazards

### Surface Fault Rupture

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude and nature of fault rupture can vary for different faults, or even along different strands of the same fault. Ground rupture is considered more likely along active faults, which are referenced in **Table 3.4-1**, and are regulated under the Alquist-Priolo Earthquake Fault Zoning Act.<sup>2</sup> The Project site is not located on a known active fault and is not within an Earthquake Fault Hazard Rupture Zone as defined by the Act (Hart, 1997). The Alquist-Priolo Rupture Zone associated with the Maacama fault is approximately 1.6 miles northeast of the eastern most site of the Project site. Fault rupture is not necessarily bound to occur within the rupture zone, but the likelihood of rupture outside of this demarcation made by the California Geological Survey is considered low.

**TABLE 3.4-1  
 REGIONAL FAULTS IN THE VICINITY OF THE PROPOSED PROJECT**

<b>Fault</b>	<b>Approximate Distance<sup>a</sup></b>	<b>Fault Classification<sup>b</sup></b>	<b>Historical Seismicity<sup>c</sup></b>	<b>Maximum Magnitude<sup>d</sup></b>
Maacama	1.6 miles northeast	Active	M <sub>w</sub> 4.4 2001	M <sub>w</sub> 7.1
San Andreas	26 miles southwest	Historic-Active	M 7.1, 1989 M 8.25, 1906 M 7.0, 1838 Many <M 6	M 7.9
Bartlett Springs	22 miles northwest	Active	Evidence of displacement between 300 and 1,000 years ago.	M 7.1

a Distance from approximate center point of the Project site.

b Recency of faulting from Jennings (1994). Historic: displacement during historic time (within last 200 years), including areas of known fault creep; Holocene: evidence of displacement during the last 10,000 years.

c Richter magnitude (M) and year for recent and/or large events.

d This is the maximum earthquake magnitude which could occur within the specified fault zone.

NA = Not applicable and/or not available.

SOURCES: Jennings (1994), Hart and Bryant (1997), Peterson et al. (1996)

### Groundshaking

Strong ground motion is described as motion of sufficient strength to affect people and their environment or ground movement recorded on a strong-motion instrument or seismograph. Groundshaking intensity is partly related to the size of an earthquake, the distance to the site, and the response of the geologic materials that underlie a site. As a rule, the greater the earthquake magnitude and the closer the fault rupture to a site, the greater the intensity of groundshaking. Violent groundshaking is generally expected at and near the epicenter of a large earthquake; however, different types of geologic materials respond differently to earthquake waves. For instance, deep unconsolidated materials can amplify earthquake waves and cause longer periods of groundshaking.

<sup>2</sup> The Alquist-Priolo Earthquake Fault Zoning Act, signed into law in December of 1972, requires the delineation of zones along active faults. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazard of fault rupture.

While the magnitude is a measure of the energy released in an earthquake, intensity is a measure of the observed groundshaking effects at a particular location. The Modified Mercalli (MM) scale is commonly used to measure earthquake intensity due to groundshaking. **Table 3.4-2** presents a description of the Modified Mercalli scale. The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total). MM intensities ranging from IV to X can cause moderate to significant structural damage, although the damage will not be uniform. Some structures experience substantially more damage than others. The age, material, type, method of construction, size, and shape of a structure affect its performance in an earthquake.

**TABLE 3.4-2  
 MODIFIED MERCALLI INTENSITY SCALE**

<b>Intensity Value</b>	<b>Intensity Description</b>	<b>Average Peak Acceleration (% g<sup>a</sup>)</b>
I	Not felt except by a very few persons under especially favorable circumstances.	< 0.0017 g <sup>a</sup>
II	Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing.	< 0.014 g
III	Felt noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly, vibration similar to a passing truck.	< 0.014 g
IV	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	0.014–0.04 g
V	Felt by nearly everyone, many awakened. Some dishes and windows broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles may be noticed. Pendulum clocks may stop.	0.04–0.09 g
VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; and fallen plaster or damaged chimneys. Damage slight.	0.09–0.18 g
VII	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving.	0.18–0.34 g
VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.	0.34–0.65 g
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked. Underground pipes broken.	0.65–1.24 g
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed over banks.	> 1.24 g
XI	Few, if any, masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	> 1.24 g
XII	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	> 1.24

<sup>a</sup> g (gravity) = 980 centimeters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

SOURCE: ABAG, 2003; CGS, 2003.

The common way to describe ground motion during an earthquake is with the motion parameters of acceleration and velocity in addition to the duration of the shaking. A common measure of ground motion is the peak ground acceleration (PGA), which is the largest value of horizontal acceleration obtained from a seismograph. PGA is expressed as the percentage of the acceleration due to gravity (g), which is approximately 980 centimeters per second squared. In terms of automobile accelerations, one “g” of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds. For comparison purposes, the maximum peak acceleration value recorded during the Loma Prieta earthquake of 1989 was in the vicinity of the epicenter, near Santa Cruz, at 0.64 g. A Probabilistic Seismic Hazard Assessment for California was completed by the California Geological Survey to describe the statewide distribution of estimated ground motion throughout the state. This assessment provides a conservative estimate, through probabilistic analysis, of the peak ground acceleration for all regions of California. Based on estimates of this seismic hazards assessment, PGA in the region of the Project site could reach 0.57g (CGS, 2012). A PGA value of this magnitude roughly relates to a MMI value of VII which could cause slight damage in specially designed structures and considerable damage in ordinary structures.

### ***Liquefaction and Lateral Spreading***

Liquefaction is the sudden temporary loss of shear strength in saturated, loose to medium dense, granular sediments subjected to ground shaking. Liquefaction generally occurs when seismically-induced ground shaking causes pore water pressure to increase to a point equal to the overburden pressure. Liquefaction can cause foundation failure of buildings and other facilities due to the reduction of foundation bearing strength. The potential for liquefaction depends on the duration and intensity of earthquake shaking, particle size distribution of the soil, density of the soil, and elevation of the groundwater. Areas at risk due to the effects of liquefaction are typified by a high groundwater table and underlying loose to medium-dense, granular sediments, particularly younger alluvium and artificial fill. Groundwater at the Project site may be high due to the Project site’s proximity to the Russian River. Accordingly, without any available information to the contrary, the site is potentially susceptible to liquefaction and lateral spreading.

### ***Earthquake-Induced Landslides***

Earthquake motions can induce significant horizontal and vertical dynamic stresses in slopes that produce dynamic normal and shear stresses along potential failure surfaces within a slope. The susceptibility for native and engineered slopes to fail depends on the gradient and localized geology as well as the amount of rainfall, excavation, or seismic activities. During a slope failure, a mass of rock, soil, and debris is displaced down slope by sliding, flowing, or falling. Steep slopes and down-slope creep of surface materials characterize areas most susceptible to failure. Engineered slopes have a tendency to fail during an earthquake if not properly designed, constructed, or compacted. The Project site is not characterized by any major slopes and consequently not considered susceptible to landslides.

### ***Earthquake-Induced Settlement***

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid compaction and settling of subsurface materials (particularly loose, non-compacted, and variable sandy sediments) due to the rearrangement of soil particles during prolonged ground shaking. Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Typically, areas underlain by artificial fills, unconsolidated alluvial sediments, slope wash, and areas with improperly engineered construction fills are susceptible to this type of settlement. During an earthquake, some settlement of onsite soil materials may occur.

## **Other Geologic Hazards**

### ***Soil Erosion***

Soil erosion is the process whereby soil materials are worn away and transported to another area either by wind or water. Rates of erosion can vary depending on the soil material and structure, placement, and human activity. Soil containing high amounts of sand or silt can be easily eroded while clayey soils are less susceptible. The soils on the Project site have a moderate susceptibility to erosion (USNRCS, 2010).

### ***Subsidence and Settlement***

Subsidence is the gradual lowering of the land surface due to loss or compaction of underlying materials. Subsidence can occur as the result of hydro-compaction; groundwater, gas and oil extraction; or the decomposition of highly organic soils. Hydro-compaction is the process of volume decrease and density increase upon saturation of moisture deficient deposits.

Settlement is the depression of the bearing soil when a load, such as that of a building or new fill material, is placed upon it. Soils tend to settle at different rates and by varying amounts depending on the load weight, which is referred to as differential settlement. Differential settlement can be a greater hazard than total settlement if there are variations in the thickness of previous and new fills or natural variations in the thickness and compressibility of soils across an area. Settlement commonly occurs as a result of building construction or other large projects that require soil stockpiles. The Project site has been previously graded; consequently, the risk of soil settlement is minimal.

### ***Slope Instability and Landslides***

Slope failures, commonly referred to as landslides, include many phenomena that involve the downslope displacement and movement of material, either triggered by static (i.e., gravity) or dynamic (i.e., earthquake) forces. Rock slopes exposed to either air or water can undergo rockfalls, rockslides, or rock avalanches, while soil slopes experience shallow soil slides, rapid debris flows, and deep-seated rotational slides. The Project site is a relatively flat urban area with no hill or slope features susceptible to slope instability.



### ***Naturally Occurring Asbestos***

Asbestos is a friable mineral that when disturbed can become airborne. The fiber-like airborne asbestos particles are easily inhaled and can result in lung disease or other respiratory illnesses. If asbestos is not disturbed (*in situ*), the friable mineral typically remains naturally cemented and does not become an airborne pollutant. In Mendocino County, the Mendocino County Air Quality Management District (MCAQMD) regulates those actions with the potential to disturb naturally occurring asbestos. The California Air Resources Board is the authority that regulates asbestos state-wide. Based on mapping from the California Geological Survey and the NRCS, MCAQMD identifies the area containing the Project site as outside of the areas of concern for naturally occurring asbestos (MCAQMD, 2005).

## **3.4.3 Regulatory Setting**

### **Federal**

#### ***Federal Earthquake Hazards Reduction Act***

In October 1997, the U.S. Congress passed the Earthquake Hazards Reduction Act to “reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.” To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of agency responsibilities, program goals, and objectives.

The NEHRP’s mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology, National Science Foundation, and USGS.

### **State**

#### ***Alquist-Priolo Earthquake Fault Zoning Act***

Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act) of 1972 (revised in 1994) is the State law that addresses hazards from earthquake fault zones. The purpose of this law is to mitigate the hazard of surface fault rupture by regulating development near active faults. As required by the Act, the State has delineated Earthquake Fault Zones (formerly Special Studies Zones) along known active faults in California. The Project does not lie within an Alquist-Priolo Zone. The nearest zone is located 1.75 miles east of the site.

### **California Building Standards Code**

The California Building Code (CBC) has been codified in the California Code of Regulations (CCR) as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The CBC is based on the International Building Code. The 2010 CBC is based on the 2009 International Building Code (IBC) published by the International Code Conference. In addition, the CBC contains necessary California amendments which are based on reference standards obtained from various technical committees and organizations such as the American Society of Civil Engineers (ASCE), the American Institute of Steel Construction (AISC), and the American Concrete Institute (ACI). ASCE Minimum Design Standards 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC.

CCR Title 24 also includes the California Residential Code (based on the 2009 International Residential Code) and the California Green Building Code, which have been adopted as separate documents (CCR Title 24, Part 2.5 and 11, respectively).<sup>3</sup> The California Residential Code includes structural design standards for residential one and two family dwellings and covers all structural requirements for conventional construction. All other structures including multi-family residential projects are found in the CBC.

## **Local**

### **City of Ukiah Building Inspection**

The City of Ukiah Building Division staff process Building Permit applications for all construction projects subject to the California Building Code, and other applicable federal, state, and local codes. Building codes are found in Division 3 Chapter 1 of the Ukiah City Code.

---

<sup>3</sup> The Green Building Code includes “green building” requirements for new residential (low-rise) and non-residential construction effective January 1, 2011. The code includes resource and material efficiency and additional environmental quality requirements. Additional requirements (known as tiers) may be adopted by local jurisdictions.

The Building Division provides information and advice to the public in regards to compliance with all applicable building codes, and provides in-house examination of building plans. The City contracts with a private firm for plans requiring structural engineering review.

The Building Official provides field inspections for all construction subject to the California Building Code and other applicable codes.

### **City of Ukiah General Plan and Growth Management Program**

The City of Ukiah General Plan contains the following goals, policies and implementation measures pertaining to geology, soils and seismicity relevant to the Project.

**Goal SF-1:** Regulate new development in fault zones.

**Policy SF-1.1:** Avoid urban-scale development within Alquist-Priolo Earthquake Fault Zones.

*Implementation Measure SF-1.1(a):* No new construction shall be permitted within Alquist-Priolo Fault Zones without appropriate geotechnical studies which define setbacks and appropriate density or intensity of development.

*Implementation Measure SF-1.1(b):* With the exception of the already-developed Talmage Rural Community, new Medium Density Residential, High Density Residential, or Commercial land uses shall not be sited within the Alquist Priolo Special Studies Zone.

*Implementation Measure SF-1.1(c):* Geotechnical evaluations prepared by a California licensed engineering geologist (CEG) shall be submitted to the City or County prior to road, infrastructure, or site development within the Alquist-Priolo Special Study Zone. If a discretionary permit is required, the geotechnical report shall be submitted with the application for the permit.

**Goal SF-2:** Regulate development across or near earthquake faults outside the Alquist-Priolo Earthquake Zone.

**Policy SF-2.1:** Provide development guidelines for building outside Alquist-Priolo Earthquake Fault Zones.

*Implementation Measure SF-2.1(a):* Geotechnical evaluations prepared by a California licensed engineering geologist shall be submitted to the City or County prior to site development along or near identified active and potentially active faults. If a discretionary permit is required, the geotechnical report shall be submitted with the application for the permit.

*Implementation Measure SF-2.1(b):* The Land Development Code shall address minimum standards for development near earthquake faults to provide a method for implementing site-specific geotechnical studies. The Land Development Code shall define the distance within which the studies are required based on information and support from the California Division of Mines and Geology. Emphasis of geotechnical analyses shall address seismic reaction of soils – both saturated and unsaturated conditions – slope stability

under static and seismic loads with implications to roads, utilities, and other infrastructure.

*Policy SF-2.2:* Protect people and property from landslide danger.

### 3.4.4 Impacts and Mitigation Measures

#### Methodology

Evaluation of potential geology, soil, and mineral resources impacts was based on a review of documents pertaining to the Project site, including the City of Ukiah General Plan and the Natural Resources Conservation Service (NRCS) Soil Survey of Mendocino County, Eastern Part and Southwestern Part of Trinity County, California. The information obtained from these sources was reviewed and summarized to establish existing conditions and to identify potential environmental effects, based on the standards of significance presented in this section.

#### Significance Criteria

The impact analysis for each alternative considered the following assumptions based on the State *CEQA Guidelines* Appendix G. An impact would be considered significant if it would result in any of the following environmental effects:

- Expose people or structures to potential substantial adverse effects, including the risk of, injury, or death involving earthquake fault rupture, seismic shaking, seismic ground failure, liquefaction, or landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located in a geological unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- Be located on expansive soil (as defined in the California Building Code) creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.

Based on the Project plan and its location, the Project would not result in impacts related to the final two criteria. As discussed under “Soils” above, the Project site soils have a low shrink-swell potential. The Project will connect to the City’s existing sanitary sewer system; no septic tanks will be used as part of the Project. Accordingly no impact discussion is provided for those topics.

#### Impact Analysis

**Impact 3.4.1: The Project could expose people to injury or structures to damage from potential rupture of a known earthquake fault, strong ground shaking, seismic-related ground failure, or landslides. This impact is potentially significant.**

The Project would create a new Costco Wholesale warehouse on a currently undeveloped site and would thus result in an increase in the number of people at the site over existing conditions. The

Project site's topography is primarily flat, and thus is not susceptible to landslides. The site is also not located within nor is it bisected by a delineated Alquist-Priolo Fault Zone. The Project site is located in proximity to several active faults, some with historic ruptures and could be subject to future seismic ground shaking. The Macaama fault is the closest active fault (1.6 miles) and is capable of generating a maximum magnitude 7.1 event which would cause significant groundshaking at the Project site. As noted above in the setting section, peak ground acceleration could reach 0.57g (CGS, 2012). Construction of the Costco Wholesale warehouse and all associated utilities and structures would be designed to withstand estimated seismic forces based on site specific criteria per current CBC and local requirements.

The Project site may be subject to potential risk of liquefaction (seismic-related ground failure) due to the depth to groundwater and the potential for strong ground shaking at the site. The potential for liquefaction is typically determined on a site by site basis following laboratory analysis of subsurface soil samples, as required pursuant to state and local geotechnical design requirements prior to construction, as discussed previously. This analysis is completed during the geotechnical investigation phase of a project. Based on information gathered during this analysis, modifications (i.e., replacement with engineered fill, treatment of soil, or foundation design, etc.) to project engineering and design schematics may be made as warranted to maintain consistency with state and local building standards and requirements. These modifications are incorporated into project design through recommendations by state registered geotechnical professionals. In addition the City of Ukiah General Plan includes policy measures that contain building guidelines for sites outside but relatively close to a delineated Alquist-Priolo zone. This impact is considered **potentially significant**.

### **Mitigation Measures**

**Measure 3.4.1a** (For Seismic Ground Shaking) - Prior to the issuance of a building permit for any portion of the Project site, the Project sponsor shall:

1. Submit to the City Building Services Division a site-specific, design level geotechnical investigation prepared for each development parcel by a registered geotechnical engineer. The investigation shall comply with all applicable state and local code requirements and:
  - a. Include an analysis of the expected ground motions at the site from known active faults using accepted methodologies;
  - b. Determine structural design requirements as prescribed by the most current version of the California Building Code, including applicable City amendments, to ensure that structures can withstand ground accelerations expected from known active faults;
  - c. Determine the final design parameters for walls, foundations, foundation slabs, utilities, roadways, parking lots, sidewalks, and other surrounding related improvements;
2. Project plans for foundation design, earthwork, and site preparation shall incorporate all of the mitigations in the site specific investigations.

3. The Project structural engineer shall review the site specific investigations, provide any additional necessary mitigation to meet Building Code requirements, and incorporate all applicable mitigations from the investigation in the structural design plans and shall ensure that all structural plans for the Project meet current Building Code requirements.
4. A registered City geotechnical engineer or third-party registered engineer retained to review the geotechnical reports shall review each site-specific geotechnical investigation, approve the final report, and require compliance with all geotechnical mitigations contained in the investigation in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits.
5. The City shall review all Project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable Code requirements.

**Measure 3.4.1b** (For liquefaction and earthquake induced settlement) – Prior to the issuance of a building permit for any portion of the Project site, the Project sponsor shall:

1. Submit to the City a site-specific, design level geotechnical investigation prepared for each building site or installed facility location by a registered geotechnical engineer. The investigation shall comply with all applicable state and local code requirements and:
  - a. Provide site specific engineering requirements for mitigation of liquefiable soils;
  - b. Specify liquefaction mitigations that shall use proven methods, generally accepted by registered engineers, to reduce the risk of liquefaction to a less than significant level such as:
    - i. subsurface soil improvement,
    - ii. deep foundations extending below the liquefiable layers,
    - iii. structural slabs designed to span across areas of non-support,
    - iv. soil cover sufficiently thick over liquefaction soil to bridge liquefaction zones,
    - v. dynamic compaction,
    - vi. compaction grouting,
    - vii. jet grouting,
    - viii. mitigation for liquefaction hazards suggested in the California Geological Survey's Geology (CGS) Guidelines for Evaluating and Mitigating Seismic Hazards (CGS Special Publication 117, 1997) including edge containment structures (berms, dikes, sea walls, retaining structures, compacted soil zones), removal or treatment of liquefiable soils, modification of site geometry, lowering the groundwater table, in-situ ground densification, deep foundations, reinforced shallow foundations, and structural design that can withstand predicted displacements.
2. The geotechnical investigation shall evaluate these mitigations and identify the most effective and practicable mitigation methods for inclusion in the Project plans. These

identified mitigations shall be reviewed to ensure compliance with the CGS Geology Guidelines related to protection of the public safety from liquefaction.

3. Project plans for foundation design, earthwork, and site preparation shall incorporate all of the mitigations in the site specific investigations.
4. The Project structural engineer shall review the site specific investigations, provide any additional necessary mitigation to meet Building Code requirements, and incorporate all applicable mitigations from the investigation in the structural design plans and shall ensure that all structural plans for the Project meet current Building Code requirements.
5. A registered City geotechnical engineer or third-party registered engineer retained to review the geotechnical reports shall review each site-specific geotechnical investigation, approve the final report, and require compliance with all geotechnical mitigations contained in the investigation in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits.
6. The City shall review all Project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable Code requirements.

**Impact Significance after Mitigation:** Compliance with the local guidelines and the CBC would require the site's seismic design criteria to be established and incorporated into the design of the Project. To ensure that all relevant geotechnical analysis and design requirements are adhered to, implementation of Mitigation Measures 3.4.1a and 3.4.1b would be required. Considering the rigorous investigation process required under the engineering standard of care, compliance with state laws and local ordinances, and regulatory agency technical reviews discussed below, Mitigation Measures 3.4.1a and 3.4.1b would reduce the risk of seismic hazards and ensure that impacts associated with implementation of the Project would remain **less than significant**.

---

**Impact 3.4.2: Construction of the Project would involve grading and movement of earth, which could expose soils to erosion and result in the loss of topsoil. This impact is less than significant.**

Construction activities associated with the Project would require backfilling, earthmoving, grading, and compaction, which would expose areas of soil that have previously been covered with vegetation. This temporary loss of erosion control would expose bare soil, which would be subjected to erosion by wind and storm water runoff. The extent of erosion that could occur varies depending on soil type, vegetation/cover, and weather conditions. Generally, sandy soils are less prone to erosion than silty soils, however cleaner sands that contain little or no fine-grained sediments can be highly susceptible to wind-blown erosion. Near surface soils located on the Project site consist of loam soils, which are a mixture of sand, silt, and gravel. These soils are underlain by sandy loam to silt loam and much coarser gravel deposits. These soils have a moderate susceptibility to erosion.

Concentrated water erosion, if not managed or controlled, can eventually result in significant soil loss and/or discharging of sediment into installed utilities and/or adjacent lots. Sediment from Project-induced on-site erosion can also accumulate in downstream drainage facilities, interfere

with flow, and aggravate downstream flooding conditions. Potential sedimentation impacts are addressed in Impacts 3.6.1, 3.6.2, and 3.6.4 in Section 3.6 “Hydrology and Water Quality”. The Project applicant shall complete a Stormwater Pollution Prevention Plan (SWPPP) for construction and operation of the Project for compliance with required NPDES construction permitting and to reduce the intensity of potential water quality impacts associated with Project operation. The SWPPP shall identify pollutant sources that may affect the quality of stormwater discharge (e.g., sediment, petroleum hydrocarbons, heavy metals, etc.) and shall require the implementation of Best Management Practices (BMPs) to reduce pollutants in storm water discharges during construction and operation. Typical BMPs include scheduling of ground breaking activities to avoid precipitation, protection of soil stockpiles, use of silt fences and straw bales, appropriate storage and handling of hazardous materials used for construction, and vegetating or paving excavated areas immediately following completion of grading activities. Equipment shall be properly maintained in designated areas with runoff and erosion control measures to minimize accidental release of pollutants. Implementation of the SWPPP and associated BMPs will result in a **less-than-significant** erosion impact.

**Mitigation:** None required.

---

**Impact 3.4.3: The Project could be located on fill soils that are potentially unstable, or that could become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. This impact is potentially significant.**

The Project site’s topography is relatively flat with a relatively low potential for landslides. Site specific potential for lateral spreading, which is related to liquefaction, would be identified during the geotechnical investigation, which must be completed prior to initiation of Project construction. As discussed above, based on the proximity to the Russian River, there is a potential for a high groundwater table and if loose granular sediments are present there could be a potential for liquefaction. This would be a **potentially significant** impact. There are numerous approaches to mitigate the potential for liquefaction that are industry standard and required to adhere to CBC standards and local building department approval. A site specific geotechnical investigation would determine the extent to which liquefaction potential of underlying materials could occur at the building site. Liquefaction potential influences the subsurface soil preparations and foundation design, primary considerations for final construction design, as well as the seismic design coefficients that are used by structural engineers to determine the type and sizing of structural building materials. The stringent state and local regulatory requirements reviewed previously, in combination with implementation of Mitigation Measures 3.4.1a and 3.4.1b, would ensure the exposure of people or structures to substantial risk of loss, injury, or death due to significant damage or collapse of a newly constructed building in a seismic event would be less than significant. .

**Mitigation:** Implement Mitigation Measures 3.4.1a and 3.4.1b.



**Impact Significance after Mitigation: Less than Significant.** Adherence to all applicable codes and regulations, including the current CBC and local requirements as discussed previously, along with implementation of Mitigation Measures 3.4.1a and 3.4.1b would ensure that geologic hazard impacts associated with on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse would be minimized to **less than significant**.

---

## Cumulative Impacts

**Impact 3.4.4: The Project would not make a cumulatively considerable contribution to cumulative effects associated with erosion, topsoil loss or increased exposure to seismic or other risks.**

The Project is located within an existing developed area of the City of Ukiah. Construction of the cumulative projects identified in Chapter 4 would involve some soil-disturbing activities that could result in erosion and would result in a slight increase in the number of people exposed to seismic or other risks. As described above, the Project area is not exposed to high or unusual hazards associated with soil type or geological hazards. Although the entire region is considered seismically active, it has a wide range of soil and geologic conditions. These conditions can vary widely within a short distance, making the cumulative context for potential impacts related to seismic risks one that is more localized or even site-specific. Thus, closely related past, present, and future projects in the area would have little relevance to the cumulative analysis because they are not cumulatively combined to result in a significant environmental effect. While exceptions exist, the seismic risk potential of the Project site combined with the seismic risk potential of another site nearby would not “compound” to result in increased or significant cumulative seismic risk. In addition, compliance with federal, State and local regulations addressing building construction, run-off, and erosion, reduce the potential impacts for all present and future projects associated with geology and soils to a less-than-significant level. As a result, conformance with adopted California Building Code and other measures to protect people and structures from geologic hazards would reduce this impact to a less-than-significant level. Moreover, when considered in combination with other nearby construction projects, the cumulative effect to soil erosion and exposure to potential seismic hazards would be less than significant. In any event, given the site’s characteristics, and project mitigation, the Project’s contribution to any significant impacts, were there any such impacts, would be considered less than cumulatively considerable.

**Mitigation:** None required.

---

## 3.4.5 References

Association of Bay Area Governments (ABAG), 2003. ABAG Shaking Intensity Maps and Information, excerpts from ABAG’s 1995 “On Shaky Ground” report and 1998 “On Shaky Ground - Supplement”, [www.abag.ca.gov/bayarea/eqmaps/doc/contents.html](http://www.abag.ca.gov/bayarea/eqmaps/doc/contents.html), 2003.

- California Geologic Survey (CGS), 2012. Probabilistic Seismic Hazards Mapping Ground Motion Page, [redirect.conservation.ca.gov/cgs/rghm/pshamap/pshamap.asp](http://redirect.conservation.ca.gov/cgs/rghm/pshamap/pshamap.asp), accessed January 31, 2012.
- California Geologic Survey (CGS), 2003. *Faults and Earthquakes in California*, Note 31.
- California Geologic Survey (CGS), 2002. *California Geomorphic Provinces*, Note 36, December 2002.
- City of Ukiah, 1995. *City of Ukiah General Plan and Growth Management Plan*, Adopted December 1995 and revised 2004.
- Hart, Earl W. and William A. Bryant, 1997. *Fault-Rupture Hazard Zones in California*, Special Publication 42.
- Jennings, C. W. 1994, 1994. *Fault Activity Map of California and Adjacent Areas*, California Division of Mines and Geologic Data Map No. 6, 1:750,000, 1994.
- Mendocino County Air Quality Management District (MCAQMD), 2005. *Areas that May Contain Naturally Occurring Asbestos in the Ukiah Valley*, [www.co.mendocino.ca.us/aqmd/NOA.htm](http://www.co.mendocino.ca.us/aqmd/NOA.htm), May 24, 2005.
- Peterson, M.D., W.A. Bryant, and C.H. Cramer, 1996. *Probabilistic Seismic Hazard Assessment for the State of California*, California Division of Mines and Geology Open-File Report issued jointly with U.S. Geological Survey, CDMG 96-08 and USGS 96-706, 1996.
- U.S. Natural Resources Conservation Service (USNRCS), Soil Conservation Service, 1991. *Soil Survey of Mendocino County, Eastern Part and Southwestern Part of Trinity County, California (CA687)*, issued January 1991.

## 3.5 Hazards and Hazardous Materials

### 3.5.1 Introduction

This section identifies and evaluates the changes in conditions related to hazardous materials and other hazard issues associated with implementation of the Project. This section evaluates the potential for toxic substances to be present in soil and groundwater in proposed construction areas and the potential of the Project to create substantial risks from the use of hazardous materials during construction or operations. This section also discusses potential impairment of emergency response or evacuation plans, airport-related hazards, and the risk of wildland fires.

### 3.5.2 Environmental Setting

This section describes the existing hazards and hazardous materials conditions in and near the Project area. This includes the results of environmental database records searches conducted for the Project area and potential for wildland fires on the Project site. Information in this section is also based on review of a Phase I Environmental Site Assessment (Kleinfelder, 2011) prepared for the project site (included as **Appendix C**), records available through regulatory agency databases, and a site reconnaissance.

#### Definition of Terms

Under Title 22 of the California Code of Regulations (CCR), a hazardous material is defined as a substance or combination of substances that may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating illness, or may pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed (Title 22 of CCR, Section 66261.10 [22 CCR Section 66262.10]).

Hazardous wastes are hazardous substances that no longer have practical use, such as materials that have been discarded, discharged, spilled, or contaminated, or that are being stored until they can be disposed of properly. Hazardous materials and hazardous wastes are classified according to four properties: toxicity, ignitability, corrosivity, and reactivity (22 CCR, Chapter 11, Article 3), as described below:

- Toxic substances may cause health effects that are short-term, long-lasting, or permanent disabilities effects or death. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline).
- Ignitable substances are hazardous because of their flammable properties. Examples include gasoline, natural gas, and hexane (found in gasoline and quick-drying glues and can be mixed with solvents for use in cleaning products).
- Corrosive substances are hazardous because they cause chemical reactions that can damage other materials or cause severe burns upon contact. Sulfuric acid (battery acid) and lye (used in soap and a component of liquid drain openers) are corrosive substances.

- Reactive substances may cause explosions or generate gases or fumes. Explosives, pressurized canisters, and pure sodium metal (violently reactive to water) are reactive substances.

Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific criteria listed in CCR Title 22. The agency with lead jurisdiction over a project will typically determine cleanup requirements on a case-by-case basis.

## **Land Uses and Conditions on the Project Site**

The Project site is located within the Airport Industrial Park Planned Development, an existing development containing commercial and office land uses in a developed urban area. The Project site is currently undeveloped, however, some ground disturbing activities have previously occurred. As previously noted, the Project site is surrounded by developed uses. Several retail stores including the Ken Fowler Auto Center, Food Maxx, Staples, and Walmart are located to the north. The Talmage Road/U.S. 101 interchange is north of the existing Walmart. A tire store and a medium-density residential neighborhood are located north of Talmage Road. The Mendocino Brewing Company, several undeveloped parcels, and the continuation of U.S. 101 are located south of the Project site. U.S. 101 is located east of the Project site. Commercial, light industrial and agricultural land uses lie east of U.S. 101. Airport Park Boulevard is located along the western edge of the Project site. The Ukiah Municipal Airport is located approximately 700 feet to the west (950 from the Project boundary to the runway centerline). The nearest residences to the Project site are medium density residential units located approximately 2000 feet southwest from the project site.

### ***Historic Land Use***

According to a review of aerial photographs and topographic maps, the Project site was formerly used for agricultural uses until around 1993. Aerial photos show that in 1957, a majority of the site consisted of orchards with associated access roads. The site remained the same until approximately 1993 when aerial photographs show the removal of the orchard. The site has remained undeveloped since 1993 (Kleinfelder, 2011).

## **Environmental Records Review**

ESA conducted an updated search of regulatory agency databases to identify potentially hazardous conditions at or near the Project site. **Table 3.5-1** includes all sites located within a one half mile radius of the Project site that were listed in a regulatory agency database. The Project site was not included in these databases.

**TABLE 3.5-1  
 LISTED SITES IN THE VICINITY OF THE PROJECT SITE**

Site Name	Address	Distance from Project Site	Status
Ukiah, City Corporation Yard	1320 Airport Road	0.36 miles northwest	Open – Remediation. Leaking underground storage tank (LUST) cleanup. Groundwater contaminants of concern: gasoline.
Ace Aerial Service	1571 State Street, South	.45 miles southwest	Open – Inactive. Contaminates of concern: solvents.
Ukiah City Airport	1411 State Street, South	0.32 miles west	Open – Inactive. Miscellaneous contaminants under investigation.

SOURCE: SWRCB, 2011; DTSC, 2011.

***Phase I Environmental Site Assessment***

The purpose of a Phase I Environmental Site Assessment (Phase I) is to identify any potentially hazardous conditions, referred to as recognized environmental conditions (RECs), that exist on the Project site. Preparation of a Phase I report typically involves a site reconnaissance, interviews with site owners or managers, hazardous materials records searches, contacting agencies with jurisdiction over the area, and review of any pertinent documents with information regarding the potential for hazardous conditions to exist. In preparation of the Phase I report, the applicant’s environmental consultant (Kleinfelder) obtained a comprehensive records review search through Environmental Data Resources, Inc. (EDR) and consulted several agencies with jurisdiction for the Project site, including the Mendocino County Environmental Health Division (MCEHD), to identify any hazardous materials storage, releases or spills, underground storage tanks, above-ground storage tanks, or leaking underground storage tanks or any other hazardous conditions in the vicinity of the Project site. The Phase I report concluded no evidence of recognized environmental conditions in connection with the Project site (Kleinfelder, 2011). The basis for these findings is discussed further below.

***Limited Phase II Environmental Site Assessment***

Because of the Project site’s historical agricultural uses; the former presence of an above ground storage tank; and evidence of surface staining found during the Phase I ESA, a limited Phase II ESA was conducted by Kleinfelder in order to evaluate persistent pesticides or other hazardous materials within the Project site’s soil. Organochlorine pesticides were not detected in either the composite or discrete samples analyzed (Kleinfelder, 2011). The limited Phase II ESA concluded there to be a low risk of exposure to future occupants of the site. Total petroleum hydrocarbons (TPH) gasoline, benzene, toluene, ethylbenzene, xylene, and methy-tert butyl ether (MTBE) were not detected in the three discrete samples analyzed. The reported concentrations of TPH motor oil, copper, and lead are below levels considered to pose a potential threat to the environment. Based on the results of the limited Phase II ESA, further investigation is not warranted on the Project site for its intended commercial land use.

### **Site Reconnaissance**

Kleinfelder performed a site reconnaissance on November 3, 2011. The site reconnaissance included a visual inspection of the site to assist in identifying the presence or likely presence of hazardous substances or petroleum hydrocarbons under conditions that indicate an existing release, a past release, or threat of release into structures, soil, groundwater, or surface water at the site. The site is currently vacant with the exception of utilities and storm drains. The site appears to have been filled and graded. No obvious evidence of contamination was observed on the surface. A pad mounted transformer was observed however it was not labeled as to the polychlorinated biphenyls (PCBs) content.

### **Mendocino County Environmental Health Division**

Kleinfelder requested information from and reviewed documents on file with the MCEHD relating to the Project site that included an Underground Hazardous Materials Storage Tank Abandonment Inspection Report, Unified Program Inspection Reports, and hazardous materials related issues. No hazardous materials related issues are known to have occurred on the project site according to records on file with the MCEHD for the project site (Kleinfelder, 2011).

### **Fire Protection, Emergency Response, and Disaster Planning**

The Ukiah Fire Department (UFD) provides fire protection, emergency medical response, hazardous materials incident response and other emergency services to the City of Ukiah. Fire protection services and facilities are further described in Section 3.9, Public Services and Utilities (UFD, 2010).

The County Office of Emergency Services (OES) under the Mendocino County Sheriff's Office (MCSO) works with other agencies to prepare for and respond to major emergencies. OES ensures resources are available and mobilized in times of disaster; develops plans and procedures for response to and recovery from disasters; and develops and provides preparedness materials for the public (MCSO, 2010).

### **Potential Receptors**

The sensitivity of potential receptors in the areas of known or potential hazardous materials contamination is dependent on several factors, the primary factor being an individual's potential pathways for exposure. Costco employees, their customers, and employees of companies adjacent to the Project site would have the greatest potential for exposure to groundwater and/or soil contamination.

The nearest sensitive receptors include a residential community approximately 650 yards (2000 feet) southwest from the Project site. The nearest schools to the Project site are approximately 0.7 miles from the Project site and include Grace Hudson Elementary School and Saint Mary of the Angels Catholic School. Head Start Children's Center, Little Friends Preschool and Day Care Center, Yokayo Elementary School, River Oak Charter School and Discovery World Preschool are located approximately 0.6 miles to 1.1 miles from the Project site.

## **Wildland Fire**

According to the California Department of Forestry and Fire Protection (Cal Fire) Fire and Resource Assessment Program (FRAP), Fire Threat is a combination of two factors: 1) fire frequency, or the likelihood of a given area burning, and 2) potential fire behavior (hazard). Based on information provided by Cal Fire, Mendocino County has identified the Project site as outside of any wildland fire hazard areas and Cal Fire identifies the Project site as having little or no threat of wildland fire (Mendocino County, 2007; Cal Fire, 2004).

## **3.5.3 Regulatory Setting**

### **Federal**

#### **U.S. Environmental Protection Agency (EPA)**

EPA is the agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Applicable federal regulations pertaining to hazardous materials are contained in the Code of Federal Regulations (CFR) Titles 29, 40, and 49. Hazardous materials, as defined in the CFR (see “Definitions of Terms” above), are listed in 49 CFR 172.101. The following laws govern management of hazardous materials:

- Resource Conservation and Recovery Act of 1976 (RCRA) (42 U.S. Code [USC] 6901 et seq.);
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also called the Superfund Act) (42 USC 9601 et seq.); and
- Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99–499).

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and dispose of hazardous materials. EPA provides oversight and supervision for federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

#### **Hazardous Substances**

Hazardous substances are a subclass of hazardous materials. They are regulated under CERCLA and SARA (and the federal Clean Water Act for water resources). Under CERCLA, EPA has the authority to seek the parties responsible for releases of hazardous substances and to secure their cooperation in site remediation. The CERCLA also provides federal funding (the “Superfund”) for remediation. The SARA Title III, the Emergency Planning and Community Right-to-Know Act, requires companies to declare potential toxic hazards to ensure that local communities can plan for chemical emergencies. The EPA maintains a National Priority List of uncontrolled or abandoned hazardous waste sites identified for priority remediation under the Superfund program. The EPA also maintains the Comprehensive Environmental Response, Compensation, and Liability Information Systems (CERCLIS) database that contains information on hazardous waste sites, potential hazardous waste sites, and remedial activities across the nation.

### **Hazardous Wastes**

Hazardous wastes, although included in the definition of hazardous materials and hazardous substances, are regulated separately under RCRA. A waste can legally be considered hazardous if it is classified as ignitable, corrosive, reactive, or toxic. 22 CCR 66261.24 defines the characteristics of toxicity. Under RCRA, EPA regulates hazardous waste from the time that the waste is generated until its final disposal. RCRA also gives EPA or an authorized state the authority to conduct inspections to ensure that individual facilities are in compliance with regulations and to pursue enforcement action if a violation is discovered. EPA can delegate its responsibility to a state if the state's regulations are at least as stringent as the federal ones. EPA delegated its RCRA authority to DTSC for the issuance of hazardous waste disposal permits. RCRA was updated in 1984 by the passage of the federal Hazardous and Solid Waste Amendments, which required phasing out land disposal of hazardous waste.

### **Regulation of Polychlorinated Biphenyl**

The Toxic Substances Control Act of 1976 (15 USC 2605) banned the manufacture, processing, distribution, and use of PCBs in totally enclosed systems. PCBs are considered hazardous materials because of their toxicity; they have been shown to cause cancer in animals, along with effects on the immune, reproductive, nervous, and endocrine systems. Studies have shown evidence of similar effects in humans (EPA, 2008a). The EPA Region 9 PCB Program regulates remediation of PCBs in California. 40 CFR Section 761.30(a)(1)(vi)(A) states that all owners of electrical transformers containing PCBs must register their transformers with EPA. The manufacturer must mark specified electrical equipment that it manufactured between July 1, 1978, and July 1, 1998, that does not contain PCBs with the statement "No PCBs" (Section 761.40[g]). Transformers and other items manufactured before July 1, 1978, containing PCBs must be marked as such.

### ***U.S. Department of Transportation***

The U.S. Department of Transportation (DOT), in conjunction with EPA, is responsible for enforcement and implementation of federal laws and regulations pertaining to the transportation of hazardous materials. The Hazardous Materials Transportation Act of 1974 (49 USC 5101 et seq.) directs DOT to establish criteria and regulations regarding safe storage and transportation of hazardous materials. Hazardous materials regulations are contained in 49 CFR 171–180 and address transportation of hazardous materials, types of materials defined as hazardous, and the marking of vehicles transporting hazardous materials. In particular, 49 CFR 173, titled "Shippers' General Requirements for Shipments and Packagings," defines hazardous materials for transportation purposes. A portion of the code (49 CFR 173.3) provides specific packaging requirements for shipment of hazardous materials. 49 CFR 173.21 lists categories of materials and packages that are forbidden for shipping. 49 CFR 177, titled "Carriage by Public Highway," defines unacceptable hazardous materials shipments.

### ***Occupational Health and Safety Administration***

The Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor is responsible for enforcing and implementing federal laws and regulations pertaining to worker health and safety. Workers at hazardous waste sites must receive specialized training and medical



supervision according to the Hazardous Waste Operations and Emergency Response regulations (29 CFR 1910.120). OSHA sets federal standards for workplace training, exposure limits, and safety procedures for the handling of hazardous substances and other hazards. It establishes criteria that each state uses in its own worker health and safety programs (see “California Department of Industrial Relations, Division of Occupational Health Administration” discussion below).

## State

### California Environmental Protection Agency

The Department of Toxic Substance Control (DTSC), a division of the California Environmental Protection Agency (Cal/EPA), has primary regulatory responsibility over hazardous materials in California, working in conjunction with the federal EPA to enforce and implement laws and regulations for hazardous materials. DTSC can delegate enforcement responsibilities to local jurisdictions. In addition, Government Code Section 65962.5(a)(1) requires that the DTSC annually compile and update a list of all hazardous waste facilities subject to corrective action; this list is known as the Cortese List.

The Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.) created the hazardous waste management program that DTSC enforces. It is implemented by regulations described in CCR Title 26. The state created program is similar but more stringent than the federal program under RCRA. The regulations list materials that may be hazardous and establishes criteria for their identification, packaging, and disposal.

The CCR Title 22, Division 4.5 establishes environmental health standards for the management of hazardous waste to protect public health associated with the use of recycled water. The regulations establish acceptable levels of constituents and pathogens in recycled water for a range of uses and prescribe means of ensuring reliability in the production of recycled water. The California Department of Health Services has jurisdiction over the distribution of recycled water and the enforcement of Title 22 regulations.

California’s Secretary for Environmental Protection has established a unified hazardous waste and hazardous materials management regulatory program (Unified Program) as required by Senate Bill 1082 (1993). The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental programs:

- hazardous waste generator and hazardous waste on-site treatment programs;
- UST program;
- hazardous materials release response plans and inventories;
- California Accidental Release Prevention Program;
- Aboveground Petroleum Storage Act requirements for spill prevention, control, and countermeasure plans; and
- California Uniform Fire Code hazardous material management plans and inventories.

Local agencies—Certified Unified Program Agencies (CUPAs)—implement the six environmental programs within the Unified Program. The CUPAs carry out permitting, reporting, and compliance enforcement responsibilities. Mendocino County Environmental Health Division (MCEHD) is the CUPA in Mendocino County for unincorporated areas and incorporated cities.

#### **State Water Resources Control Board**

The State Water Resources Control Board (SWRCB) is responsible for water quality protection. The Project site is located in the jurisdiction of the North Coast Regional Water Quality Control Board (RWQCB). The Porter-Cologne Water Quality Control Act of 1969 authorizes the RWQCB to protect the waters of the state. The RWQCB provides oversight for sites where the quality of groundwater or surface waters is threatened. Extraction and disposal of contaminated groundwater from investigation/remediation activities or from dewatering during construction would require a permit from the RWQCB if the water were discharged to storm drains, surface water, or land.

SWRCB regulates the use of aboveground storage tanks through the Aboveground Petroleum Storage Act (Health and Safety Code Sections 25270–25270.13). The act requires that facilities storing petroleum in a single tank greater than 1,320 gallons or facilities storing petroleum in aboveground tanks or containers with a cumulative storage capacity of greater than 1,320 gallons file a storage statement, pay a facility fee, and prepare and implement a federal Spill Prevention Control and Countermeasure plan.

#### **California Department of Industrial Relations, Division of Occupational Health Administration**

The California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal/OSHA), is responsible for developing and enforcing workplace safety regulations in the state. Cal/OSHA standards are more stringent than federal OSHA regulations and are presented in CCR Title 8. Standards for workers dealing with hazardous materials include practices for all industries (General Industry Safety Orders); specific practices are described for construction and hazardous waste operations and emergency response. Cal/OSHA conducts on-site evaluations and issues notices of violations to enforce necessary improvements to health and safety practices.

#### **California Office of Emergency Services**

The California Office of Emergency Services (Cal/OES) is the state office responsible for establishing emergency response and spill notification plans related to hazardous materials accidents. Cal/OES regulates businesses by requiring specific businesses to prepare an inventory of hazardous materials (CCR Title 19).

#### **California Department of Transportation and California Highway Patrol**

The California Department of Transportation (Caltrans) and California Highway Patrol (CHP) enforce and monitor DOT hazardous materials and waste transportation laws and regulations in California. Together, these agencies determine container types used and license hazardous waste haulers for hazardous waste transportation on public roads. All motor carriers and drivers involved in transportation of hazardous materials must apply for and obtain a hazardous materials

transportation license from CHP. When transporting explosives, inhalation hazards, and highway route-controlled quantities of radioactive materials, safe routing and safe stopping places are required, as described in 26 CCR Section 13 et seq., and a route map must be carried in the vehicle.

## Local

### ***Emergency Response***

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government and private agencies. Responding to hazardous materials incidents is one part of this plan. Mendocino County has adopted the Mendocino County Emergency Operations Plan (EOP), which is administered by the County Office of Emergency Services (Woodworth and Smith, 2006). The EOP is based on the California Standardized Emergency Management System (SEMS), the California Incident Command System (ICS), and the National Incident Management System (NIMS). The EOP addresses the following:

- Establishes emergency management organization required to mitigate any significant emergency or disaster;
- Identifies the responsibilities, policies and procedures required to protect the health and safety of the population, public and private property, and the environmental effects of natural and technological emergencies and disasters; and
- Establishes the operation concepts and procedures associated with response to emergencies (Woodworth and Smith, 2006).

### ***Mendocino County Airport Comprehensive Land Use Plan***

The Ukiah Municipal Airport is owned and operated by the City of Ukiah. The Project site is located approximately 900 feet east of the Ukiah Municipal Airport runway. The Mendocino County Airport Land Use Commission has adopted a Comprehensive Land Use Plan (CLUP) for all airports within the County. The *Mendocino County Airport CLUP* was adopted in 1993 and later revised in 1996. The CLUP regulates land use through safety zones, noise zones, and height restrictions. It provides land use compatibility guidelines for lands near the airport to avert potential safety problems and to ensure unhampered airport operations. Land use compatibility safety zones and their limitations are listed in **Table 3.5-2**.

The *Mendocino County Airport CLUP* states that although the Ukiah Municipal Airport is convenient for users, the airport's location immediately adjacent to developed residential and commercial areas presents problems in terms of land use compatibility and facility expansion potential. Noise-sensitive land uses, primarily nearby residences, schools, and churches are located in close proximity to the airport. The presence of high mountainous terrain to the east, south, and west of the airport also impacts airport operations. The location of the Ukiah Municipal Airport within this physical environment creates interactions which restrict both aircraft and airport operational flexibility. The Ukiah Municipal Airport contains a California Department of Forestry and Fire Protection (CalFire) air attack operation with its own aircraft apron. The primary access point to the airport is via South State Street (MCALUC, 1993).

**TABLE 3.5-2a  
UKIAH AIRPORT LAND USE COMPATIBILITY SAFETY ZONES**

<b>Zone</b>	<b>Location</b>	<b>Prohibited Uses</b>	<b>Development Conditions</b>	<b>Normally Acceptable Uses</b>	<b>Uses Not Normally Acceptable</b>
A	Runway Protection Zone	<ul style="list-style-type: none"> <li>All structures except ones with location set by aeronautical function</li> <li>Assemblages of people</li> <li>Objects exceeding FAR Part 77 height limits</li> <li>Hazards to flight</li> </ul>	<ul style="list-style-type: none"> <li>Dedication of aviation easement</li> </ul>	<ul style="list-style-type: none"> <li>Aircraft tiedown apron</li> <li>Pastures, field crops, vineyards</li> <li>Automobile parking</li> </ul>	<ul style="list-style-type: none"> <li>Heavy poles, signs, large trees, etc.</li> </ul>
B1	Approach/ Departure Zone and Adjacent to Runway	<ul style="list-style-type: none"> <li>Schools, day care centers, libraries</li> <li>Hospitals, nursing homes</li> <li>Highly noise-sensitive uses (e.g., amphitheatres)</li> <li>Storage of highly flammable materials</li> <li>Hazards to flight</li> </ul>	<ul style="list-style-type: none"> <li>Locate structures maximum distance from extended runway centerline</li> <li>Dedication of aviation easement</li> </ul>	<ul style="list-style-type: none"> <li>Uses in Zone A</li> <li>Single-story offices</li> <li>Single-family homes on an existing lot</li> <li>Low-intensity retail, office, etc.</li> <li>Low-intensity manufacturing</li> <li>Food processing</li> </ul>	<ul style="list-style-type: none"> <li>Residential subdivisions</li> <li>Intensive retail uses</li> <li>Intensive manufacturing or food processing uses</li> <li>Multiple story offices</li> <li>Hotels and motels</li> <li>Multi-family residential</li> </ul>
B2	Extended Approach/ Departure Zone	<ul style="list-style-type: none"> <li>Schools, day care centers, libraries</li> <li>Hospitals, nursing homes</li> <li>Highly noise-sensitive uses (e.g., amphitheatres)</li> <li>Storage of highly flammable materials</li> <li>Hazards to flight</li> </ul>	<ul style="list-style-type: none"> <li>Dedication of aviation easement</li> </ul>	<ul style="list-style-type: none"> <li>Uses in Zone A</li> <li>Single-story offices</li> <li>Single-family homes on an existing lot</li> <li>Low-intensity retail, office, etc.</li> <li>Low-intensity manufacturing</li> <li>Food processing</li> </ul>	<ul style="list-style-type: none"> <li>Residential subdivisions</li> <li>Intensive retail uses</li> <li>Intensive manufacturing or food processing uses</li> <li>Multiple story offices</li> <li>Hotels and motels</li> <li>Multi-family residential</li> </ul>
C	Common Traffic Pattern	<ul style="list-style-type: none"> <li>Schools</li> <li>Hospitals, nursing homes</li> <li>Hazards to flight</li> </ul>	<ul style="list-style-type: none"> <li>Dedication of overflight easement for residential uses</li> </ul>	<ul style="list-style-type: none"> <li>Uses in Zone B</li> <li>Parks, playgrounds</li> <li>Two-story motels</li> <li>Residential subdivisions</li> <li>Intensive retail uses</li> <li>Intensive manufacturing or food processing uses</li> <li>Multi-family residential</li> </ul>	<ul style="list-style-type: none"> <li>Large shopping malls</li> <li>Theaters, auditoriums</li> <li>Large sports stadiums</li> <li>High-rise office buildings</li> </ul>
D	Other Airport Environs	<ul style="list-style-type: none"> <li>Hazards to flight</li> </ul>	<ul style="list-style-type: none"> <li>Deed notice required for residential development</li> </ul>	All except ones hazardous to flight	n/a

**TABLE 3.5-2b  
UKIAH AIRPORT LAND USE COMPATIBILITY SAFETY ZONES**

<b>Zone</b>	<b>Location</b>	<b>Impact Elements</b>	<b>Maximum Residential Density</b>	<b>Maximum Non-residential Intensity (persons/acre)</b>	<b>Open Space</b>
A	Runway Protection Zone or within Building Restriction Line	<ul style="list-style-type: none"> <li>• High risk</li> <li>• High noise levels</li> </ul>	0	10	All Remaining Required
B1	Approach/ Departure Zone and Adjacent to Runway	<ul style="list-style-type: none"> <li>• Substantial risk – aircraft commonly below 400 ft AGL or within 1,000 feet of runway</li> <li>• Substantial noise</li> </ul>	10 acres	60	30% Required
B2	Extended Approach/ Departure Zone	<ul style="list-style-type: none"> <li>• Significant risk – aircraft commonly below 800 ft AGL</li> <li>• Significant noise</li> </ul>	2 acres	60	30% Recommended
C	Common Traffic Pattern	<ul style="list-style-type: none"> <li>• Limited risk – aircraft at or below 1,000 ft AGL</li> <li>• Frequent noise intrusion</li> </ul>	15 units per acre	150	15% Recommended
D	Other Airport Environs	<ul style="list-style-type: none"> <li>• Negligible risk</li> <li>• Potential for annoyance from overflights</li> </ul>	No Limit	No Limit	No Requirement

SOURCE: MCALUC, 1993.

As noted above, the Ukiah Municipal Airport runway centerline is approximately 950 feet west of the Project site boundary). The Compatibility Map for the airport shows that the Project site is located within Compatibility Zone C.

### ***Mendocino County Environmental Health Division***

The Mendocino County Environmental Health Division (MCEHD) is the designated Certified Unified Program Agency (CUPA) for Mendocino County. As a CUPA, MCEHD is responsible for enforcing laws and regulations pertaining to the handling of hazardous materials, generation of hazardous waste, operation of underground storage tanks, and oversight of some other hazardous materials related issues. CUPA programs include Underground Storage Tank (UST) permitting and Hazardous Materials Management Plans (HMMP). The HMMP serves as the Business Plan for operations that handle hazardous materials in a quantity equal to or greater than 55 gallons, 500 pounds, or 200 cubic feet at any one time, including underground storage tanks.

### ***Mendocino County Hazardous Waste Management Plan***

MCEHD manages hazardous waste through implementation of the Mendocino County Hazardous Waste Management Plan (HWMP). The purpose of the HWMP is to protect public health and safety. The HWMP identifies a number of mechanisms for a variety of waste management efforts and details recommendations for ongoing implementation programs necessary to assure that adequate hazardous waste management will be available in the future (Mendocino County, 2009).

## **3.5.4 Impacts and Mitigation Measures**

### **Methodology**

Analysis of the Project's potential to encounter subsurface hazardous materials has been conducted through review of the Phase I Environmental Site Assessment (Kleinfelder, 2011), site reconnaissance, and a search of regulatory databases to identify any potential hazardous conditions on or adjacent to the Project site. The discussion also addresses the potential for discovery of unreported hazardous materials releases. Analysis of the Project's potential to release hazardous materials has been conducted by identifying the hazardous materials that would be used for the Project and ascertaining the risk of a release. An analysis was also performed of the Project's consistency with other hazard-related plans or policies (e.g. airport safety).

### **Significance Criteria**

Consistent with Appendix G of the CEQA *Guidelines* the Project would result in a significant impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- Be located within an airport land use plan or, where such a plan has not been adopted within two miles of a public airport or, in the vicinity of a private airstrip, and the project would result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss or injury involving wildland fires.

As discussed under “Potential Receptors” above, there are no schools within one-quarter mile of the Project site; consequently, the third significance criterion is not discussed further.

The Project site is not listed on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5; consequently, the fourth significance criterion is not discussed further.

The Project site is not located within an area susceptible to wildland fire hazards; consequently, the seventh significance criterion is not discussed further.

## Impact Analysis

### **Impact 3.5.1: The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.**

The Project would include construction and operation of a Costco Wholesale warehouse on a currently undeveloped site in the City of Ukiah. The Phase I Environmental Site Assessment did not reveal evidence of recognized environmental conditions (RECs) on the project site. Furthermore, no organochlorine pesticides were detected in samples tested in a limited Phase II ESA. The limited Phase II also indicated that gasoline, benzene, toluene, ethylbenzene, xylene, and methy-tert butyl ether (MTBE) are not present on the project site. Detected motor oil, copper, and lead are below levels considered to pose a potential threat to the environment. The Phase I and limited Phase II conclude that there is a low risk of exposure to future occupants and that no further investigation is warranted on the project site for its intended commercial use.

Hazardous materials would be used in varying quantities during Project construction. Construction and maintenance activities would use hazardous materials such as fuels (gasoline and diesel), oils and lubricants, paints and paint thinners, and cleaners (which could include solvents and corrosives in addition to soaps and detergents). Construction workers and the general public could be exposed to hazards and hazardous materials as a result of improper handling or use during construction activities, transportation accidents, or other emergencies. Construction workers could also be exposed to hazards associated with accidental releases of hazardous materials, which could result in adverse health effects. In addition to the on-site fueling station, operation of the Project would store or use hazardous materials such as fertilizers, pesticides, herbicides, and household types of cleaning

agents. The Project applicant, contractors, and others would be required to use, store, and transport hazardous materials in compliance with federal, state, and local regulations during Project construction and operation. Prior to operation of the Project, the applicant will be required to file their Hazardous Materials Business Plan with the Mendocino County Environmental Health Division to describe types and amounts of hazardous materials stored on the Project site. Significant risks to the public or workers are not expected with the assumption that these products are used, transported and disposed of properly in accordance with the handling instructions on their labels and in accordance with state and federal regulations. This would be a **less-than-significant** impact.

**Mitigation:** None required.

---

**Impact 3.5.2: During construction, the Project could create a hazard to the public or the environment through upset or accident conditions involving the release of hazardous materials or hazardous wastes to the environment. This impact is potentially significant.**

As noted above in “Environmental Setting”, the Phase I report prepared for the Project did not identify any recognized environmental hazards associated with the Project site. Construction activities for the Project would include grading and excavation. The potential for exposure to previously unidentified contaminated soils at the Project site is minimal since a majority of the site was previously graded and no potentially dangerous materials were found during the Phase I and limited Phase II Environmental Site Assessments. Although the risk is considered low for such exposure, construction of the Project could result in the exposure of construction workers and the general public to hazardous materials, including petroleum hydrocarbons, contaminated debris, elevated levels of chemicals that could be hazardous, or hazardous substances that could be inadvertently spilled or otherwise spread. Any exposure to hazardous materials could pose a health risk to construction workers and the general public; therefore, this impact is considered **potentially significant**.

**Mitigation Measures**

**Measure 3.5.2: Hazards Remediation.** If contaminated soil and/or groundwater are encountered or suspected contamination is encountered during Project construction activities, work shall be halted in the area, and the type and extent of the contamination shall be identified in accordance with coordination of the overseeing agency (RWQCB, DTSC, and/or MCEHD). A qualified professional, in consultation with regulatory agencies (RWQCB, DTSC, and/or MCEHD) shall then develop an appropriate method to remediate the contamination, and determine the appropriate disposal method of any contaminated soil and/or groundwater. At this time, the available studies suggest that no contaminated soil or groundwater will be found on site. Nevertheless, this mitigation measure would require remediation procedures in the unlikely event that contamination is encountered. Additionally, if required by an overseeing agency, a remediation plan shall be implemented either before or in conjunction with continued Project construction.

**Impact Significance After Mitigation:** Implementation Measure 3.5.2 would reduce the potential hazards from any contaminated soils to a **less-than-significant** level.

---



**Impact 3.5.3: The Project site is located within an airport land use plan and would not result in a safety hazard for people residing or working in the project area.**

The Project site is located approximately 950 feet east of the Ukiah Municipal Airport runway centerline. As identified in the *Mendocino County Airport Comprehensive Land Use Plan (CLUP)*, the Project site is located within Land Use Compatibility Zone C. As shown in Table 3.5-2, Zone C is less restrictive than Zones A, B1 and B2. Construction of the Costco Wholesale warehouse would be considered an “intensive retail” use, which in Zone C is considered a “Normally Acceptable Use”. Development conditions within Zone C require dedication of an overflight easement for residential uses. However, the Project does not propose any residential uses; consequently, the Project is not subject to any development conditions related to the Ukiah Municipal Airport. Although the Project includes construction of a new Costco Wholesale warehouse on a previously undeveloped site, and would subsequently increase the number of people at the Project site, the use and intensity of the Project is consistent with uses normally considered acceptable within Zone C. The *CLUP* identifies 150 persons per acre as the maximum non-residential intensity. The Project site is 15.33 acres. Based on the 608 parking spaces provided (consistent with the applicable ordinances), a normal maximum of 912 persons would be expected on site, including employees (1.5 persons per vehicle). Therefore, the average site density would be 60 persons per acre, below the limit of 150. Therefore, the Project is considered consistent with the safety compatibility criteria set forth in the *CLUP*.

The Project is also located in Ukiah Municipal Airport’s horizontal surface, as defined by Federal Aviation Regulation (FAR) Part 77: *Objects Affecting Navigable Airspace*. The horizontal surface generally consists of areas in which aircraft operate standard traffic patterns at, or below, 1,000 feet above ground level (AGL). Objects in an airport’s horizontal surface cannot be taller than 150 feet AGL (as measured from the ground elevation of the airport’s runway). Any proposed object that may penetrate navigable airspace must be reviewed by the Federal Aviation Administration (FAA) to determine whether or not the object may pose a hazard to aircraft in flight. The Project is located at relatively the same elevation as Ukiah Municipal Airport (614 feet mean sea level). The new Costco Wholesale warehouse would be consistent with current building heights in the area; therefore, the structure would be approximately 34 feet tall (light poles approximately 37 feet) and would remain below the Airport’s horizontal surface. Overall, the Project will remain beneath Ukiah Municipal Airport’s navigable airspace, and is not considered a hazard to aircraft in flight.

Lastly, lighting associated with the Project may cause glare or other distraction for pilots operating at Ukiah Municipal Airport at night. In order to avoid this potential hazard, all planned lighting for car lots, street lighting, or parking areas shall be angled down and shielded. This requirement, which is a standard condition of approval for commercial projects, is also identified in Mitigation Measure 3.2.2. In this way, lighting associated with the Project shall not affect pilots in flight, and create a potential hazard. Due to the Project’s consistency with the *Mendocino County Airport Comprehensive Land Use Plan*, its location beneath the Airport’s navigable airspace, and project designs intended to avoid glare or distraction from lights, the potential to create a hazard to people living and working in the vicinity of Ukiah Municipal Airport as a result of the Project is considered **less than significant**.

**Mitigation:** None required.

---

**Impact 3.5.4: The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

The Project would be constructed and operated within an existing developed urban area. Project construction and operation is not expected to interfere with an adopted emergency response plan or emergency access routes. No locally adopted emergency plans are in effect in the Project area. Additionally, Project construction and operation would not interfere with CalFire personnel access associated with the CalFire Air Attack/Helitack Base as the primary vehicle access to and from the airport is via South State Street located west of the Ukiah Municipal Airport. Prior to building permit approval, the Project applicant would be required to demonstrate compliance with all emergency access requirements and other emergency standards in place in the City of Ukiah. This impact is considered less than significant.

**Mitigation:** None required.

---

## **Cumulative Impacts**

**Impact 3.5.5: The Project would not contribute to a significant cumulative impact related to hazards or hazardous materials.**

Hazardous materials impacts are generally site-specific and retail development does not generally interact with cumulative projects to produce cumulative effects. During construction of the Project it is anticipated that limited quantities of miscellaneous hazardous substances would be brought onto the Project site. In addition, Project construction may require remediation of hazardous materials (see Impact 3.5.2). However, these materials would be limited, isolated, and not interact with other cumulative projects. There is no evidence of contamination that could be affected by multiple development projects. As the project site is currently undeveloped, the use of hazardous materials will increase on the project site with implementation of the Project. In addition, the Project includes a fueling station, which will substantially increase the amount of petroleum products stored and used at the project site. Because compliance with state and federal regulations, as described above, for the transport, use, or disposal of hazardous materials and implementation of Mitigation Measure 3.5.2 are required, the increase in the potential exposure to public health and safety hazards would not be significantly increased with cumulative development. Therefore, significant cumulative impacts related to hazards and hazardous wastes would be **less than significant** and the project would not considerably contribute to a cumulative impact.

**Mitigation:** None required.

---

### 3.5.5 References

- California Department of Forestry and Fire Protection (Cal Fire), 2004. Fire Threat GIS Data.
- California Department of Toxic Substance Control (DTSC), 2011. Envirostor, [www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&city=Ukiah&zip=95482&county=Mendocino&federal\\_superfund=True&state\\_response=True&voluntary\\_cleanup=True&school\\_cleanup=True&permitted=True&pc\\_permitted=True&hist\\_nonoperating=True&corrective\\_action=True&tiered\\_permit=True&display\\_results=Report&pub=True](http://www.envirostor.dtsc.ca.gov/public/search.asp?cmd=search&city=Ukiah&zip=95482&county=Mendocino&federal_superfund=True&state_response=True&voluntary_cleanup=True&school_cleanup=True&permitted=True&pc_permitted=True&hist_nonoperating=True&corrective_action=True&tiered_permit=True&display_results=Report&pub=True), accessed November 15, 2011.
- Kleinfelder, 2011. *Phase I Environmental Site Assessment Costco Wholesale Warehouse #08-0205 Airport Park Boulevard Ukiah, California, 95428*, December 9, 2011.
- Mendocino County, 2009. *The County of Mendocino General Plan*. August 2009.
- Mendocino County, 2007. *Mendocino County Fire Hazard Areas, Local Responsibility Areas, and Federal Responsibility Areas*.
- Mendocino County Airport Land Use Commission (MCALUC), 1993. *Mendocino County Airport Comprehensive Land Use Plan*, adopted October 21, 1993, revised June 6, 1996.
- Mendocino County Sheriff's Office (MCSO), 2012. Mendocino County Sheriff's Office, table at [www.mendocinosheriff.com/oes/index.html](http://www.mendocinosheriff.com/oes/index.html), accessed January 30, 2012.
- State Water Resources Control Board (SWRCB), 2010. Geotracker, [geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=1265+Airport+Park+Bldg+Ukiah+CA](http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=1265+Airport+Park+Bldg+Ukiah+CA), accessed November 15, 2011.
- Ukiah Fire Department (UFD), 2012. Ukiah Fire Department, [www.cityofukiah.com/pageserver/?page=fire\\_main](http://www.cityofukiah.com/pageserver/?page=fire_main), accessed January 30, 2012.
- Woodward, Bill and Gregg Smith, 2006. *County of Mendocino Emergency Operations Plan*, September 2006.

**This Page is Intentionally Left Blank**

## **3.6 Hydrology and Water Quality**

### **3.6.1 Introduction**

This section evaluates the hydrology and water quality conditions in the Project area. This section describes the existing and Project-related surface water, groundwater, and water quality conditions and presents the applicable regulatory framework. The section identifies and analyzes the potential hydrology and water quality impacts resulting from the Project.

### **3.6.2 Environmental Setting**

#### **Regional Hydrology**

The Project area is located in the Russian River hydrologic unit within the North Coastal Basin. The North Coastal Basin covers an area of approximately 8,500 square miles along the north-central California coast. The basin is bounded by the Pacific Ocean on the west, by the Klamath River and Trinity River Basins on the north, by the Sacramento Valley, Clear Lake, Putah and Cache Creeks on the east, and by the Marin-Sonoma area on the south (NCRWQCB, 2006). Within the Russian River hydrologic unit, the Project is located within the Talmage planning watershed of the Upper Russian River hydrologic area.

The Russian River hydrologic unit encompasses portions of Mendocino and Sonoma counties. The Russian River flows from north of Ukiah to its confluence with Mark West Creek and into the Pacific Ocean, near Jenner. Major water storage components of the Russian River include Lake Mendocino on the East Fork of the Russian River and Lake Sonoma on Dry Creek, a major tributary to the Russian River. The summer climate is moist and cool near the coast with the temperatures increasing toward the inland areas. Depending on location, average annual precipitation ranges from 30 to 80 inches (DWR, 2009).

#### **Project Site Drainage**

The Project site is located in the upper Russian River Watershed in the Ukiah Valley; elevations on site range from about 580 feet above mean sea level (msl) at the southeastern corner of the site, to 583 msl at the northwestern portion of the site. The site has been previously graded and is essentially flat/devoid of existing topography. Under existing conditions, the site has not been developed, but has been partially prepared for development, including grading and the installation of a preliminary stormwater drainage system, which drains into a swale (maintained by Caltrans) located along the eastern flank of the Project site, between the Project site and US 101.

Stormwater runoff from the northern portion of the Project site flows onsite as sheet flow and is captured by two existing storm drain systems, located along the northern half of the Project site. Within the southern portion of the Project site, drainage flows as sheet flow into adjacent swales, which flank the southern and eastern boundaries of the site. Stormwater from all existing drains on site is also routed into these swales. The two swales merge at the southern tip of the Project site. Downstream, water follows the swale for approximately three quarters of a mile. The swale is routed along US101 until

about 150 feet north of Norgard Lane. At that point the swale routes north then west then south around existing developed land along Townsend Lane and Pomo Lane. The swale opens into an unnamed drainage that is tributary to the Russian River. The drainage crosses under US101 and merges with the Russian River approximately 0.3 mile downstream of the mouth of the swale.

## **Surface Water**

Surface water is generated by precipitation that cannot be absorbed into the ground in the period following a storm. This storm runoff flows into drainage channels, forming creeks, streams, and ultimately entering the Russian River. The amount of surface water runoff is a factor of precipitation, ground saturation, and the permeability (or perviousness) of existing ground surfaces. Permeability is a measure of how quickly water can penetrate a surface area. Natural or dirt surfaces have a relatively higher permeability as compared to paved and other built surfaces. A portion of the stormwater falling on a pervious surface, as is the existing Project site, will infiltrate into surface soils. When soil infiltration capacity is exceeded, only then will runoff occur. In contrast, stormwater falling onto pavement or other hardscape areas does not infiltrate, but runs off. As a result, increases in stormwater flows and peak flows can occur. Generally speaking, when there is a limited amount of permeable land area (such as developed land with compacted or paved ground), water runoff increases (City of Ukiah, 2004).

Storm runoff is a nonpoint source of pollutants in the greater Russian River watershed, and is influenced by the surrounding land uses including developed areas, agricultural fields, and roadways. The Project site is located just south of an existing business park and shopping center, which contains existing paved surfaces, existing buildings, and parking lots. Agricultural lands lie east of Highway 101 abutting the Russian River.

The Project site lies within the Ukiah Valley, which is bounded by low, rolling coastal hills on the west and the Sonoma Mountains on the east. Several waterways in the valley flow from the Sonoma Mountains to the west and through the City; most are channelized to provide flood protection and are intermittent, flowing only part of the year when they receive water from seasonal sources. The waterways ultimately flow to the Pacific Ocean through the Russian River (City of Ukiah, 2004). Stormwater discharges from municipal separate storm sewer systems in urbanized areas such as in Ukiah are a concern because of the high concentration of pollutants found in these discharges. Common pollutants of concern from stormwater runoff can include pesticides, fertilizers, oils, litter and other debris, and sediment (City of Ukiah, 2006). Uncontrolled runoff from inadequately protected construction sites is a water quality concern due to the sediment and other pollutants such as petroleum products, construction chemicals, and asphalts (City of Ukiah, 2006).

## **Russian River**

The Russian River lies approximately 0.25 miles east of the Project site across from Highway 101 and the agricultural fields. The Russian River is a major source of water for supply and distribution as well as resupply for the underlying aquifer (City of Ukiah, 2004). The river traverses the entire length of the Ukiah Valley groundwater basin (discussed below) and is met by several tributaries from both the east and west sides of Redwood and Ukiah Valleys. The main tributaries include

Forsythe Creek, which joins with the Russian River north of the City of Calpella, and the East Fork of the Russian River, which joins the main branch of the Russian River north of Ukiah. Lake Mendocino, a reservoir created from the East Fork of the Russian River located between Redwood Valley and Ukiah Valley, is also an important feature of the surface hydrology of the region (DWR, 2004).

The Russian River is a major flood control channel and carries significant volumes of water used outside of the Ukiah Valley. Agricultural interests, property owners, and government agencies have claims on portions of the Russian River. The river provides water supply for the City of Ukiah and also forms a critical part of the City's wastewater treatment system (City of Ukiah, 2004). As discussed in Section 3.6.3 below, the Russian River and its tributaries in the vicinity of the Project are listed for water quality impairments for sedimentation and temperature (NCRWQCB, 2011).

## Groundwater

Within the Russian River hydrologic unit, the Project site is underlain by the Ukiah Valley Groundwater Basin. The Ukiah Valley Groundwater Basin is the northernmost basin in the Russian River water system. The 22-mile long, 3-mile wide groundwater basin underlies an area of approximately 60 square miles. Geologically, the water is contained within the sediment strata of continental deposits and recent alluvial layers. The strata are located on top of water-bearing consolidated rocks. The thickness may range from eight feet in the alluvium to potentially 2,000 feet within the deposits (City of Ukiah, 2004, DWR, 2003).

Groundwater-bearing units of primary importance within the Ukiah Valley Groundwater Basin include recent alluvium, as well as alluvium of Pliocene and Pleistocene age. Underlying these deposits is moderately to highly fractured basement rock consisting of the Franciscan and Knoxville Formations. Even when highly fractured, these formations have limited permeability, and are considered to yield only small quantities of water locally. Alluvium within the basin is considered a principal source of groundwater and consists of unconsolidated gravel, sand, silt, and minor amounts of clay deposited in channels and on floodplains of the Russian River and its tributaries, on alluvial fans, and as colluvium on interfan slopes. Based on hydrographs from California Department of Water Resources (DWR) monitored wells, groundwater levels in the past 30 years have remained relatively stable. The groundwater basin surface elevation varies from approximately 1,000 feet in the upper portions of the Redwood Valley, to approximately 500 feet in the lower, southern areas of the Ukiah Valley. In the Recent Alluvium, groundwater elevations vary from less than 15 feet to over 600 feet below ground surface (bgs)<sup>1</sup> (DWR, 2004).

Groundwater monitoring data from a well located approximately 1.5 mile southeast of the Project site indicate that groundwater levels vary from approximately 10 to 30 feet below ground surface (bgs; DWR, 2012). The Project site is located only a few feet topographically higher than the Russian River, and it is therefore reasonable to presume that shallow groundwater may be present on site, especially during wet periods.

<sup>1</sup> Groundwater levels in domestic wells (15- 600 feet) and municipal/ irrigation wells (36-115 feet).

Groundwater quality is generally good, especially water derived from Recent Alluvium deposits; however, locally the content of chemical constituents varies widely. Overall, water is moderately hard to hard bicarbonate. Wells with high boron concentrations are located in several areas along the Ukiah Valley edges and in the north end of the Redwood Valley (DWR, 2004).

## **Flooding**

The Federal Emergency Management Agency (FEMA) is responsible for delineating areas that are subject to flooding during a 100-year flood event, where a 100-year event is defined as an event having a 1% annual probability of occurrence. As shown on **Figure 3.6-1**, the Project site is not located within a FEMA-defined 100-year flood zone. The Project site is protected from 100-year flooding by US 101, which is slightly elevated in comparison to adjacent topography, and which acts as a barrier to flooding. The entire Project site is, however, located within a 500-year flood zone – that is, an area having a 0.2% chance of flooding annually.

Flooding at the Project site could also occur as a result of inundation during a catastrophic break of the Coyote Dam at Lake Mendocino (City of Ukiah, 2004). According to the dam inundation area map (City of Ukiah, 2004), the main channel of flooding would likely follow Highway 101 with most segments of the highway south of Talmage Road projected to be underwater, including the Project site. The California DWR, Division of Safety of Dams (DSOD) oversees the construction of dams that are over 25 feet high and impound over 15 acre-feet of water, or over 6 feet high and impound over 50 acre-feet of water, which includes the Coyote Dam (DSOD, 2010).

### **3.6.3 Regulatory Setting**

#### **Federal**

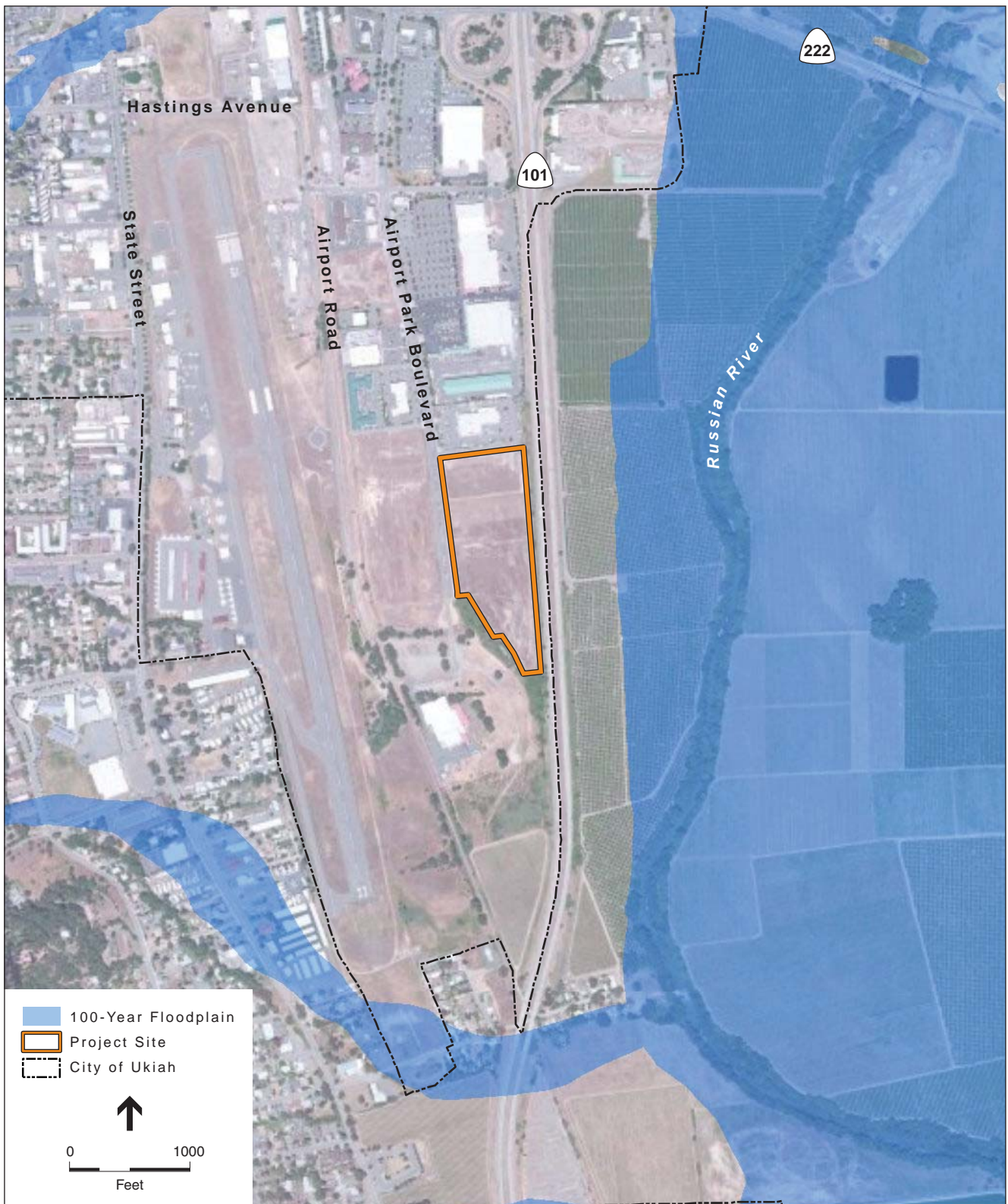
##### ***Clean Water Act***

Under the Clean Water Act (CWA) of 1977, the U.S. Environmental Protection Agency (USEPA) seeks to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The statute employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The CWA authorizes the USEPA to implement water quality regulations. The National Pollutant Discharge Elimination System (NPDES) permit program under Section 402(p) of the CWA controls water pollution by regulating stormwater discharges into the waters of the U.S. California has an approved state NPDES program. USEPA has delegated authority for water permitting to the State Water Resources Control Board (SWRCB), which has nine regional boards. The North Coast Regional Water Quality Control Board (RWQCB) regulates water quality in the Project area.

##### ***Clean Water Act Section 303(d) Impaired Waters List and Total Maximum Daily Loads***

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point-source dischargers (municipalities and industries). Section 303(d) requires that the state develop a





SOURCE: Bing Maps, 2009; FEMA, 2009; ESRI, 2009; and ESA, 2012

Ukiah Costco Project . 211169

**Figure 3.6-1**  
FEMA Floodplains

TMDL for each of the listed pollutants. The TMDL is the amount of loading that the water body can receive and still be in compliance with water quality objectives. The TMDL can also act as a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDL prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows the linkage between loading reductions and the attainment of water quality objectives. EPA must either approve a TMDL prepared by the state or, if it disapproves the state's TMDL, issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated. In California, preparation and management of the Section 303(d) list is administered by the RWQCBs.

The Upper Russian River in Ukiah in the vicinity of the Project area is listed for sedimentation/siltation and temperature. Sources listed for the impairment are as follows (NCRWQCB, 2011):

*Sedimentation/ Siltation:* Agriculture, Silviculture, Construction/Land Development, Resource Extraction, Habitat Modification, Removal of Riparian Vegetation, Streambank Modification/ Destabilization, Drainage/Filling of Wetlands, Channel Erosion, Erosion/Siltation, Highway Maintenance and Runoff, and Natural Resources

*Temperature:* Hydromodification, Upstream Impoundment, Flow Regulation/Modification, Habitat Modification, Removal of Riparian Vegetation, Streambank Modification/Destabilization, and Nonpoint Source.

### ***Executive Order 11988 and the Federal Emergency Management Agency***

Under Executive Order 11988, the Federal Emergency Management Agency (FEMA) is responsible for management of floodplain areas. FEMA administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 annual exceedance probability (AEP) (i.e., the 100-year flood event). Specifically, where levees provide flood protection, FEMA requires that the levee crown have 3 feet of freeboard above the 1-in-100-AEP water surface elevation, except in the vicinity of a structure such as a bridge, where the levee crown must have 4 feet of freeboard for a distance of 100 feet upstream and downstream of the structure.

## State

### **Porter-Cologne Water Quality Control Act**

The Porter-Cologne Water Quality Control Act allows the SWRCB to adopt statewide water quality control plans or basin plans. The purpose of the plans is to establish water quality objectives for specific water bodies. The RWQCB has prepared the *North Coast Water Quality Control Plan* (Basin Plan) (1995) that establishes water quality objectives and implementation programs to meet the stated objectives and to protect the beneficial uses of the water bodies (see *Regional* regulatory discussion below). The act also authorizes the NPDES program under the CWA, which establishes effluent limitations and water quality requirements for discharges to waters of the state. Most of the implementation of SWRCB's responsibilities is delegated to the nine regional boards. Under the NPDES program, the North Coast RWQCB has established permit requirements for stormwater runoff in the Project area (see *Regional* and *Local* discussions below).

### **Construction Permitting**

Construction activities disturbing 1 acre or more of land are subject to the permitting requirements of the NPDES General Construction Activity Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). The disturbance to areas associated with construction of structures and facilities for the proposed Action would require coverage under a General Construction Permit.

On September 2, 2009, the SWRCB adopted a new General Construction Permit for Discharges of Storm Water Associated with Construction Activities. The new permit requires a risk-based permitting approach, dependent upon the likely level of risk imparted by a project. The new permit also contains several additional compliance items, including: (1) additional mandatory Best Management Practices (BMPs) to reduce erosion and sedimentation, which may include incorporation of vegetated swales, setbacks and buffers, rooftop and impervious surface disconnection, bioretention cells, rain gardens, rain cisterns, implementation of pollution/sediment/spill control plans, training, and other structural and non-structural actions; (2) sampling and monitoring for non-visible pollutants; (3) effluent monitoring and annual compliance reports; (4) development and adherence to a Rain Event Action Plan; (5) requirements for the post-construction period; (6) monitoring of soil characteristics on site; and (7) mandatory training under a specific curriculum. Under the revised permit, BMPs will be incorporated into the action and monitoring requirements for each project site, as compared to the existing permit, where specific BMPs are implemented via a SWPPP. Under the updated permit, additional monitoring, reporting, and training requirements for management of stormwater pollutants will be implemented, unless the new permit is challenged and set aside prior to its implementation.

The North Coast RWQCB has identified BMPs in the *California Storm Water Best Management Practice Handbook* (2003) to effectively reduce degradation of surface waters to an acceptable level. The City has prepared a stormwater management plan (discussed later in the *Local* section) that includes BMPs and other erosion and sediment control measures; the Project would be required to comply with the plan to control stormwater discharges from the construction site (see *City of Ukiah* discussion below).

## **Regional**

### ***Basin Plan***

The RWQCB prepared the Basin Plan (2006) for the North Coast region that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the region. Water quality control plans (Basin Plans) provide the basis for protecting water quality in California. Basin Plans are mandated by both the federal CWA and the State Porter-Cologne Water Quality Act (Porter-Cologne). The goal of the Basin Plan is to provide a definitive program of actions designed to preserve and enhance water quality and to protect beneficial uses of water in the North Coast Region.

The beneficial uses listed for the Ukiah Hydrologic Subarea under the Upper Russian River Hydrologic Area include: municipal and domestic supply, agricultural supply, industrial service supply, industrial process supply, groundwater recharge, freshwater replenishment, navigation, hydropower generation, water contact and noncontact recreation, commercial and sport fishing, warm and cold freshwater habitat, wildlife habitat, rare species, fish migration, fish spawning, and potential shellfish harvesting and aquaculture (NCRWQCB, 2006). The Basin Plan provides water quality objectives for inland surface waters such as the Upper Russian River segment located in the Project vicinity, that are incorporated in the NPDES permit discussed below. The Basin Plan also lists the following beneficial uses for the groundwater in the North Coast region: existing municipal and domestic supply, agricultural supply, industrial service supply and Native American culture; and potential industrial process supply and aquaculture (NCRWQCB, 2006).

### ***Dewatering Permit***

The Order 93-61 issued by the North Coast RWQCB consists of the General NPDES Permit and Waste Discharge Requirements for Discharges of Groundwater to Surface Water Related to Construction and Subsurface Seepage Dewatering Activities in the North Coast Region. This permit regulates existing and future discharges of groundwater to surface waters resulting from construction dewatering and for subsurface seepage dewatering and similar operations. Construction activities for the proposed Project would require excavation, which could require dewatering. Prior to discharge of the extracted water, the applicant would be required to submit a Report of Waste Discharge and Application for NPDES Permit along with a feasibility study of reuse of the groundwater. RWQCB will issue a Discharge Authorization Letter upon approval.

## **Local**

### ***City of Ukiah General Plan and Growth Management Plan***

The City of Ukiah General Plan Open Space and Conservation Element sets forth goals, policies and implementation measures for the protection and management of surface water and groundwater within the boundaries of the City as well as the management of stormwater volumes and flows. One of the City's main objectives is to protect the integrity of the Russian River for the purposes of flood control, water supply, and productive fish habitat. Specific policies that are relevant to the proposed Project are listed below.

*Policy OC-7.4:* Take measures to lessen flooding resulting from stormwater runoff.

*Policy OC-9.5:* Establish water course protection areas with construction limits to provide protection for riparian vegetation and stream banks.

*Policy OC-13.1:* Maintain long-term sustained yield of the Valley's groundwater system shall be the standard for evaluation for groundwater protection programs.

*Policy OC-14.1:* Support actions to retain water in the Ukiah Valley.

*Policy OC-15.1:* Protect water quality from adverse impacts of urban and agricultural runoff.

*Goal OC-16:* Design parking facilities to reduce runoff and surface water contamination.

*Policy OC-16.1:* Protect surface water supplies from water generated in parking lots.

*Policy OC-16.2:* Manage stormwater flows to reduce the hazard of flooding from increased stormwater volumes.

### **Municipal Code**

The City of Ukiah Municipal Code specifies requirements for protection of water courses that would apply to the proposed Project. The relevant requirements in the municipal code are described below.

Sections 9702 through 9704 of Chapter 7 in Division 9 of the Ukiah Municipal Code (2010b) describe measures required to minimize soil disturbance and sedimentation during construction and maintenance activities. The Project sponsor would be required to obtain a grading permit through the City. Section 9702 of the municipal code requires preparation of an erosion control and sedimentation plan by a registered civil engineer and its submittal with the grading permit application. Section 9703 sets forth design standards for erosion control and stormwater management. Standards for erosion control include soil/stock pile stabilization, revegetation, and hydroseeding. Standards for stormwater flows include spill prevention for hazardous materials, construction of stormwater diversion facilities in accordance with the California Stormwater Quality Association's (CASQA) best management practice (BMP) handbook, and protection of storm drain inlets that may receive sediment-laden flows.

Section 9704 describes site control measures that are required to be implemented as part of the grading permit for the Project. The applicant would be required to establish and implement construction site management practices to prevent toxic materials and other debris from entering the City's storm drainage and waterway systems, and adversely affecting water quality.

The following construction site practices are prohibited and constitute a violation of Chapter 7 and would apply to the proposed project:

- Improper storage of chemicals (pesticides, fertilizers, fuels, paints, thinners);
- Improper disposal of construction waste material, garbage, rubbish, sanitary waste, plaster, drywall, grout and gypsum;
- Failure to immediately clean up spills of toxic materials;

- Washing concrete truck washout or surplus concrete material into a street, catch basin, or other public facility or a related natural resource;
- Leaving stockpiles uncovered; and/or
- Allowing construction vehicles to track or spill soil or debris into or onto a street or public right of way.

Chapter 8, Stormwater Discharges in Division 4 of the Municipal Code regulates water quality pursuant to the CWA and NPDES Phase II stormwater regulations for small municipal separate storm sewer systems, by reducing pollutants in stormwater discharges to the maximum extent practicable (Section 4090.01) and by prohibiting nonstormwater discharges to the storm drain system (Section 4090.5). Chapter 8 applies to all water entering the storm drain system generated on any developed and undeveloped lands, which would include Project-related stormwater and dewatering discharges.

### **NPDES Permit**

The NPDES Municipal Stormwater Permitting Program regulates stormwater discharges from separate storm sewer systems. NPDES Municipal Stormwater Permits are issued in two phases. Phase I regulates stormwater discharges from large- and medium-sized municipal separate storm sewer systems (those serving more than 100,000 persons). Most Phase I permits are issued to a group of co-permittees encompassing an entire metropolitan area. Phase II provides coverage for smaller municipalities, including nontraditional small storm sewer systems, which include governmental facilities such as military bases, public campuses, and prison and hospital complexes. The NPDES Municipal Stormwater Permits require the discharger to develop and implement a Stormwater Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable.

The North Coast RWQCB issued the NPDES General Permit No. CAS000004 *Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems*. An “MS4” is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) designed or used for collecting or conveying stormwater; (ii) which is not a combined sewer; and (iii) which is not part of a Publicly Owned Treatment Works (POTW). The City of Ukiah has been designated as a regulated small MS4 since its storm runoff discharges to a sensitive water body (Russian River) and due to the high population density of the City. The discharges from the City’s MS4 are authorized by the General Permit. The General Permit requires prohibition of nonstormwater discharges unless they are authorized; it requires implementation of BMPs to protect water quality, and preparation and implementation of a stormwater management plan (City of Ukiah, 2006), which is discussed below. The General Permit prohibits the discharge of materials other than stormwater that are not “authorized non-storm water discharges” or authorized by a separate NPDES permit. The permittees, in this case the City of Ukiah must implement BMPs that reduce pollutants in stormwater runoff to the technology-based standard of Maximum Extent Practicable (MEP) to protect water quality. MEP is the technology-based standard, which is generally a result of emphasizing pollution prevention and source control BMPs as the first lines of defense in combination with structural and treatment methods where appropriate serving as additional lines

of defense. The proposed Project involves expansion of an existing building and a parking lot, therefore would be subject to the standards established in the MS4 permit.

### **Stormwater Management Plan**

The City is required to implement the SWMP and comply with the General Permit. The purpose of the Stormwater Management Plan (SWMP; City of Ukiah, 2006) is to implement and enforce a series of management practices designed to reduce the discharge of pollutants from urban runoff or MS4. The City has drafted a 5-year SWMP, which includes the following six areas in which the City is taking measures to reduce the pollutants in the stormwater runoff that flows into the local creeks and rivers. The SWMP describes implementation procedures under each of the following areas to be followed by the City or the individual project applicant or contractor:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention and Good Housekeeping for Municipal Operations

## **3.6.4 Impacts and Mitigation Measures**

### **Methodology**

The impact analysis for the proposed Project is based on a review of the existing conditions in Section 3.6.1 above and assessment of the changes that would occur due to the Project (i.e., construction of the proposed retail space, parking lots, gas station, and other features of the Project as discussed in Chapter 2, Project Description). The changes in the hydrological conditions at the Project site are assessed to determine if the Project would have a significant adverse effect. The level of significance is based on the CEQA significance criteria listed below and the regulatory requirements and standards that are discussed in Section 3.6.2.

### **Significance Criteria**

Based on the Appendix G of the CEQA *Guidelines*, the Project would result in a significant impact if it would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted);

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off the site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off the site;
- Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of failure of a levee or a dam; or
- Result in inundation by seiche, tsunami, or mudflow.

Due to the location and characteristics of the Project site, certain conditions are not associated with the Project and therefore, are not considered potential impacts. These conditions are addressed briefly below and are not discussed further in this document.

### ***Placement of Housing within a 100-Year Flood Zone***

The Project would not involve or result in the construction of new housing, or new housing developments. Therefore, the Project would not result in the placement of housing within a 100-year flood zone. No impact would occur.

### ***Seiche, Tsunami, or Mudflow***

There are no large open bodies of water near the Project site, therefore the site is not susceptible to damage from seiche activity. The Project site is more than ten miles from the Pacific Ocean, and therefore is not susceptible to coastal hazards (tsunami, extreme high tides, or sea level rise). Mudflows are typically associated with regions downstream of high relief areas which have loose surficial sediments and/or are or may become denuded of vegetation, such that high stormflows could alter the stability of surficial sediments, leading to a mudflow. Mudflows may also occur as a result of volcanic activity. These conditions are not anticipated on site or in the vicinity of the Project area. Therefore, no impact would occur.

## **Impact Analysis**

**Impact 3.6.1: Project construction activities would disturb surface soils and could cause erosion, and the release of sediment and construction related water quality pollutants to receiving waters. The potential impact to water quality would be less than significant.**



The Project would involve the use of heavy machinery on site, potentially including bulldozers, graders, earth movers, trenchers, semi trucks, and various other large equipment that would be used for site preparation and construction activities. Use of such machinery would result in the disturbance of existing surface sediments, including the removal of existing vegetation, grading, stockpiling of soils, and various other earthwork and on site activities during the construction process. During a storm event, sediment could become entrained in stormwater flows, causing erosion on site, increased sediment loading of stormwater, and sedimentation on site and downstream. Additionally, construction and related activities could result in the accidental release of oils, greases antifreeze, paint washout, cement washout, and other potential water quality pollutants. During a storm event, these pollutants could also become entrained in stormwater and be released into natural waterways, causing water quality degradation in receiving waters. This could have an adverse impact on water quality.

Project construction could also involve the on-site storage of various potential water quality pollutants, including construction related fuels, oils, paint, and other construction related materials. Accidental release of these potential water quality pollutants could occur during the construction process. Such releases could result in the contamination of stormwater, which could in turn pollute receiving waters off site/downstream.

Because the Project would involve construction within an area that is larger than one acre, the Project applicant would be required to apply for and receive coverage under the current General Construction Permit. As discussed previously, acquisition of coverage under the General Construction Permit would require adherence to a host of conditions designed to protect receiving water quality from degradation that could otherwise result from construction activities. Conditions would include adherence to sediment and stormwater pollutant control BMPs, effluent monitoring and compliance, post-construction period requirements, worker training, and various other measures designed to minimize potential for sediment and construction related pollutants to degrade stormwater quality downstream.

In addition to requirements of the General Construction Permit, the Project would also be required to adhere to relevant construction stormwater practices required under City municipal code, including implementation of typical construction BMPs that would include those recommended by the California Stormwater Quality Association (CASQA) such as scheduling or limiting activities to certain times of the year, installing sediment barriers such as silt fence and fiber rolls, maintaining equipment and vehicles used for construction, tracking controls such as stabilizing entrances to the construction site, and developing and implementing a spill prevention and cleanup plan. Non-stormwater management BMPs would include installing specific discharge controls during activities such as paving operations, vehicle and equipment washing and fueling. The contractor would also implement BMPs from the *CASQA BMP Handbook (2009)* to effectively reduce degradation of surface waters to an acceptable level. BMPs that relate to the handling of hazardous materials, spill prevention and clean up, and the handling of contaminated soil could include minimizing the storage of hazardous materials onsite, providing trainings on spill prevention and cleanup, and ensuring proper handling procedures for contaminated soils (CASQA, 2009).

In addition to the SWPPP, the Project applicant would be required to comply with the SWMP prepared by the City. The City implements and also requires construction contractors to implement various construction-related stormwater runoff control measures listed in the SWMP such as the following:

*Illicit Discharge Detection and Elimination:* Train staff in the proper handling, storage, and disposal of hazardous materials and hazardous wastes and then train all current and new staff (3J); In case a spill occurs, contact Ukiah Fire Department. Contact Redwood Empire Hazardous Incident Team (REHIT) as needed for cleanup oversight (3L).

*Construction Site Stormwater Runoff Control:* Prepare and implement erosion and sediment control plans for construction in accordance with the Erosion and Sediment Control Field Manual issued by the San Francisco Bay RWQCB and implemented by the City (4B and 4D).

*Post-Construction Stormwater Management:* Post-construction controls for sediment, oil, and grease (5C); Install storm drain inlet filters for construction of new development projects (5D)

Construction activities would also be subject to Chapter 7 of Division 9 (Planning and Development) and Chapter 8 of Division 4 (Utilities) of the Municipal Code in lieu of coverage under the NPDES general construction permit as described under the *Regulatory Framework* above. The Project applicant would comply with the design standards stated under Chapter 7 of Division 9 that include siting and good housekeeping practices such as conducting soil disturbance work during dry weather whenever possible, providing secondary containment for hazardous materials, and designating concrete washout areas at least 50 feet away from storm drain inlets or drainage facilities.

As required under Chapter 7, Section 9702 the Project applicant would prepare and implement the erosion and sediment control plan as part of the grading permit application. The plan would be prepared by a registered civil engineer, or other professional who is licensed and qualified. As required by the code, the plan would include the following information and contain the following mandatory measures:

- A description and delineation of the vegetative measures to be taken to minimize erosion and sedimentation;
- A description and delineation of the proposed temporary and permanent measures to appropriately and effectively minimize soil erosion and sedimentation and to protect manufactured or disturbed slopes from erosion by mechanical means, such as with mulches, diversion dikes, etc.;
- Delineation of the proposed drainage control measures and temporary and permanent measures to be taken to retain sediment on the site;
- The extent and manner of the cutting of trees and the clearing of vegetation, and their disposal, and the measures proposed for the protection of undisturbed trees and vegetation;
- The proposed methods for the disposal of excess materials and for dust control;
- A description of the measures to maintain the devices shown on the plan during grading operations and construction on the site;

- The extent of disturbed ground that would exist, the streets that would be paved, and drainage devices that would be installed prior to the start of each rainy season;
- Seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, and kind and quantity of mulching for both temporary and permanent vegetative control measures;
- Use of the most recent version of the CASQA BMP handbook, section 3 as a guide as to what measures should be taken for any particular set of circumstances.
- Erosion Control Measures (Section 9703)
  - Complete soil stabilization within five days of clearing or inactivity in construction;
  - Design the Project as such to avoid disturbing land in sensitive areas and to preserve existing vegetation wherever possible;
  - Schedule major grading operations during dry months when practical, and allow adequate time before rainfall begins to stabilize the soil with erosion control materials;
  - Conduct seeding and mulching as soon as grading is complete;
  - If seeding or another vegetative erosion control method is used, establish the vegetative cover within a time frame approved by the city engineer, or the city engineer may require the site to be reseeded or a nonvegetative option employed;
  - Use special techniques that meet the design criteria outlined in the CASQA BMP handbook on steep slopes or in drainageways to ensure stabilization;
  - Stabilize soil stockpiles and/or securely cover at the end of each workday;
  - In areas where permanent reseeding and planting is not established at the close of the construction season, use additional control measures, such as a heavy mulch layer or another method that does not require germination, to ensure soil stabilization at the site;
  - Where runoff needs to be diverted from one area and conveyed to another, construct earth dikes, drainage swales, slope drains or other suitable practice in accordance with the design criteria set forth in the most recent version of the CASQA BMP handbook;
  - Employ techniques to prevent the blowing of dust or sediment from the site and that deliver upland runoff past disturbed slopes shall be employed when determined necessary by the City engineer.
- Sediment Control Measures (Section 9703):
  - Place linear sediment barriers below the toe of exposed and erodible slopes, down slope of exposed soil areas, around soil stockpiles, and at other appropriate locations along the site perimeter;
  - Conduct street sweeping as needed to remove sediment from streets and roadways and to prevent the sediment from entering storm drains or receiving waters. Washing the street or use of cleaning fluids would not be allowed;
  - Protect every storm drain inlet with the potential to receive sediment laden runoff in accordance with the design criteria set forth in the most recent version of the CASQA BMP handbook. Inspect and maintain inlet protection frequently;
  - Install sediment basins or sediment traps where sediment-laden water may enter the drainage system or watercourses and in association with dikes, temporary channels, and pipes used to convey runoff from disturbed areas;

- Protect adjacent properties by the use of a vegetated buffer strip in combination with other perimeter controls or other appropriate method, as described in the most recent version of the CASQA BMP handbook.

Compliance with the construction general permit and implementation of applicable BMPs through the SWPPP, the City's SWMP, and the erosion and sediment control plan described above, would minimize water quality impacts associated with construction activities. In addition, incorporation of appropriate handling and safety measures associated with storage and use of hazardous materials (also refer to Section 3.5, Hazards and Hazardous Materials) combined with the non-stormwater-related controls including spill prevention and control measures would minimize any potential significant effects. The impact would be **less than significant**.

**Mitigation:** None required.

---

**Impact 3.6.2: Subsurface excavation during Project construction could require dewatering, which may result in a discharge that could adversely affect water quality. This is a potentially significant impact.**

As described in the Environmental Setting, groundwater depths may be 10 feet or shallower bgs on site, with groundwater levels potentially varying based on ambient conditions. Project construction would involve subsurface excavation for storm drains, utilities, and structural support. In the event that groundwater is encountered during excavation activities, groundwater dewatering could be required. Dewatering would involve pumping groundwater out of the construction trench, or out of shallow wells designed to draw down near surface groundwater levels in the immediate vicinity of the Project, in order to create a dry work area. The discharge from the dewatering operations is considered nonstormwater discharge and would be allowed to be discharged (Section 4090.5 of Chapter 8, Stormwater Discharge of Division 4, Utilities of the Municipal Code) only if it is uncontaminated. However, the water could contain materials used during typical construction activities such as silt, fuel, grease or other chemicals and if discharged could contaminate downstream surface water. This could be a **potentially significant** impact. However, with written concurrence of the RWQCB, the City may exempt, in writing, other nonstormwater discharges that are not a source of pollutants to the storm drain system or waters of the U.S. The contractor would be subject to discharge standards in the dewatering permit (Order 93-61) prior to discharging into the sewer.

**Mitigation Measure**

**Measure 3.6.2:** In the event that construction period dewatering is required, The Project Applicant will coordinate with the City concerning dewatering activities and compliance with the provisions in the permit, such as the effluent limitations in the permit, prior to discharge. The applicant will:

- Submit a Report of Waste Discharge and Application for NPDES Permit along with a feasibility study of reuse of the groundwater to the RWQCB.

- Discharge flows only upon receipt of the Discharge Authorization Letter from the RWQCB.

**Impact Significance After Mitigation:** Implementation of **Mitigation Measure 3.6.2** and adherence to associated discharge requirements, as warranted, would ensure that the impact would be reduced to **less-than-significant** levels.

---

**Impact 3.6.3: Project construction could require dewatering, but would not result in significant lowering of groundwater levels.**

As discussed previously, groundwater levels in the vicinity of the Project site have been documented as shallow as approximately 10 ft bgs. Depending upon groundwater conditions at the time of construction, and on the depth of proposed stormwater drains, building foundations, and other subsurface infrastructure, installation of proposed facilities could encounter shallow groundwater. In the event that shallow groundwater is encountered, dewatering may be required in order to bring groundwater levels down below the construction surface. Dewatering activities would involve pumping of the water from the excavated area. However, this activity would be limited in spatial extent to the Project site, and limited in time to the construction period. Dewatering would not be required on an ongoing basis, and would only be implemented to the extent required to support construction activities. As such, dewatering would not result in a long term change to groundwater levels in the Ukiah Valley groundwater basin. This impact would be **less than significant**.

**Mitigation:** None required.

---

**Impact 3.6.4: The proposed installation of new impervious surfaces associated with the proposed Costco building and parking lot would result in an increase in impervious surfaces onsite. This could decrease stormwater infiltration and increase stormwater flows, causing downstream flooding, erosion, or sedimentation. This is a potentially significant impact.**

During wet weather events, impervious surfaces typically do not allow for stormwater infiltration thereby creating higher sheet flows on impervious surfaces, as compared to pervious surfaces. As a result, larger volumes of storm runoff accumulate and higher rates of flow alter existing drainage patterns. Therefore, construction of impervious surfaces results in a net increase in the rate and volume of surface runoff, potentially contributing to downstream flood impacts. Additionally, increases in stormwater runoff from the site could cause increased erosion and subsequent sedimentation downstream.

Under existing conditions, the entire Project site is composed of unpaved, pervious surfaces. Following Project implementation, most of the Project site would be converted to impervious surfaces. Impervious surfaces include building footprints, parking lots, roads, and other proposed surfaces that would be paved or otherwise covered by impermeable materials. As a result, approximately 14 acres of the 15.5 acre Project site would be converted to impervious surfaces. Areas that would remain

pervious include portions of the Project site where new facilities are not slated, such as along site margins next to the existing Caltrans swale, as well as landscaped areas, planned vegetated strips, and a proposed stormwater detention basin. The detention basin would be located at the southern tip of the Project site.

The Project applicant has prepared a preliminary/draft Grading and Drainage Plan for the Project that involves installation of measures onsite (**Figure 2-4, Draft Drainage Plan**). As shown therein, stormwater from approximately the northern half of the Project site would be routed into two existing storm drains that would release flows directly into the Caltrans swale, located along the eastern edge of the Project site. Two additional smaller storm drain systems would be installed along the southwestern flank of the Project site, and would drain directly into the adjacent swale. Stormwater from the remaining portion of the Project site would be collected by a series of connected storm drains, and routed into the stormwater detention basin located at the southern end of the Project site. Stormwater from the gasoline refueling station would also be routed into this detention basin through this storm drain system. The proposed detention basin would retain stormwater on site from these areas. The detention basin would also include a proposed outfall into the adjacent swale, although the rate of discharge from this outfall would be managed so as to minimize release rates during a storm event, thereby reducing the intensity of peak flows from the Project site. Bio-retention/swales would be installed at various locations within the proposed parking lot in order to further reduce stormwater flows and peak runoff as well as improve water quality.

As described in the Regulatory Framework above, the Project would be required to be consistent with the policies OC-16.1 and OC-16.2 of the Ukiah General Plan that are intended to protect surface water from water generated in parking lots and to manage stormwater flows to reduce the hazard of flooding and potential erosion from increased stormwater volumes. The Project would be subject to the following design standards in the MS4 permit, as relevant to stormwater flows:

- Peak stormwater discharge rates: The post-development peak stormwater runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak storm water discharge rate will result in increased potential for downstream erosion.

The proposed detention basin and other features discussed above would reduce potential for increases in stormwater flows emanating from proposed impervious surfaces on site. However, even small increases in peak runoff volumes have the potential to notably increase sediment transport and conveyance, and/or exacerbate downstream flooding. Therefore this impact is considered **potentially significant**, and implementation of **Mitigation Measure 3.6.4** would be required.

### **Mitigation Measure**

**Measure 3.6.4:** The Applicant shall prepare and submit to the City engineer and the North Coast Regional Water Quality Control Board for approval a Final Drainage Plan. The Final Drainage Plan shall include design/plan level depiction of the proposed stormwater drainage facilities on site, including the proposed storm drainage system, vegetated swales, and the detention basin. The following measures shall be implemented within the Final Drainage Plan, based on modeled runoff volumes and flow rates specific to with-Project conditions:

- The applicant shall design, implement, and maintain a stormwater retention and/or detention feature(s) such that there would be no net increase in project condition peak flows; and/or, with respect to the additional impervious surface area proposed for the project, the [applicant] shall design and implement volume- and/or flow-based Treatment Control Best Management Practices (BMPs) as defined in Attachment 4 (pages 5-6) of the State Water Resources Control Board (SWRCB) small municipal separate storm sewer systems (MS4s) General Permit (Small MS4 General Permit) (SWRCB Order 2003-0005-DWQ).
- Prior to implementation, design drawings and any related documents or specifications with respect to these required mitigation measures shall be submitted to the City of Ukiah and the North Coast Regional Water Quality Control Board.

**Impact Significance after Mitigation:** Less than Significant.

---

**Impact 3.6.5: The proposed Project would include installation of a new refueling station and new impervious surfaces. During Project operation, stormwater runoff from these areas could contain elevated pollutant levels, and could result in increased pollutant loading downstream.**

As discussed for Impact 3.6-4, Project implementation would result in the creation of approximately 14 acres of new impervious surfaces, including a proposed gas station. During Project operation, impervious surfaces would be used as parking areas and roadways, and for refueling. These areas would collect various potential water quality pollutants, including sediment, fuel residues, oils, brake dust, trash, and other water quality pollutants. Operation of the proposed gas station could also result in accidental spillage of fuel or other automobile related pollutants. These pollutants could become entrained in stormwater on site, and could be carried off site and into natural waters downstream, resulting in elevated levels of stormwater pollution within the Russian River and its tributaries. With respect to sediment, as noted previously, the Russian River system is listed on the State 303(d) list as being impaired for sediment, and any contribution to this impairment could be considered, by the NCRWQCB, a violation of water quality standards.

As shown on the Draft Drainage Plan (Figure 2-4), the proposed drainage system includes bioswales and a stormwater detention basin, which would be expected to reduce sediment loading, and could also reduce pollutant loading to stormwater. The Project would be subject to the following design standards in the MS4 permit, as relevant to water quality:

- Conserve natural areas (e.g., maximize trees and other vegetation onsite).
- Minimize stormwater pollutants of concern to MEP (e.g., by implementing BMPs from the California Storm Water Best Management Practices Handbooks).
- Protect slopes and channels (e.g., utilize natural drainage systems to the maximum extent practicable, install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion).
- Provide storm drain system stenciling and signage.
- Properly design outdoor material and trash storage areas.

- Provide proof of ongoing BMP maintenance (e.g., allocating responsibility for maintenance of BMPs; verification to the City such as a signed statement for accepting responsibility for all structural and treatment control BMP maintenance.
- Implement structural or treatment control BMP that are designed based on the flow or volume of the runoff.
- Additional provisions applicable to the Project would be provisions listed for commercial development and parking lots such as the following:
  - Properly design the areas to reduce impervious land coverage of parking areas and infiltrate or treat runoff
  - Properly design to limit oil contamination and perform maintenance. Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks.

Project implementation would also require implementation of erosion and sediment control measures as discussed for Impact 3.6.1, some of which are applicable to the post construction period. Implementation of these and the measures indicated above would be required via adherence to permit conditions, and would ensure that potential releases of sediment, oils, fuel, trash, and other potential water quality pollutants to natural waters would be minimized. Therefore, this impact is considered **less than significant** with implementation of required design standards and best management practices.

**Mitigation:** None required.

---

**Impact 3.6.6: Increase in the impervious surfaces under the proposed Project would not significantly affect groundwater recharge in the Project area.**

As discussed in the Setting, the Project site lies in the Ukiah Valley groundwater basin, which is a 22-mile long 3-mile wide groundwater basin and underlies an approximately 60- square-mile area. The Project would result in addition of approximately 14 acres of impervious surfaces. Given the proportion of the increase in the impervious surfaces as compared to the existing conditions and the groundwater basin, the Project would not cause a significant change over existing conditions as to affect groundwater recharge in the basin. Further, the design measures and BMPs that would be installed and implemented to control stormwater (see Mitigation Measure 3.6.4), would help enhance stormwater infiltration. The impact is therefore considered **less than significant**.

**Mitigation:** None required.

---

**Impact 3.6.7: The Project would not subject people and structures to increased risk of floods from the potential failure of the Coyote Dam at Lake Mendocino.**



According to the dam inundation area map and the worse case scenario study in the City of Ukiah General Plan (2004), in the unlikely event of the failure of Coyote Dam at Lake Mendocino, the water from the Coyote Dam would travel north up the Russian River channel and south toward the Community of Calpella (over 5 miles north of Ukiah). Inundation in the south is predicted to occur mostly within most creek channels from the Russian River nearly to the base of the foothills on the west side of the Ukiah Valley. The main channel of flooding would likely follow US 101 with most segments of the highway south of Talmage Road projected to be under water (City of Ukiah, 2004). Although the Project site lies over five miles from Coyote Dam, it is located south of Talmage Road and west of US 101 and could be subject to risk of floods from potential failure of the Coyote Dam.

The California DWR, Division of Safety of Dams (DSOD) oversees the construction of dams, and requires monitoring following construction, for dams that are over 25 feet high and impound over 15 acre-feet of water, or over 6 feet high and impound over 50 acre-feet of water, including the Coyote Dam. Due to DSOD regulatory oversight, monitoring, and design review, the potential is minimal for the catastrophic failure of a properly designed and constructed dam, whether caused by a seismic event, flood event, unstable slope conditions, or damage from corrosive or expansive soils. Further, the Project would involve installation of new buildings, a parking lot, and associated infrastructure, and would not result in any alteration to the physical structure, integrity, or operations of any dams or other flood control structures. Therefore, the Project would not result in a significant increase in flood risk from the potential failure of the Coyote Dam relative to current conditions. The impact would be **less than significant**.

**Mitigation:** None required.

---

## Cumulative Impacts

**Impact 3.6.8: Project implementation, in conjunction with other foreseeable development in the city, could result in cumulative hydrology and water quality impacts. This is a potentially significant impact.**

The geographic area for the analysis of cumulative impacts for hydrology and water quality is the Russian River watershed, particularly those areas that drain into the Russian River in the vicinity of the Project, including the City of Ukiah. The cumulative analysis considers the past, present, and probable future projects listed in Chapter 4 for cumulative impacts.

### Short-term Construction

Concurrent construction of the proposed Project and other cumulative projects could result in increased erosion and subsequent sedimentation, which could have a cumulative effect on the water quality of the receiving waters including the Russian River. Any inadvertent release of fuels or other hazardous materials during concurrent construction of Projects could affect the water quality in the stream channels or storm drains that eventually flow into Russian River. As discussed above,

the Russian River is impaired for sediment. Therefore the addition of either silt or sediment from construction activities from the proposed Project combined with other projects in the watershed would have a significant cumulative effect. However, as described under Impacts 3.6-1 and 3.6-4 above, the Project applicant would minimize the Project impacts by complying with the applicable water quality regulations including preparing and implementing a SWPPP; complying with the Municipal Code requirements; and installing BMPs and practicing control measures to manage and reduce erosion, stormwater runoff, and sedimentation downstream. This would also minimize any resulting flooding impacts from construction activities. The Project impact on water quality and flooding from construction would be less than significant. Given the existing developed nature of the Project vicinity, and other projects in the watershed including the development of Costco, the Project would not result in a cumulatively considerable contribution toward the cumulative water impact from construction.

### **Long-term Operation**

Concurrent implementation of the proposed Project and other cumulative projects could result in long term impacts related to water quality, and flooding from increased impervious areas. As discussed above, the Russian River is impaired for sediment and temperature, therefore addition of impervious surfaces from the proposed Project along with other proposed developments could reduce infiltration thereby increasing storm runoff flows. The cumulative increase in impervious surfaces could cause a substantial increase in runoff, which if not controlled could result in a significant flooding effect downstream. However, the proposed Project would incorporate design and treatment control measures to minimize long term stormwater impacts, including stormwater retention. With regard to temperature impairment, the implementation of the designed swales and the implementation of parking lot shading requirements (AIP Ordinance 1098) would reduce the cumulative effects of the Project to less than significant.

As described in Impacts 3.6-4 and 3.6-5, the proposed Project would comply with the stormwater control requirements for flow and water quality and would have performance standards listed in the MS4 permit (e.g., the runoff rates from the project would be similar to pre-development rates and minimize stormwater pollutant to MEP), which would result in a less-than-significant impact. Considering that the Project would have a performance standard of controlled stormwater flow and quality as per the MS4 permit, the Project would not have a substantial contribution toward long-term flooding or water quality impact. Therefore the Project would not result in a cumulatively considerable contribution toward the cumulative impact.

**Mitigation:** Implement Mitigation Measure 3.6.4.

**Impact Significance after Mitigation:** Not Cumulatively Considerable.

### 3.6.5 References

California Department of Water Resources (DWR), 2003. California's Groundwater Bulletin 118.

California Department of Water Resources (DWR), 2012. *Water Data Library; Well No. 15N12W34Q001M*, [www.water.ca.gov/waterdatalibrary](http://www.water.ca.gov/waterdatalibrary), accessed March 23, 2012.

California Stormwater Quality Association (CASQA), 2009. *California Stormwater BMP Handbook*, [www.cabmphandbooks.com/Construction.asp](http://www.cabmphandbooks.com/Construction.asp), accessed on June 25, 2010.

City of Ukiah, 2006. *City of Ukiah Stormwater Management Plan*. Department of Public Works. February 28, 2006.

City of Ukiah, 2004. *General Plan*.

City of Ukiah, 2010a. Groundwater Well Information.

City of Ukiah, 2010b. Municipal Code, updated March 3, 2010.

County of Mendocino, 2010. *Drainage Design Standards (Mean Seasonal Precipitation in Inches, Intensity/Duration/Frequency Charts - Ukiah, Lake Mendocino Dam, Runoff Coefficients for Rational Formula), Road Standards*.

Division of Safety of Dams (DSOD), 2012. Listing of Dams, Dams Owned or Operated by Federal Agencies Listed Alphabetically by Name of Dam, [www.water.ca.gov/damsafety/docs/Federal2010.pdf](http://www.water.ca.gov/damsafety/docs/Federal2010.pdf), accessed on March 23, 2012.

DWR, 2009. Water Plan

North Coast Regional Water Quality Control Board (NCRWQCB), 2011. *2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report) – Statewide*, [www.waterboards.ca.gov/water\\_issues/programs/tmdl/integrated2010.shtml](http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml), accessed March 23, 2012.

North Coast Regional Water Quality Control Board (NCRWQCB), 2006. *Basin Plan*, original date of publication: 1993, sections updated 2005, 2006.

Washington Dept of Ecology, 2004. *Water Quality Program, Stormwater Management in Western Washington, Volume III, Hydrologic Analysis and Flow Control Design/BMPs, Calculation of Time of Concentration*, Publication No. 99-13, Aug 2001. Department of Water Resources (DWR), Groundwater Bulletin 118 – Ukiah Valley Groundwater Basin.

**This Page is Intentionally Left Blank**

## 3.7 Land Use and Planning

### 3.7.1 Introduction

This section describes the existing land uses, General Plan land use designations, and zoning classifications related to the proposed Project. This section also describes the applicable plans and policies that guide development in the Project area and evaluates the Project's consistency with these plans and policies and other existing land use regulations. Potentially significant land use impacts are identified and, if necessary, appropriate mitigation measures are determined.

### 3.7.2 Environmental Setting

#### **Land Uses in the Project Vicinity**

As introduced in Chapter 3, Project Description, the Project site is located within the southern portion of the City of Ukiah (see Figure 2-1 in Project Description). The Project site is currently undeveloped and is within the Airport Industrial Park (AIP) Planned Development. The site is bounded by several retail stores (north), the Mendocino Brewing Company and several undeveloped parcels (south), US 101 (east), and Airport Park Boulevard (west).

Land uses in the Project site vicinity are mixed and include retail and commercial uses, visitor-serving uses, residential, light industrial, and the Ukiah Municipal Airport. Several retail stores including the Ken Fowler Auto Center, Food Maxx, Staples, and Walmart are located to the north. The Talmage Road/US 101 interchange is north of the existing Walmart. A tire store and a medium-density residential neighborhood are located north of Talmage Road. The Mendocino Brewing Company, several undeveloped parcels, and the continuation of US 101 are located south of the Project site. US 101 is located east of the Project site. Commercial, light industrial and agricultural land uses lie east of US 101. Airport Park Boulevard is located along the western edge of the Project site. The Ukiah Municipal Airport is located approximately 700 feet to the west on the other side of Airport Park Boulevard. The nearest residences to the Project site are medium density residential units located approximately 2000 feet southwest from the Project site.

### 3.7.3 Regulatory Setting

#### **Local**

#### ***Land Use Designations and Zoning***

The City of Ukiah General Plan designates the Project site as a Master Plan Area, which allows for Planned Development. The Project site is designated as Airport Industrial Park Planned Development (AIP-PD). The applicable planning documents allow for a mixture of industrial, commercial, and office land uses within the AIP-PD. The parcels making up the proposed Project site are designated as Light Manufacturing/Mixed-Use and Industrial/Auto Commercial. The Light Manufacturing/Mixed-Use designation permits retail commercial stores (including the Project) with the securing of a Conditional Use Permit; however, retail commercial uses are not permitted

in the Industrial/Auto Commercial designation. Thus, all twelve parcels would be rezoned to Retail Commercial as part of the proposed Project. Under the proposed Retail Commercial zoning, the proposed uses would be allowed with approval of a Site Development Permit. Specific details required under the Site Development Permit include submittal of site plans, elevations, signage details, landscaping plan, and parking plan. The Project site is also subject to the requirements of City of Ukiah Ordinance No. 1098, which includes Development Standards and Design Guidelines for development within the AIP-PD. Standards listed under these provisions include such items as building height, screening, sidewalk requirements, landscaping, lighting, building exteriors, and other design amenities. Furthermore, a boundary line adjustment will be required in order to consolidate the multiple existing parcels into one parcel.

### ***City of Ukiah General Plan and Growth Management Program***

See **Table 3.7-1**, below, for a list and description of General Plan policies that apply to the proposed Project. **Table 3.7-1** also describes the consistency of the Project with the applicable policies.

### ***Mendocino County Airport Comprehensive Land Use Plan***

The Project is located within the Mendocino County Airport's area of influence. The Project's relationship to the *Mendocino County Airport Comprehensive Land Use Plan* is discussed in Section 3.5, Hazards and Hazardous Materials.

## **3.7.4 Impacts and Mitigation Measures**

### **Methodology**

The Project was evaluated for its compatibility with the applicable plans and policies in order to determine the potential for significant environmental impacts. The Project site and its proposed uses were evaluated in terms of their compatibility with existing land uses surrounding and in close proximity to the Project site. The potential change that the Project would cause is measured against existing baseline conditions.

### **Significance Criteria**

Consistent with Appendix G of the CEQA *Guidelines* the Project would result in a significant impact if it would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or,
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

## Impact Analysis

### **Impact 3.7.1: The proposed Project would not physically divide an established community.**

The proposed project would result in the construction of a Costco Wholesale warehouse and fuel station on a previously undeveloped site. As described in the Environmental Setting section, land uses in the Project area include retail and commercial uses, visitor-serving uses, and light industrial. A residential neighborhood is located approximately 650 yards (2000 feet) southwest from the project site and the Ukiah Municipal Airport is west of Airport Road. Additional commercial, light industrial and agricultural land uses lie east of the Project site, across Highway 101. The proposed Project would be compatible with the adjacent retail and commercial uses and the Costco Wholesale Warehouse store would not physically divide these uses or the existing residential areas southwest of the site. The impact would be **less than significant**.

**Mitigation:** None required.

---

### **Impact 3.7.2: The proposed Project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.**

The Project site is designated as Airport Industrial Park Planned Development (AIP-PD), the purpose of which is to provide for the coordinated development of compatible commercial, office, and industrial land uses (City of Ukiah Ordinance No. 1098). As described above, the parcels making up the proposed Project site are designated as Light Manufacturing/Mixed-Use and Industrial/Auto Commercial. The Light Manufacturing/Mixed-Use designation permits retail commercial stores (including the Project) with the securing of a Use Permit; however, retail commercial uses are not permitted in the Industrial/Auto Commercial designation. Thus, the Project site would be rezoned from Industrial/Auto Commercial to Retail Commercial in order to allow for the proposed Project.

The City of Ukiah General Plan applies to the proposed Project. **Table 3.7-1**, below, provides a description of the applicable General Plan policies and evaluates potential conflicts with the policies. Note that consistency with the General Plan is ultimately determined by the decision making body of the lead agency. A finding of “consistency” does not require that the project promote every individual policy, but that overall, the project will “further the objectives and policies of the General Plan and not obstruct their attainment (OPR 2001).”

The proposed Project would be required to comply with the Development Standards and Design Guidelines listed under Ordinance No. 1098. Standards listed under these provisions include such items as building height, screening, sidewalk requirements, landscaping, lighting, building exteriors, and other design amenities. A Site Development Permit would also be required as the proposed Project would involve the construction of a large commercial structure (City of Ukiah Ordinance 1098). Specific details required under the Site Development Permit include submittal of site plans, elevations, signage details, landscaping plan, and parking plan.

**TABLE 3.7-1  
 CITY OF UKIAH GENERAL PLAN CONSISTENCY**

<b>Goal / Policy</b>	<b>Text</b>	<b>Consistency Determination</b>
<b>Overall General Plan Goals and Policies</b>		
GP-1	Promote, attract or assist in developing businesses, particularly those that add value to resources already found or processed in the Ukiah Valley.	This policy (vision statement) is unrelated to potential physical impacts that may result from the proposed Project. Consistency with this policy will be determined by the Planning Commission.
GP-2	Promote business development, emphasizing local ownership of businesses in order to keep capital growth within the community.	This policy (vision statement) is unrelated to potential physical impacts that may result from the proposed Project. Consistency with this policy will be determined by the Planning Commission.
GP-20.2	Protect water supplies from adverse impacts.	This policy is (vision statement) does not apply to individual projects. Nevertheless, the proposed Project would implement construction and operational stormwater quality protection measures in compliance with the Stormwater Pollution Prevention Plan and the City's Stormwater Management Plan, including implementation of an erosion and sediment control plan. Additional mitigation is proposed to address water quality impacts during grading and dewatering activities. See Section 4.6 for a listing of regulatory requirements and mitigation measures designed to protect water quality.
GP-20.3	Maintain and enhance air quality.	As described in Section 3.2, Air Quality, the proposed Project would exceed the applicable thresholds for criteria pollutants including particulate matter and ozone precursors. However, this policy does not create a mandate for individual development projects. At the project level, the project is <b>potentially inconsistent</b> with this goal, although regionally, it may not be inconsistent (by diverting trips that would otherwise go to more distant regional shopping centers). Ultimately, consistency with this policy will be determined by the decision making body.
GP-24	Conserve and enhance the natural beauty of the Ukiah Valley.	The project is located in an area designated for development, with height restrictions and development standards to implement the general plan. A detailed discussion of visual resources is found in Section 3.1, Aesthetics.
GP-25	Ensure aesthetic qualities in the design and construction of the community.	See detailed discussion of this topic in Section 3.1, Aesthetics.
GP-25.2	In areas to be developed or redeveloped, ensure usable open space and common space.	The proposed Project does not include open space (as defined by City ordinance) or common space. However, this policy does not create a mandate for individual parcels or development projects.
GP-26	Require that landscaping be a significant component of development and redevelopment.	For the project site, general plan landscaping goals are implemented through Ordinance No. 1089. The proposed Project will include landscaping as a requirement of new development (see the landscaping plans in the Project Description. Compliance with the ordinance will be determined by the Planning Commission as part of its review of the Site Development Permit.
GP-27	Maintain scenic viewsheds of the Valley.	See GP-24.
GP-28	Make Ukiah a leader in the development of responsible resource-conserving ways of living and doing business, giving the fullest consideration to the impacts of our actions on future generations.	This policy does not specify standards applicable to individual project. It is noted that the proposed Project includes multiple sustainable design features designed to reduce consumption of resources. See Section 3.0, Project Description, for the complete list.



**TABLE 3.7-1  
CITY OF UKIAH GENERAL PLAN CONSISTENCY**

<b>Goal / Policy</b>	<b>Text</b>	<b>Consistency Determination</b>
GP-29.3	Promote public transportation, services within walking distance in neighborhoods, and any other feasible means of preventing needless vehicle use and pollution.	While the proposed use relies heavily on the automobile, the Project is located in an existing retail area designated for such uses, and mitigation measures will upgrade the transit, bicycle and pedestrian infrastructure (see Section 3.10, Transportation).
<b>Open Space and Conservation</b>		
OC-1.2	New residential, commercial, and industrial development shall include open space as defined in the Land Development Code.	See GP-25.2.
OC-7.4	Take measures to lessen flooding resulting from runoff.	The project includes design features to lessen stormwater runoff. See the discussion of this topic in Section 3.6, Hydrology.
OC-9.5	Establish water course protection areas with construction limits to provide protection for riparian vegetation and stream banks.	The project would not impact riparian areas. See the discussion of this topic in Section 3.6, Hydrology and 3.12, Biological Resources.
OC-13.1	Maintain long-term sustained yield of the Valley's groundwater system shall be the standard for evaluation for groundwater protection programs.	The project would not significantly impact groundwater. See detailed discussion of this topic in Section 3.6, Hydrology.
OC-14.1	Support actions to retain water in the Ukiah Valley.	This policy does not directly relate to the project. The project would use municipal domestic water and would not affect water rights or export water.
OC-15.1	Protect water quality from adverse impacts of urban and agricultural runoff.	The proposed Project would implement construction and operational stormwater quality protection measures in compliance with the Stormwater Pollution Prevention Plan and the City's Stormwater Management Plan, including implementation of an erosion and sediment control plan. Additional mitigation is proposed to address water quality impacts during grading and dewatering activities. See Section 3.6 for a discussion of regulatory requirements and mitigation measures designed to protect water quality.
OC-16	Design parking facilities to reduce runoff and surface water contamination.	The proposed Project would implement construction and operational stormwater quality protection measures in compliance with the Stormwater Pollution Prevention Plan and the City's Stormwater Management Plan, including implementation of an erosion and sediment control plan. See Section 3.6 for a listing of regulatory requirements and mitigation measures designed to protect water quality.
OC-16.1	Protect surface water supplies from water generated in parking lots.	The proposed Project would implement construction and operational stormwater quality protection measures in compliance with the Stormwater Pollution Prevention Plan and the City's Stormwater Management Plan, including implementation of an erosion and sediment control plan. See Section 3.6 for a listing of regulatory requirements and mitigation measures designed to protect water quality.
OC-16.2	Manage stormwater flows to reduce the hazard of flooding from increased stormwater flows.	The proposed Project would implement construction and operational stormwater quality protection measures in compliance with the Stormwater Pollution Prevention Plan and the City's Stormwater Management Plan. The Project design also includes swales and detention areas to mitigate the increase in stormwater flows. See Section 3.6 for a listing of regulatory requirements and mitigation measures designed to reduce flood impacts of stormwater flows.

**TABLE 3.7-1  
 CITY OF UKIAH GENERAL PLAN CONSISTENCY**

<b>Goal / Policy</b>	<b>Text</b>	<b>Consistency Determination</b>
OC-22	Conserve and replenish valley oaks in the Valley.	No native Valley oaks would be disturbed or otherwise affected by the proposed project.
OC-22.1	Maintain, protect, and replant stands of Valley Oaks	No native Valley oaks would be disturbed or otherwise affected by the proposed project.
OC-23	Native plant landscaping shall be encouraged.	The proposed Project incorporates some native plants and trees that will survive in a commercial development environment.
OC-25	Maintain and enhance the City's canopy of shade trees.	Trees and other vegetation will be planted as part of the proposed Project (see Figure 2-5). No tree removals are proposed.
OC-25.1	Protect existing healthy mature trees to maintain shade and area attractiveness.	No healthy mature trees would be removed either on or off site. Trees and other vegetation will be planted as part of the proposed Project (see Figure 2-5).
OC-28	Visually enhance the Highway 101 corridor through the Planning Area.	See detailed discussion of this topic in Section 3.1, Aesthetics.
OC-28.1	Upgrade the visual appearance of the corridor along Highway 101.	The proposed Project includes new landscaping adjacent to the Highway 101 corridor and screening of all rooftop-mounted equipment.
OC-29	Maintain and enhance the "urban forests" which create a sense of urban space.	Trees and other vegetation will be planted as part of the Landscape Plan. No tree removals are proposed.
OC-29.1	The development review process shall incorporate measures to maintain and enhance the urban tree canopy.	While this policy refers to City procedures, it is noted that trees and other vegetation will be planted as part of the proposed Project.
OC-31.1	Concentrate development to encourage mass transit and limit automobile use.	The proposed Project is located in a concentrated commercial area and is surrounded by similar land uses. While wholesale retail relies upon automobile use, the proposed Project would also provide for the expansion of existing transit service in the vicinity.
OC-32.1	The City and County shall require all air quality mitigation measures to be reasonable, effective, feasible, measureable, and implementable concurrent with project development.	The EIR identifies several mitigation measures, including project design features, to reduce emissions from the proposed Project.
OC-34.1	Submit all discretionary applications to the MCAQMD for review and comment.	The MCAQMD has been contacted, and has submitted a scoping letter to the City. The City will circulate the Draft EIR to the MCAQMD.
OC-37.2	Work to reduce particulate emissions from construction activities.	The proposed Project would implement construction air quality mitigation measures to reduce emissions from construction sources in accordance with MCAQMD guidelines. See Section 3.2, Air Quality.
OC-38.1	Require "clean air" heat sources in new construction.	The proposed Project would include central HVAC, powered by electricity and natural gas.
<b>Noise</b>		
NZ-1	Stabilize or reduce transportation noise impacts on adjacent residential.	The proposed Project would not result in a significant impact to residential areas regarding transportation noise. See detailed discussion of this topic in Section 3.8, Noise.
NZ-1.6	Incorporate sound reducing measures in new construction around the airport.	The proposed Project is located beyond the noise contour line in which impacts from airport operations would be expected.
NZ-2.2	Ensure adequate analysis of noise impacts when reviewing project permits.	An analysis of the Project's noise impacts has been conducted (see Section 3.8, Noise). Mitigation measures are proposed to reduce construction and operational noise impacts on sensitive receptors.

**TABLE 3.7-1  
CITY OF UKIAH GENERAL PLAN CONSISTENCY**

<b>Goal / Policy</b>	<b>Text</b>	<b>Consistency Determination</b>
NZ-2.3	Land use designations shall follow State of California noise and land use compatibility guidelines.	The City's General Plan Noise Element standards are consistent with state guidance (the General Plan Guidelines) and apply to all development projects. See discussion of this topic in Section 3.8, Noise.
NZ-2.4	Protect existing residential areas from future noise impacts.	Noise analysis demonstrates a less-than-significant effect on existing sensitive receptors. See Section 3.8, Noise.
<b>Safety</b>		
SF-1	Regulate new development in fault zones.	See discussion of this topic in Section 3.4, Geology and Soils.
SF-1.1	Avoid urban-scale development within Alquist-Priolo Earthquake Fault Zones.	The proposed Project is not located within an Alquist-Priolo Earthquake Fault Zone.
SF-2	Regulate development across or near earthquake faults outside the Alquist-Priolo Earthquake Zone.	See discussion of this topic in Section 3.4, Geology and Soils. The impact analysis identifies feasible mitigation measures that would reduce seismic risk to less than significant.
SF-2.1	Provide development guidelines for building outside Alquist-Priolo Earthquake Fault Zones.	The proposed Project would comply with all applicable California Building Standards Code requirements.
SF-2.2	Protect people and property from landslide danger.	The Project site has a low probability of landslide hazard. See discussion of this topic in Section 3.4, Geology and Soils.
SF-3.1	Ensure adequate standards for development within the One Hundred Year Flood Plain.	The Project site is not located within a 100-year flood zone.
<b>Energy</b>		
EG-1	Create land use patterns which facilitate the conservation of energy.	While this goal is more relevant to the general plan level (as opposed to individual projects), it is noted that the proposed Project is consistent with established land use patterns.
EG-1.1	Locate shopping, employment and recreation opportunities within walking or bicycling distance of proposed and existing housing.	While this policy is more relevant to the general plan level, the proposed Project will include sidewalks and frontage bicycle routes allowing access to the Project site. Bicycle racks will also be required. The Project site is within an established retail area.
EG-4	Maximize on-site energy use, especially in new developments.	The proposed Project would include energy-conserving features, including reflective roof materials and skylights.
EG-4.1	Incorporate solar energy considerations into the design, review and approval of all development.	The proposed Project would include energy-conserving features such as skylights, solar reflective building panels, white roofs, and appropriate tree plantings (passive cooling), which have solar attributes. However, the project does not include active solar energy (such as photovoltaic energy). Ultimately, consistency with this policy will be determined by the Planning Commission as part its review of the Site Development Permit.
EG-5	Site design shall incorporate shade trees for energy conservation.	Shade trees will be planted as part of the proposed Project (see Figure 2-5).
EG-5.1	Encourage minimum canopy coverage of all paved area on a lot.	Shade trees will be planted as part of the proposed Project (see Figure 2-5).
EG-6	Promote energy efficiency features in the design of all new structures and in the retrofitting of existing structures.	The proposed Project would include energy-conserving features such as skylights, high R-value wall panels, and white roofs.
EG-6.1	Design new buildings with the maximum feasible energy efficiency.	See Policy EG-6 discussion.

**TABLE 3.7-1  
 CITY OF UKIAH GENERAL PLAN CONSISTENCY**

<b>Goal / Policy</b>	<b>Text</b>	<b>Consistency Determination</b>
<b>Parks and Recreation</b>		
PR-13.3	All new developments shall incorporate safe bicycle lanes in project street design.	The proposed Project will include bicycle routes allowing access to the Project site, per City plans. Bicycle racks will also be included.
<b>Historic and Archaeological Resources</b>		
HA-3	Maintain, protect, and enhance the area's heritage, including and not limited to its cultural, historical, spiritual, social, economic, architectural, agricultural, archaeological, and scenic heritage.	The proposed Project consists of a new Costco Wholesale Warehouse located in an urbanized area of the City of Ukiah that is generally devoted to commercial and retail uses. The proposed Project includes landscaping designed to be compatible with adjacent properties, and screening of rooftop mechanical equipment. Design and materials of the proposed Project would be consistent with the project vicinity.
HA-4	Conserve the character and architecture of neighborhoods.	The proposed Project consists of a new Costco Wholesale Warehouse located in an urbanized area of the City of Ukiah that is generally devoted to commercial and retail uses
HA-4.1	Consider the visual character of surrounding developments when reviewing discretionary project approvals.	The proposed Project consists of a new Costco Wholesale Warehouse located in an urbanized area of the City of Ukiah that is generally devoted to commercial and retail uses. The proposed Project includes landscaping designed to be compatible with adjacent properties, and screening of rooftop mechanical equipment. Mitigation Measure 3.1-3 would require the preparation of a photometric plan demonstrating that lighting will not spillover onto adjacent properties. All outdoor light fixtures would be directed downwards. Design and materials of the proposed Project would be consistent with the project vicinity. .
<b>Community Facilities and Services</b>		
CF-3	Promote water conservation.	The proposed Project would incorporate drought resistant plants and high-efficiency irrigation to conserve water.
CF-11	Ensure adequate public school facilities necessary to sustain a quality learning environment as the population of the Planning Area increases.	While this policy does not create specific requirements for commercial development, it is noted that the developer would be required to pay applicable school impact fees in accordance with SB 50.
CF-11.2	Consider potential impacts on the Ukiah Unified School District during the review of discretionary projects.	The proposed Project would not be expected to result in a substantial increase in school-aged children. The developer would be required to pay applicable school impact fees in accordance with SB 50.
<b>Circulation</b>		
CT-1.1	Land use entitlements shall be based on the classification and capacity of the street or road providing primary access.	The roads providing primary access to the site consist of arterial and collector streets. The proposed Project, in combination with current and proposed development, would contribute trips to some intersections that are anticipated to operate below acceptable standards. Necessary intersection improvements have been identified, and the Project applicant is required to provide fair-share payments to fund the improvements. Additionally, the Project is located in an area designated for commercial development, and will have satisfied its obligations by providing fair share contributions to roadway improvements.
CT-1.3	All proposed development shall be reviewed for its immediate and cumulative transportation impacts.	The proposed Project has been analyzed for its direct and cumulative transportation impacts (see Section 3.10, Transportation). The proposed Project would contribute trips to intersections that cumulatively are anticipated to operate below acceptable standards. Necessary intersection improvements have been identified, and the Project applicant is required to

**TABLE 3.7-1  
CITY OF UKIAH GENERAL PLAN CONSISTENCY**

Goal / Policy	Text	Consistency Determination
		provide fair-share payments to fund the improvements. Although the EIR conservatively finds that cumulative transportation impacts are significant, due to uncertainty regarding the funding and timing of necessary improvements, the Project will have satisfied its obligations by providing fair share contributions to improvements. The General Plan does not require the denial of a proposed development that would cause transportation impacts. Rather, it specifies that these impacts be considered in relation to the need for new development (Policy CT-16.4) and provides responses to these impacts in Implementation Measure CT-16.4(d).
CT-3	Design new development and redevelopment projects to be as accessible by foot, bicycle, and transit, as they are by auto.	The proposed Project will include sidewalks and bicycle routes allowing access to the Project site. Bicycle racks will also be included. Mitigation Measure 3.10.2a requires the Project applicant to construct a pad for the addition of an MTA transit stop. See Section 3.10, Transportation, for additional information.
CT-3.1	New development and Redevelopment projects shall specifically include plans for pedestrian facilities, bike lanes, bike racks, and transit stops.	See Policy CT-3 discussion.
CT-6	Increase the use of bicycle transportation.	The proposed Project will include bicycle lanes on the project frontage. Bicycle racks will be installed at the Project site. See Section 3.10, Transportation, for additional information.
CT-6.2	Promote the use of bicycles as a viable and attractive alternative to cars.	See Policy CT-6 discussion.
CT-6.3	Provide bicycle lanes or paths along major streets.	See Policy CT-6 discussion.
CT-7	Develop pedestrian access.	The proposed Project will include sidewalks on adjacent streets and within the Project site (parking lot). See Section 3.10, Transportation, for additional information.
CT-7.1	Treat pedestrian access as an integral part of all road improvements within the City and within urbanized development areas of the County.	See Policy CT-7 discussion.
CT-8	Encourage increased use of public transportation.	While this policy does not identify specific requirements for development projects, the Project site will be served by a transit stop.
CT-8.1	Make it easier to utilize bus service.	See Policy CT-8 and CT-9 discussion.
CT-9	Maximize the use of public transportation through efficient land use patterns and supporting incentive programs	While this policy does not identify specific requirements for individual development projects, the Project site will be served by a transit stop. The Project is located in an area, adjacent to existing development, designated for such uses.
CT-9.1	Include design features in new commercial and residential areas that make public transportation convenient.	See Policy CT-8 discussion.
CT-9.2	Support a strategy to provide funding and incentives to increase ridership opportunities.	Consistent: While this policy does not create specific requirements for development projects, the Project site will be served by a transit stop.
CT-11	Encourage increased use of car- or van-pooling.	While this policy does not necessarily apply on a project by project basis, Mitigation Measure 3.2.2b would encourage car or vanpooling.
CT-11.1	Implement programs to increase car-pooling.	See Policy CT-11 discussion.

**TABLE 3.7-1  
 CITY OF UKIAH GENERAL PLAN CONSISTENCY**

<b>Goal / Policy</b>	<b>Text</b>	<b>Consistency Determination</b>
CT-13.1	Utilize landscaping and other amenities to improve the appearance and traffic patterns of onsite parking facilities.	. Proposed landscaping in the parking lot will include suitable shade trees and perimeter landscaping (see Figure 2-5).
CT-16	Development shall be permitted within road capacities.	See Policy CT-1.1 and CT1.3 discussions. The Project would contribute to a cumulative impact at the Talmage Road/US 101 interchange. It should be noted that the capacity of this interchange will be exceeded in the future (with or without the proposed Project), and that the implementation of future mitigation requires a joint effort between the City of Ukiah and Caltrans. Implementation Measure CT-16.4(d) of the General Plan provides a means for development projects to comply with this goal by contributing to identified improvements (traffic mitigation measures).
CT-16.1	Level of service shall be the standard to judge whether a road has adequate remaining capacity to service the traffic generated by a proposed project.	The study intersections were analyzed using methodologies published in the Highway Capacity Manual. The Ukiah Valley General Plan and Growth Management Program establish the criteria for acceptable operation. See Section 3.10 for a discussion of LOS standards and analysis.
CT-16.4	Balance the need for new development with methods of accommodating increasing traffic.	The proposed Project would contribute trips to intersections that are anticipated to operate below acceptable standards. Necessary intersection improvements have been identified, and the Project applicant is required to provide fair-share payments to fund the improvements. Although intersections may operate below acceptable standards after the Project is operational because improvements may not be in place, the Project will have satisfied its obligations by providing fair share contributions to improvements (consistent with General Plan Implementation Measure CT-16.4(d)).
<b>Community Design</b>		
CD-1.1	Encourage appropriate scale, materials, setbacks, and landscaping to enhance the Valley's beauty and historic fabric.	The proposed Project will include elevations broken up into a variety of heights and depths, earth tone colors, and a combination of natural and contemporary materials to provide contrasting colors and textures in order to break up building mass. Landscaping is also incorporated into the site plan. See Figures 2-5 and 2-6.
CD-2.1	Encourage developers to construct new buildings and settings of such quality that Ukiah's future citizens will wish to protect them.	The proposed Project, while utilitarian, includes design and landscaping elements to enhance the Project vicinity, which consists of commercial development.
CD-2.2	Ensure that developments relate harmoniously with each other within districts.	The proposed Project is located in an area designated for large-scale commercial development. Ordinance 1098 includes requirements for appropriate design, setbacks, and landscaping which are intended to increase/ensure compatibility with surrounding development.
CD-3	Provide an aesthetically pleasing urbanscape.	See Policy CD-2.1 and CD-2.2 discussions.
CD-4	Seek uniform, attractive landscaping standards for non-single family residential development throughout the Valley.	Landscaping standards for the Project site are established by Ordinance 1098. The Project must comply with these standards or request a modification to the standard. Planning Commission determines consistency as part of its review of the Site Development Permit. See the Landscaping Plan, Figure 2-5.

**TABLE 3.7-1  
 CITY OF UKIAH GENERAL PLAN CONSISTENCY**

<b>Goal / Policy</b>	<b>Text</b>	<b>Consistency Determination</b>
CD 4.1	Establish and enforce landscaping standards in all non-single family residential, multi-family residential, commercial, and industrial development and all redevelopment projects.	See Goal CD-4 discussion.
CD-4.2	Encourage planting of native trees and plants.	The proposed Project incorporates some native plants and trees that will survive in a commercial development environment. See Figure 2-5.
CD-4.3	Require landscaping that will result in the creation of new street canopies.	While the proposed Project includes perimeter landscaping, most of the future shade trees are within the parking area.
CD-5	Preserve and enhance the scenic setting of the Ukiah Valley.	See Section 3.1, Aesthetics. The Project would incorporate landscaping and building design compatible with the Project area.
CD-5.1	Maintain areas without urban scale development that provide visual separation between the Valley's communities.	The Project site is located in a designated urban commercial development area, and would not encroach on a community separator.
CD-5.3	Encourage an attractive U.S. 101 viewshed.	The proposed Project will include new landscaping adjacent to the Highway 101 corridor and screening of all rooftop-mounted equipment. In addition, parking lot lighting would be directed downwards away from the highway and the sky. The Project footprint is oriented in such a way, that combined with screening, the "back of the house" (e.g. loading) functions of the Project would not be visible from Highway 101.
CD-6	Ensure community separation and identification.	As discussed under Policy CD-5.1, the Project site is not located within an existing or potential community separator.
CD-6.1	Enhance, protect and preserve views and visually important community separators.	See Policy CD-5 and CD-5.1 discussions.
CD-7	Improve the appearance of area gateways.	US 101 is identified as a first level gateway in the General Plan. See Policy CD-5.3 discussion.
CD-7.1	Establish public policy to enhance and improve the appearance of area gateways.	See Policy CD-7 discussion.
CD-8	Recognize that general area appearance - especially of orchards and vistas - is a cultural and visual resource.	The Project site is a vacant parcel within an existing commercial development. The Project would not block views of scenic vistas or orchards.
CD-8.1	Encourage the preservation of scenic views, vistas, and streetscapes.	The proposed Project would not block views of scenic vistas. The Project would incorporate perimeter landscaping on all street sides, and along all property lines, including US 101, and is designed to minimize the appearance of mass from the street views.
CD-17	Require commercial and industrial parking lots to be designed and sited so as to increase the attractiveness of the areas in which they are located.	The implementation measures for the policy encourage, when feasible, to locate parking facilities at the rear of the main structure. Proposed project is adjacent to Airport Park Blvd, with parking at rear and side of building. The parking lot is screened by perimeter landscaping trees on all sides to reduce the prominence of the parking lot and to screen it from surrounding uses, streets, and US 101.
CD-17.1	Require commercial and industrial parking lots to be designed subservient to the structure it serves.	See Policy CD-17 discussion.

As the Project entitlements include a rezoning, and the Project site is within the influence area of the Ukiah Municipal Airport, the project is subject to a consistency finding with the local airport land use consistency plan. This is addressed in Section 3.5 of the DEIR, Hazards and Hazardous Materials.

Consistency must ultimately be determined by the decision making body (the Planning Commission and/or City Council). As the proposed Project is subject to AIP 1098, the Planning Commission may authorize modifications of certain development standards without using the formal variance process.

Land use impacts, relating to inconsistency with adopted plans, are **less than significant**. Note that the project would have potentially significant impacts to air quality and transportation, which are addressed by general plan policies, although the policies do not mandate denial of an individual project on the basis of these impacts. . Mitigation Measures are included in the EIR which would reduce but not avoid these impacts. As stated above, potential inconsistency with individual policies does not mean the Project is inconsistent with the general plan as a whole. Whether or not, on balance, the Project furthers the General Plan, or hinders its implementation, is determined by the decision making body.

**Mitigation:** None required.

---

**Impact 3.7.3: The proposed Project would not conflict with any applicable habitat conservation plan or natural community conservation plan.**

The Project site is not located within the boundaries of any habitat conservation plan or natural community conservation plan. Therefore, the proposed Project would not conflict with any such plan affecting the area, and there is **no impact**.

**Mitigation:** None required.

---

## **Cumulative Impacts**

**Impact 3.7.4: The proposed Project, in combination with other developments in the vicinity, would not contribute to potential cumulative land use impacts.**

The cumulative geographic context of the proposed Project for land use and planning consideration consists of the City of Ukiah since cumulative effects must be considered in relationship to policies or regulations that apply citywide. As analyzed in this section, the proposed Project would not result in a significant land use impact by physically dividing an established community or by conflicting with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. The other cumulative projects are also located in areas considered



suitable by the general plan and zoning. Although the Project includes a zoning amendment, the general nature of proposed development is in keeping with the Airport Industrial Park. In addition, the Project site is not located in or near an area guided by a habitat conservation plan or natural community conservation plan. The proposed Project would not contribute to any significant adverse cumulative land use impacts when considered together with past, present, pending and reasonably foreseeable development.

**Mitigation:** None required.

---

### 3.7.5 References

City of Ukiah, 1995. *City of Ukiah General Plan and Growth Management Program*, adopted December 1995, revised 2004.

City of Ukiah, 2007. Ordinance No. 1098, Amending the Airport Industrial Park Planned Development.

City of Ukiah, 2010. Municipal Code Section 9263. Site Development Permit Procedures.

Governor's Office of Planning and Research (OPR), 2001. *The Planners Guide to Specific Plans*. January 2001.

**This Page is Intentionally Left Blank**

## 3.8 Noise

### 3.8.1 Introduction

This section provides an overview of the existing noise environment at the Project site and surrounding area, the regulatory framework, an analysis of potential noise impacts that would result from implementation of the Project, and mitigation measures where appropriate. Noise measurements and supporting data are included in **Appendix D**.

### 3.8.2 Noise Setting

#### Noise Principles and Descriptors

Noise is defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with 0 dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Figure 3.8-1**.

#### Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time. A noise level is a measure of noise at a given instant in time. The noise levels presented in Figure 3.8-1 are representative of measured noise at a given instant in time; however, they rarely persist consistently over a long period of time. Rather, community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes

throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment vary the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

**Leq:** The equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The Leq is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

**Lmax:** The instantaneous maximum noise level for a specified period of time.

**L10:** The noise level that is equaled or exceeded 10 percent of the specified time period.

**L50:** The noise level that is equaled or exceeded 50 percent of the specified time period. The L50 represents the median sound level.

**L90:** The noise level that is equaled or exceeded 90 percent of the specified time period. The L90 is sometimes used to represent the background sound level.

**DNL:** Also termed Ldn, the DNL is the 24-hour day and night A-weighted noise exposure level, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night (“penalizing” nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.

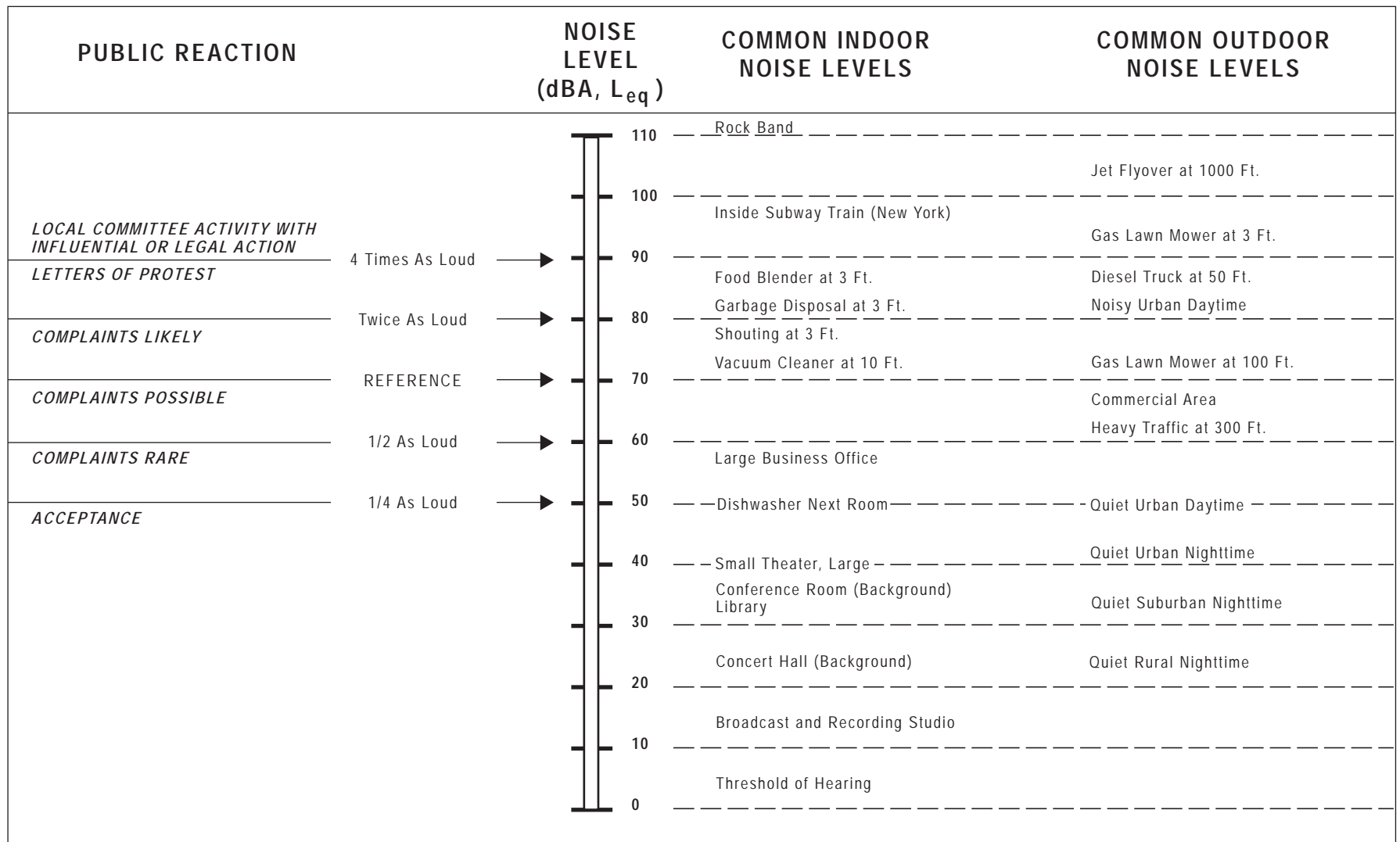
**CNEL:** Similar to the DNL the Community Noise Equivalent Level (CNEL) adds a 5-dBA “penalty” for the evening hours between 7:00 p.m. and 10:00 p.m., in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

As a general rule, in areas where the noise environment is dominated by traffic, the Leq during the peak-hour is generally equivalent to the DNL at that location (Caltrans, 1998).

## Effects of Noise on People

The effects of noise on people can be placed into three categories:

- Subjective effects of annoyance, nuisance, dissatisfaction;
- Interference with activities such as speech, sleep, learning; and
- Physiological effects such as hearing loss or sudden startling.



Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived;
- Outside of the laboratory, a 3 dB change is considered a just-perceivable difference;
- A change in level of at least 5 dB is required before any noticeable change in human response would be expected; and
- A 10 dB change is subjectively heard as approximately a doubling in loudness, and can cause adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA the combined sound level would be 53 dBA, not 100 dBA.

## **Noise Attenuation**

Noise from stationary point sources, including mobile sources which are temporarily stationary (e.g., idling vehicles), attenuates (lessens) at a rate between 6 dBA for hard sites and 7.5 dBA for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (the drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites. Noise from line sources (e.g., roadway traffic, trains) attenuates at a rate between 3 dB for hard sites and 4.5 dB for soft sites for each doubling of distance from the reference measurement (Caltrans, 1998).

## Fundamentals of Vibration

As described in the Federal Transit Administration's *Transit Noise and Vibration Impact Assessment* (FTA, 2006), ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving and operating heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the affect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly and sick), and vibration sensitive equipment.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 in/sec PPV and the FTA threshold of human annoyance to ground-borne vibration is 80 VdB (FTA, 2006).

## Existing Noise Environment

The Project area is located in the Airport Industrial Park Planned Development, just south of the Ken Fowler car dealership. A medium density residential area lies north of Talmage Road. A mobile home park lies approximately 2000 feet west of the project site and across the airport runways. To the north lie a Furniture Design Center, Michaels, Staples, Food Maxx, and Friedman Home Improvement. The noise environment surrounding the proposed Project site is influenced by traffic on US 101, air traffic at the Ukiah Municipal Airport, and local traffic associated with surrounding businesses. Noise levels retain a relatively high level due to the amount and proximity of traffic on US 101, the airport, and surrounding roads.

Metrosonics Model db308 sound level meters were used to measure the existing ambient noise levels at various locations around the proposed Project site. The meters were calibrated to ensure

the accuracy of the measurements. On November 14<sup>th</sup>, three short-term (ST) measurements were conducted near sensitive receptor locations. Environmental conditions were approximately 65 degrees with winds of 0-5 miles per hour. Long-term (LT) measurements were conducted from November 15<sup>th</sup> through November 17<sup>th</sup>. The noise measurement results are presented below in **Table 3.8-1**. Notable noise sources are listed in the column on the right. Noise meter locations are shown in **Figure 3.8-2**. Long-term noise plots are shown in **Figures 3.8-3** through **3.8-5**.

**TABLE 3.8-1  
 EXISTING NOISE ENVIRONMENT AT PROJECT SITE<sup>a</sup>**

Location	Time Period	Leq (decibels)	Noise Sources
<b>LT-1:</b> 80 feet from center of Airport Park Boulevard	24 hour CNEL measurements were: November 15 : 66 dBA November 16: 66 dBA November 17: 67 dBA	Hourly Averages ranged from 53 - 75	Unattended noise measurements do not specifically identify noise sources.
<b>ST-1:</b> 80 feet from center of Airport Park Boulevard	Monday 11/14/11 4:17 – 4:32 PM	15-minute Average Noise Level, Leq 64	Noise from traffic on Airport Park Boulevard. Lmax: 79 dBA
<b>ST-2:</b> 50 feet from center of Talmage Road	Monday 11/14/11 5:07 – 5:22 PM	15-minute Average Noise Level, Leq 67	Noise from traffic on Talmage Road. Lmax: 80 dBA
<b>ST-3:</b> Easternmost edge of Deep Valley Mobile Home Park/adjacent to Airport	Monday 11/14/11 3:36 – 3:46 PM	5-minute Average Noise Levels, Leq 64, 53	Airport noise, traffic, birds, wind, neighbors. Plane taking off, 83 dBA Airplane idling on runway, 51 dBA

<sup>a</sup> All noise levels measured in decibels (dBA). Noise measurement data presented here using a Metrosonics dB-308 sound level meter, calibrated prior to use.

## Noise-Sensitive Receptors

Some land uses are more sensitive to noise exposure than others. For example, residences, hotels, schools, rest homes, and hospitals are generally more sensitive to noise than commercial and industrial land uses.

The nearest sensitive receptors are mobile-home residences located approximately 2,000 feet southwest from the project site. Sensitive receptors north of the Project site that could be affected by traffic noise levels includes two hotels on the western side of Airport Park Boulevard (2,000 feet) and a residential community north of Talmage Road (3,000 feet).

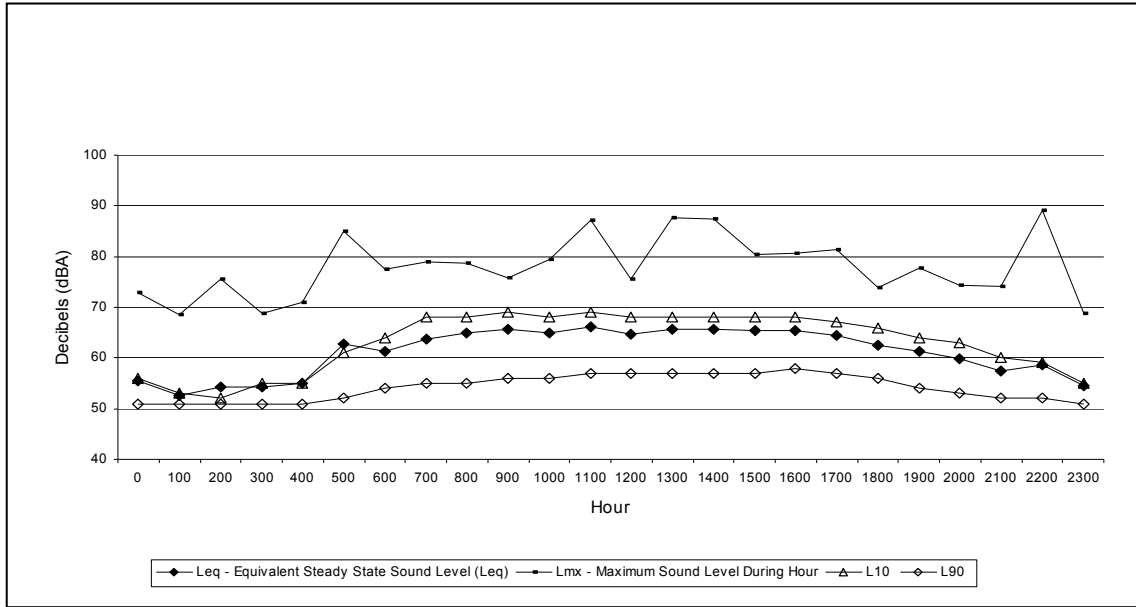




SOURCE: Bing Maps, 2009; ESRI, 2009; and ESA, 2011

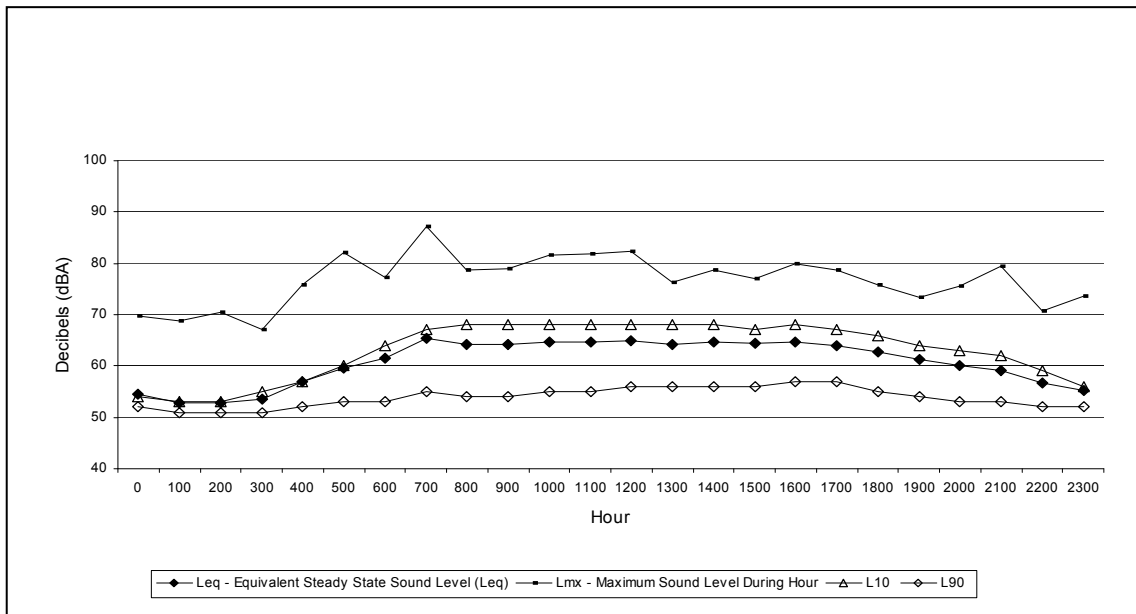
Ukiah Costco . 211169

**Figure 3.8-2**  
Noise Monitoring Locations



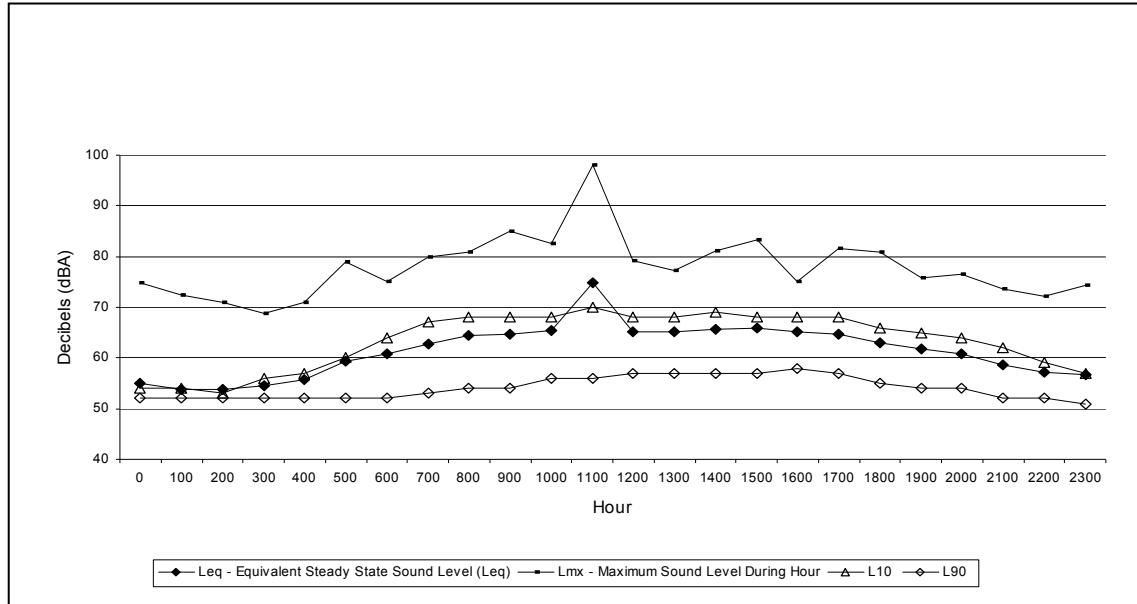
Ukiah Costco. 211169

**Figure 3.8-3**  
 Hampton Inn: 80 Feet from center of Airport Park Boulevard  
 Tuesday November 15, 2011



Ukiah Costco. 211169

**Figure 3.8-4**  
 Hampton Inn: 80 Feet from center of Airport Park Boulevard  
 Wednesday November 16, 2011



Ukiah Costco. 211169

**Figure 3.8-5**

Hampton Inn: 80 Feet from center of Airport Park Boulevard  
Thursday November 17, 2011

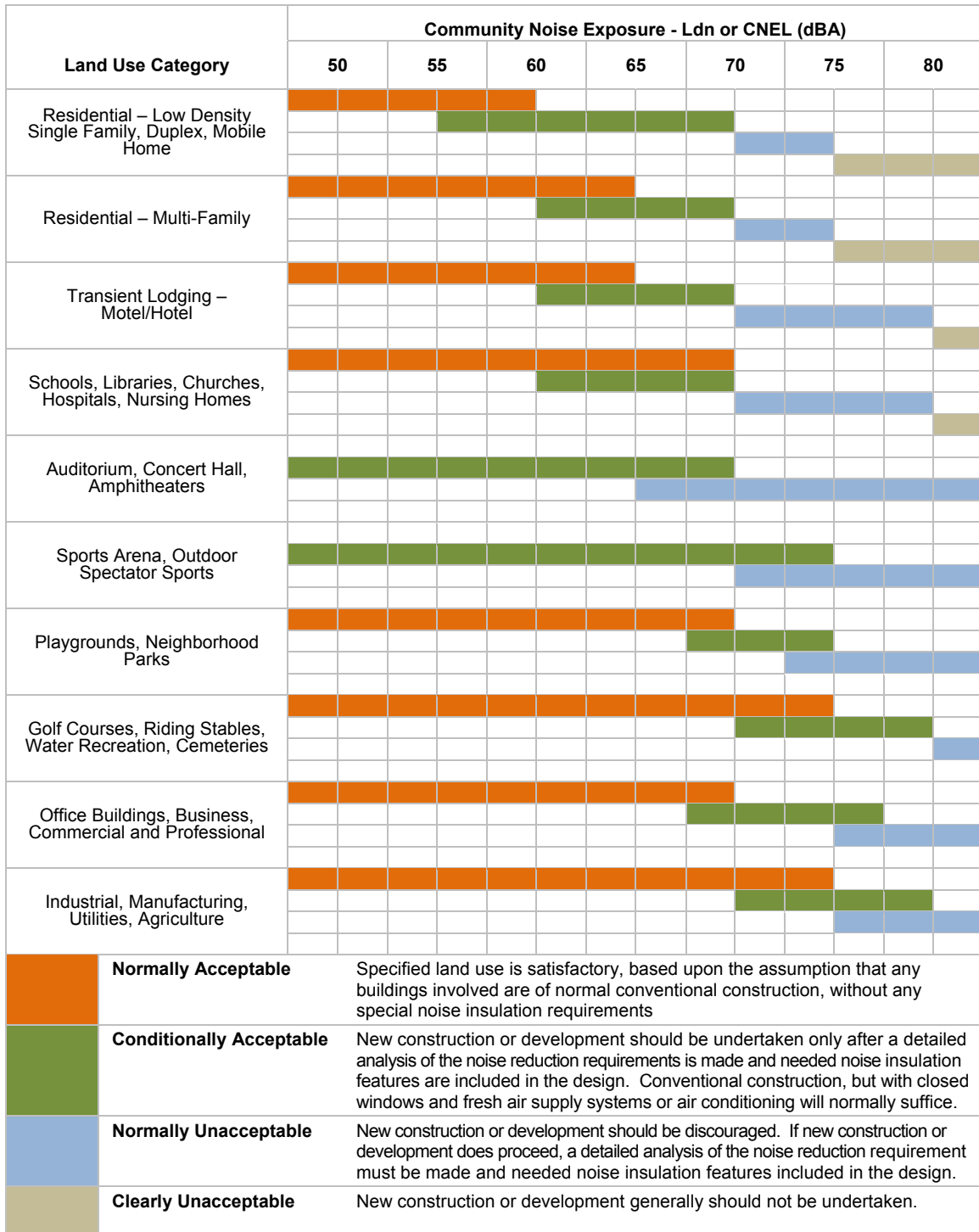
### 3.8.3 Regulatory Setting

#### Federal

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

#### State

The State has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure, as shown in **Figure 3.8-6**. The State of California also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the State pass-by standard is consistent with the federal limit of 80 dBA. The State pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dBA at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.



SOURCE: State of California, Governor's Office of Planning and Research, 2003. *General Plan Guidelines*.

Ukiah Costco. 211169

**Figure 3.8-6**  
 Land Use Compatibility For Community Noise Environment

The State has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of DNL 45 dBA in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 dBA Ldn/DNL. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

## Local

### **City of Ukiah General Plan and Growth Management Program**

The City of Ukiah General Plan contains a Noise Element (City of Ukiah, 2004) that establishes maximum exterior noise level standards that apply to noise levels in the proposed Project area for affected land uses. Applicable standards to the Project are as follows:

**Policy NZ-1.6(a):** Incorporate sound reducing measures in new construction around the airport.

*Implementation Measure NZ-1.6(a):* The City shall enact appropriate code changes to require that interior noise levels conform to requirements of the Uniform Building Code.

**Policy NZ-2.2** Ensure adequate analysis of noise impacts when reviewing project permits.

**Policy NZ-2.3:** Land use designations shall follow State of California noise and land use compatibility guidelines.

**Policy NZ-2.4:** Protect existing residential areas from future noise impacts.

Table IV.2-8 of the City of Ukiah General Plan Noise Element contains guidance for allowable noise exposure to transportation noise sources, as depicted below in **Table 3.8-2**.

**TABLE 3.8-2  
MAXIMUM ALLOWABLE NOISE EXPOSURE TRANSPORTATION NOISE SOURCES**

Land Use	Outdoor Activity Area <sup>1</sup> Ldn/CNEL, dB	Interior Spaces	
		Ldn/CNEL, dB	Leq dB <sup>2</sup>
Residential	60 <sup>3</sup>	45	-
Transient Lodging	60 <sup>3</sup>	45	-
Hospitals, Nursing Homes	60 <sup>3</sup>	45	-
Theaters, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	60 <sup>3</sup>	-	40
Office Buildings	-	-	45
Schools, Libraries	-	-	45
Playgrounds, Neighborhood parks	70	-	-

<sup>1</sup> Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving use.

<sup>2</sup> As determined for a typical worst-case hour during period of use.

<sup>3</sup> Where it is not possible to reduce noise in outdoor activity area to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level measures have been implemented and interior noise levels are in compliance with this table.

SOURCE: City of Ukiah General Plan, 1995.

**City of Ukiah City Code**

The City of Ukiah Municipal Code contains a Noise Ordinance (Division 7, Chapter 1, Article 6) that establishes maximum exterior noise level standards that apply to noise levels in the proposed Project area for affected land uses. Applicable standards to the Project are as follows:

*6048 Ambient Base Noise Level:* Where the ambient noise level is less than designated in this Section the respective noise level in this Section shall govern.

**TABLE 3.8-3  
 NOISE LEVEL PERFORMANCE STANDARDS**

Zone	Cumulative Duration of Noise Event in Any 15 minute Period	Leq
<b>Maximum Exterior Noise Level Standards, dBA</b>		
R1 and R2	10:00 p.m. – 7:00 a.m.	40
	7:00 p.m. – 10:00 p.m.	45
	7:00 a.m. – 7:00 p.m.	50
R3	10:00 p.m. – 7:00 a.m.	45
	7:00 a.m. – 10:00 p.m.	50
Commercial	10:00 p.m. – 7:00 a.m.	60
	7:00 a.m. – 10:00 p.m.	65
Industrial (Manufacturing*)	Anytime	70

SOURCE: City of Ukiah, 1983.

*6053 Machinery, Equipment, Fans and Air Conditioning:* It shall be unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device in any manner so as to create any noise which would cause the noise level at the property line of any property to exceed the ambient base noise level by more than five (5) decibels between seven o'clock (7:00) P.M. and seven o'clock (7:00) A.M. (Ord. 748, Article 1, adopted 1980)

*6058 General Noise Regulations:* Notwithstanding any other provisions of this chapter, and in addition thereto, it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary, or unusual noise which disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area.

Standards which may be considered in determining whether a violation of the provisions of this section exists include, but are not limited to, the following:

- A. The level of the noise;
- B. The intensity of the noise;
- C. Whether the nature of the noise is unusual;
- D. Whether the noise stands out against the level and intensity of the background noise, if any;
- E. The proximity of the noise to residential sleeping facilities;

- F. The nature and zoning of the area within which the noise emanates;
- G. The density of the inhabitation of the area within which the noise emanates;
- H. Whether the noise occurs at a time of day when most people expect relative quiet;
- I. Whether the noise occurred only once for a short period of time or occurs more than once and for longer periods of time; and
- J. Whether the noise is produced by a reasonable commercial activity during normal business hours. (Ord. 748, article 1, adopted 1980; Ord. 1062, 1, adopted 2005).

### 3.8.4 Impacts and Mitigation Measures

#### Significance Criteria

Based on Appendix G, XI Noise, of the *CEQA Guidelines*, a project may be deemed to have a significant effect on the environment with respect to noise and/or ground-borne vibration if it would result in:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- A substantial permanent increase in ambient noise levels in the proposed Project vicinity above levels existing without the proposed Project;
- A substantial temporary or periodic increase in ambient noise levels in the proposed Project vicinity above levels existing without the proposed Project;
- Exposure of people residing or working in the proposed Project area to excessive noise levels (for a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport);
- Exposure of people residing or working in the proposed Project area to excessive noise levels (for a Project within the vicinity of a private airstrip); or
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels.

The following analysis discusses the first four criteria; the fifth criterion is not discussed because the site lies outside a two-mile radius of a private airstrip. The sixth significance criterion is not discussed further since Project construction would not involve activities that are typically associated with significant ground-borne vibration (i.e., pile driving, blasting, rock drilling).

The significance of project-related noise impacts can be determined by comparing estimated project-related noise levels to existing no-project noise levels within the framework of the following significance thresholds.

**Construction Noise:** Noise impacts from short-term construction activities would raise ambient noise levels in the vicinity and could result in a significant construction impact if noise increased significantly outside of normal construction hours. If a project exceeds normal ambient standards at a sensitive receptor, the project would be required to limit construction to certain hours. Note that Ordinance 6054 (construction noise) does not apply because there is not a residential zone located within 500 feet of the Project site.

**Stationary Noise:** A resulting ambient base noise level increase by five decibels at any property line between 7:00 p.m. and 7:00 a.m. (Ordinance 6053 above).

**Traffic Noise:** An increase in traffic noise exposure due to the project in excess of the Federal Interagency Commission on Noise (FICON) standards. Based on studies of test subject's reactions to changes in environmental noise levels for similar noise sources, the FICON developed the following recommendations for thresholds to be used in assessing the significance of project-related noise level increases for transportation noise sources. Where background noise levels without the project would be less than 60 dB  $L_{dn}$ , a 5 dB or greater noise level increase due to the project would be considered significant. Where background noise levels without the project would be in the range of 60-65 dB  $L_{dn}$ , a 3 dB or greater noise level increase due to the project would be considered significant. Finally, where background noise levels without the project would exceed 65 dB  $L_{dn}$ , a 1.5 dB or greater noise level increase due to the project would be considered significant. This graduated scale is based on findings that people in quieter noise environments would tolerate larger increases in noise levels without adverse effects, whereas people already exposed to elevated noise levels exhibited adverse reactions to noise for smaller increases. Additionally, traffic noise level increases due to the Project causing transportation-related noise exposure to exceed the City's 60 dB  $L_{dn}$  exterior and/or 45 dB  $L_{dn}$  interior noise exposure limits (see Table 3.8-2).

## Methodology and Assumptions

Noise impacts are assessed based on a comparative analysis of the noise levels resulting from the proposed Project and the noise levels under baseline or existing conditions. Analysis of temporary construction noise effects is based on typical construction phases and equipment noise levels and attenuation of those noise levels due to distances between sensitive receptors in the proposed Project vicinity and the construction activity.

## Impacts Analysis

### **Impact 3.8.1: Construction and grading activities associated with the development of the Project would not increase noise levels at nearby noise-sensitive receptor locations.**

Future noise levels related to construction within and adjacent to the Project site would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction activities could involve excavation, grading, drilling, trenching, earth movement, and vehicle travel to and from the Project site. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. **Table 3.8-4** shows typical noise levels during different construction stages for commercial buildings. **Table 3.8-5** provides typical noise levels produced by various types of construction equipment.



**TABLE 3.8-4  
TYPICAL CONSTRUCTION NOISE LEVELS**

Construction Phase	Noise Level <sup>a</sup> (dBA, Leq)
Ground clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

a Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

SOURCE: U.S. Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, 1971.

**TABLE 3.8-5  
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT**

Construction Equipment	Noise Level <sup>a</sup> (dBA, Leq at 50 Feet)
Dump truck	88
Portable air compressor	81
Concrete mixer (truck)	85
Scraper	88
Jackhammer	88
Dozer	87
Paver	89
Generator	76
Backhoe	85

SOURCE: Cunniff, Environmental Noise Pollution, 1977.

Construction of the proposed Project would generate short-term noise corresponding to the appropriate phase of building construction and the noise generating equipment used during those phases. The nearest sensitive receptors to the Project development are the residences approximately 2,000 feet to the southwest and two hotels approximately 2,000 feet north along Airport Park Boulevard.

The closest project construction activities to the residences and hotels would be the construction of the northern and western sections of the project site along Airport Park Boulevard at approximately 2,000 feet. Noise from construction activities generally attenuates at a rate of 6 to 7.5 dBA per doubling of distance. Assuming an attenuation rate of 6 dBA per doubling of distance, the residences and hotels would both be exposed to approximately 57 dBA Leq during excavation and paving activities. The residences lie within the 60 – 65 CNEL contour lines of the Ukiah Municipal Airport. The hotels lie along a busy segment of Talmage Road and are exposed to a 66 – 67 CNEL as shown in Table 3.8-1. Construction noise levels are expected to be below the existing ambient noise levels at sensitive receptors. Therefore, this impact is **less than significant**.

**Mitigation Measures:** None required.

---

**Impact 3.8.2: Operational activities associated with the Project could increase ambient noise levels at nearby noise-sensitive land uses. This impact would be less than significant.**

Non-transportation noise generated by the Project would include noise from Heating Ventilation and Air Conditioning (HVAC), loading docks in delivery areas, on-site truck movements, parking lot activities and site maintenance (e.g., leaf blowers and parking lot sweepers), trash and possibly compactor use. Potential noise levels and impacts from these operational activities are described below. These noise sources are considered significant if they exceed ambient noise levels by five decibels at any property line during nighttime hours of 7:00 p.m. and 7:00 a.m., per Ordinance 6053.

**HVAC**

HVAC units typically generate noise levels of approximately 55 dB at a reference distance of 100 feet from the operating units during maximum heating or air conditioning operations. Based on this reference level, the closest rooftop HVAC equipment location on the northeastern most roof area of the Costco, the hotels to the north and the residences to the west and southwest of the project could both experience noise exposure from this equipment as-high-as 29 dB Leq. Rooftop HVAC noise exposure would not exceed the noise level performance standards in the City's Noise Ordinance, and would not be expected to significantly increase the ambient noise exposure in the project area.

**Tire Center**

ESA performed a previous short-term noise study that measured pneumatic tools at a Wal-Mart tire center to be 68 dB at approximately 70 feet. The closest receptors would be over 2000 feet from the Tire Center (residences to the west), resulting in a maximum noise level under 40 dB to any sensitive receptors. This would be a less than significant impact.

**Loading Docks**

To assess loading dock activity noise impacts at the nearest potentially affected noise-sensitive land uses, we used reference noise levels measured at typical daytime and nighttime loading dock activities by Bollard Acoustical Consultants, Inc. at the Super Walmart in Citrus Heights, California on August 15 – 18, 2008. These data include noise generated by trucks arriving, departing, backing up (with beepers), trailer uncoupling, and trucks with refrigeration units resulting in maximum levels of 75 dB Lmax and 55 dB Leq at a distance of 100 feet to the center of the dock activities. Gas station refueling trucks would be similar in their noise characteristics (although lacking the refrigeration units). Average and maximum noise levels were calculated at the mobile homes to the southwest and the hotels to the north using these reference noise levels.

The nearest residential property lines to the truck unloading areas would be 2000 feet to the southwest. At this distance, unmitigated loading dock area noise at the closest residential property lines would be approximately 23 dB Leq and 43 dB Lmax. The line of sight to the residences would

be shielded by the building itself, which would reduce noise exposure further. Noise calculations can be seen in Appendix D. These noise levels would not increase ambient noise levels or contribute significantly to the ambient noise environment.

### **On-Site Truck Circulation Noise**

Onsite truck traffic for the Costco would be routed via Airport Park Boulevard south to the entrance (on-street noise is discussed in Impact 3.8.3, below). The project loading docks would be at the back of the store facing Highway 101. Loading areas would be shielded by the dealership toward the north and shielded by the building itself to the west. Fuel trucks (two to three per day) would serve the gas pumps on the south side of the Project site.

Traffic noise levels are addressed in Impact 3.8.3.

### **Site Maintenance**

Maintenance activities associated with Project-related parking and landscaped areas could include the use of parking lot sweepers and leaf blowers. Leaf blower noise levels have been measured to be 69 dBA Leq, 81 dBA Lmax at a distance of 50 feet from the operator (City of Stockton, 2006). With a blower at the northernmost section of the parking lot, residential receptors would be expected to receive noise levels of approximately 37 dB Leq and 49 dB Lmax associated with maintenance equipment and activities. Noise at these levels would most likely be masked by existing sources in the project area (e.g., airport operations and local traffic noise) as illustrated by the ambient noise level measurement results (see Table 3.8-1 and Figure 3.8-3). Blowers would not raise ambient noise levels at the residences to the west. With a blower at the northernmost section of the parking lot, the hotels would also receive noise levels of approximately 37 dB Leq and 49 dB maximum associated with maintenance equipment and activities. Blowers would not raise ambient noise levels at the residences to the west or the hotels to the north and would not impact sensitive receptors.

In the event that parking lot sweepers would be used, the following analysis has been prepared: Parking lot sweepers have been measured to operate at approximately 75 dBA Lmax at 50 feet (City of Redbluff, 2008). Sweepers could operate 1,950 feet from the residences and 2,000 feet from the hotels along Airport Park Boulevard. At this distance, parking lot sweepers could produce maximum noise levels of 43 dBA (Lmax). Sweepers would not raise ambient noise levels at the residences to the west or the hotels to the north and would not impact sensitive receptors.

Forklifts could be used at the rear of the Costco building where the loading docks are located and potentially in the tire center. Forklifts operate at levels of up to 70 decibels Lmax at 100 feet (County of Sacramento, 1993). Forklifts operating at the rear of the building would be approximately 1,950 feet from the closest sensitive receptors. At this distance, forklifts would produce maximum levels of 44 decibels. Forklift noise would not increase ambient noise levels at the hotels or residences and would be considered a less than significant impact.

Reference levels for backup alarms are said to be 97 to 112 decibels at four feet (City of Galt, 2008). The model suitable for forklifts would produce 97 decibels at four feet. Assuming a rating of 97 dBA at four feet, the forklifts operating behind the Costco would produce maximum noise levels of approximately 43 decibels at 1,950 feet (nearest receptor distance). Forklift backup

alarms would not increase the ambient noise environment at the hotels or residences. Therefore, noise impacts anticipated from forklifts would be less than significant.

#### **Compactor/Pallet Recycling Area**

It is possible the Project would include a compactor and/or pallet recycling area. Bollard Acoustical Consultants measured a similar compactor structure at 45 dB Leq at 180 feet (City of Red Bluff, 2008). This structure would be over 2000 feet from the residences or hotels. At this distance noise levels would be expected to reach 24 dBA at the residences or hotels. Noise impacts anticipated from the compactor and pallet recycling area would not raise ambient noise levels at sensitive receptors and would be less than significant.

#### **Operational Activity Potential Impacts**

Noise levels associated with Project operations and maintenance activities would not increase ambient noise levels at sensitive receptors. This impact would be **less than significant** and would not require mitigation.

**Mitigation:** None required.

---

#### **Impact 3.8.3: Traffic associated with operation of the Project would not result in a significant increase in noise exposure on area roadways.**

Most of the noise generated by the implementation of the Project would be traffic-generated noise. The Project would contribute to an increase in local traffic volumes, resulting in slightly higher noise levels along local roadways. To assess the impact of Project traffic on roadside noise levels, noise level projections were made using the Federal Highway Administration's (FHWA) Noise Prediction Model for roadway segments around the project site. The results of the modeling effort are shown in **Table 3.8-6** below. The traffic volumes used for the modeling effort are evening weekday peak-hour volumes.

Exterior levels along Airport Park Boulevard adjacent to the Hotels are not expected to exceed 69 dB Ldn. Traffic noise levels at the Hotel outdoor activity areas are not expected to exceed the 65 Ldn set in the General Plan (Table 3.8-2) due to shielding by the building itself (at the hotel on the south end of Airport Park Boulevard). Standard commercial/residential building construction would be expected to provide exterior to interior noise attenuation of at least 25 dB with windows and doors closed. Therefore, interior levels are not expected to exceed 45 dB Ldn.

As depicted in Table 3.8-6, project-related traffic noise level increases on Airport Park Blvd north and south of Commerce Drive would exceed the applicable FICON criteria of 3 dBA. However, the nearest residence to the street segment is located approximately 2,000 feet east. A 3 decibel traffic noise increase at this distance would not be perceivable. No other roadway segment would exceed the applicable FICON criteria; therefore traffic noise associated with the Project is **less than significant**.

**Mitigation:** None required.

---

**TABLE 3.8-6  
TRAFFIC NOISE LEVELS ALONG ROADWAYS IN THE PROJECT VICINITY**

Roadway Segment <sup>1,2</sup>	Noise Level, dB Ldn							
	Existing (A)	Existing Plus Project (C)	Incremental Increase (C - B)	Significant (Yes or No) <sup>3</sup>	Cumulative (D)	Cumulative Plus Project (E)	Incremental Increase (E - D) <sup>3</sup>	Significant (Yes or No) <sup>3</sup>
1. South State Street north of Mill Street	64.9	65.3	0.4	No	65.6	66	0.4	No
2. South State Street South of Mill Street	64.9	65.5	0.6	No	65.5	66	0.5	No
3. Mill Street East of South State Street	55.7	55.9	0.2	No	55.4	55.8	0.4	No
4. Mill Street West of South State Street	58.5	59.1	0.6	No	58.1	58.9	0.8	No
5. South State Street North of Gobbi Road	65	65.6	0.6	No	65.6	66.1	0.5	No
6. South State Street South of Gobbi Road	66.9	67.7	0.8	No	67.6	68.2	0.6	No
7. Gobbi Road east of South State Street	62.9	63	0.4	No	63	63.2	0.2	No
8. Gobbi Road west of South State Street	61.5	61.9	0.4	No	62.5	62.8	0.3	No
8. South State Street North of Talmage Road	66	66.9	0.9	No	66.7	67.4	0.7	No
9. South State Street South of Talmage Road	67.5	68.2	0.7	No	67.9	68.6	0.7	No
10. Talmage Road east of South State Street	66.8	67	0.2	No	67.2	67.5	0.3	No
12. South State Street north of Washington Ave	67.9	68.4	0.5	No	68.3	68.8	0.5	No
13. South State Street south of Washington Ave	67.5	67.4	- 0.1	No	68.2	68.3	0.1	No
14. Washington Ave east of South State	62.2	64.1	1.9	No	62.8	64.9	2.1	No
15. Washington Ave west of South State	61.8	63	1.2	No	63.4	63.5	0.1	No
16. Waugh Lane north of Talmage Road	61.3	61.4	0.1	No	61.5	61.6	0.1	No

**TABLE 3.8-6  
TRAFFIC NOISE LEVELS ALONG ROADWAYS IN THE PROJECT VICINITY**

Roadway Segment <sup>1,2</sup>	Noise Level, dB Ldn							
	Existing (A)	Existing Plus Project (C)	Incremental Increase (C - B)	Significant (Yes or No) <sup>3</sup>	Cumulative (D)	Cumulative Plus Project (E)	Incremental Increase (E - D) <sup>3</sup>	Significant (Yes or No) <sup>3</sup>
18. Talmage Road east of Waugh Lane	68.2	68.4	0.2	No	68.5	68.7	0.2	No
19. Talmage Road west of Waugh Lane	68.2	68.4	0.2	No	68.5	68.7	0.2	No
20. Airport Park Blvd north of Talmage Road	55.4	55.4	0.0	No	55.4	55.4	0.0	No
21. Airport Park Blvd south of Talmage Road	67.5	69.2	1.7	No	68.5	69.8	1.3	No
22. Talmage Road east of Airport Park Blvd	68.7	69.8	1.1	No	69.2	69.9	0.7	No
23. Talmage Road west of Airport Park Blvd	67.9	68.4	0.5	No	68.2	68.4	0.2	No
24. Airport Park Blvd north of Commerce Drive	63.8	66.9	3.1	YES	64.9	67.3	2.4	No
23. Airport Park Blvd south of Commerce Drive	63	67.4	4.4	YES	63.9	67.5	3.6	YES
23. Commerce Drive east of Airport Park Blvd	60.8	61.3	1.3	No	60.8	60.8	0.0	No
23. Commerce Drive west of Airport Park Blvd	62.8	65.1	2.3	No	62.1	64.4	2.3	No

1 Road center to receptor distance is 15 meters (approximately 50 feet) for values shown in this table. Noise levels were determined using FHWA Traffic Noise Prediction Model (FHWA RD-77-108).

2 Considered significant if the incremental increase in noise is greater than 3 dB and result in noise levels above those considered compatible with City General Plan Noise Goals.

SOURCE: ESA, 2010

**Impact 3.8.4: Project operational activities would not expose people working in the Project area to excessive noise levels, for a Project located within an airport land use plan.**

The Project is located within 2 miles of the Ukiah Municipal Airport and is located within the airport influence area. However, the entire Costco property lies outside of the 55 dB CNEL noise contour line as seen in Figure 4W, “Noise Impacts – 1994 Average Day” of the Ukiah Airport Land Use Plan. Thus, no workers would be exposed to excessive noise levels and the impact would be **less than significant**.

**Mitigation:** None required.

---

## Cumulative Impacts

**Impact 3.8.5: Noise associated with the Project in combination with other local development would not result in cumulatively considerable noise increases.**

There are development projects currently in the construction or planning process located in the vicinity of the Project. When considered alone, the Project would generate noise by adding more traffic to the area and construction activities. In combination with other projects, there is the potential for cumulative increases in noise levels.

Many of the other Projects would contribute to noise in the area due to increased traffic volumes as well. Table 3.8-6 shows the future cumulative traffic noise with and without the Project. As depicted in Table 3.8-6, no roadway segments associated with cumulative development would exceed the applicable FICON increase criteria. Therefore the Project has a less than significant cumulative traffic noise impact.

Other projects in the vicinity also have the possibility of conducting construction activities at the same time as the Project. As seen in **Figure 4-1** of Chapter 4, Other CEQA Considerations, other projects are planned in the project area. Construction noise could be audible at the Hampton Inn but would be partially blocked by other retail adjacent to the north. It is unlikely that construction noise levels would result in cumulatively considerable impacts. Construction traffic along Airport Park Boulevard would contribute to noise levels but would be short-term and intermittent.

The cumulative projects would produce short-term, intermittent noise levels. Construction noise from other projects is not expected to generate significantly increased noise levels at sensitive receptors in combination with the Project (even should construction occur simultaneously). Cumulative traffic conditions have been provided in Table 3.8-6. As depicted in Table 3.8-6, project-related traffic noise level increases on Airport Park blvd South of Commerce Drive would exceed the applicable FICON criteria of 3 dBA. However, the nearest residence to the street segment is located approximately 2,000 feet east of the roadway across the Ukiah Municipal Airport. A 3 decibel traffic noise increase at this distance would not be perceivable. No other

roadway segment would exceed the applicable FICON criteria, therefore the Project, in conjunction with surrounding projects, has a **less than significant** cumulative noise impact.

**Mitigation:** None required.

---

### 3.8.5 References

Airport Land Use Commission, 1996. *Mendocino County Airport Comprehensive Land Use Plan*, Adopted 1993, Revised 1996.

Caltrans, 1998. *Technical Noise Supplement*.

City of Galt, 2008. *Galt Wal-mart EIR, Environmental Noise Assessment*, Prepared for Raney Planning & Management, Inc., prepared by J.C. Brennan & Associates, Inc., November 23, 2009.

City of Redbluff, 2008. *Red Bluff Wal-Mart Supercenter, Recirculated Portions of EI*, prepared by PMC, August 2008.

City of Ukiah, 2004. *General Plan and Growth Management Program*, Noise Element, adopted December 6, 1995, revised 2004.

City of Ukiah, 1983. Ord. 748, Article 1, adopted 1980; amd. By Ord 803, adopted 1983.

City of Stockton Community Development Department, 2006.. *Weston Ranch Towne Center Project Draft Environmental Impact Report*, Volume I (EIR No. 5-04, State Clearinghouse No. 2005012056) p. 4.9-23, prepared by ESA, December 2006.

County of Sacramento, 1993. *Noise Element of the County of Sacramento General Plan*, [www.msa2.saccounty.net/planning/Documents/General-Plan/Noise-Element.pdf](http://www.msa2.saccounty.net/planning/Documents/General-Plan/Noise-Element.pdf) , adopted December 15, 1993.

Cunniff, Patrick, 1977. *Environmental Noise Pollution*.

FHWA, 2007. Traffic Noise Prediction Model (FHWA TNM) LookUp Program Software Version 2.1. Look-Up data generated by TNM Version 2.5 Prepared by US Department of Transportation, Research and Innovative Technology Administration, Volpe National Transportation Systems Center, Environmental Measurement and Modeling Division.

FTA, 2006, *Traffic Noise and Vibration Impact Assessment*, May, 2006.

U.S. Environmental Protection Agency, 1971, Bolt, Beranek, and Newman, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*.



## 3.9 Public Services and Utilities

### 3.9.1 Introduction

This section discusses existing public services (including police, fire, and schools) and utilities (including solid waste collection and disposal, water and wastewater collection and treatment) that would serve the proposed Costco Wholesale warehouse and fuel station project, as well as potential impacts of the Project to those public services and utilities.

### 3.9.2 Environmental Setting

#### Public Services

##### ***Police Protection***

The Ukiah Police Department (UPD) provides police protection services in the City of Ukiah. UPD is headquartered in City Hall at 300 Seminary Avenue and is staffed with 32 sworn officers, as well as civilian staff (Taylor, 2012). UPD does not strive to maintain a specific service ratio of sworn officers per resident (Taylor, 2010). The Department's Patrol Division is the initial responder to all calls for service within the City limits of Ukiah. When fully staffed, each shift is authorized three to four uniformed officers, including the sergeant.

According to the most recent crime statistics compiled for 2011, the City responded to 30,210 calls for service (Taylor, 2012). As part of the *2010–2015 Strategic Plan*, UPD seeks to reduce violent and non-violent crime by 5 percent, as measured by the Uniform Crime Report.<sup>1</sup>

The City of Ukiah is divided into two beats, and the proposed project would be located in Beat #2 (southern beat). The call volumes in Beat #2 comprise 53 percent of all calls, based on call volumes from 2011. According to UPD, these calls are related, in order of volume, to (1) suspicious circumstances, (2) fights / assaults / disturbances, (3) suspicious persons, (4) animal calls, and (5) transient calls (Taylor, 2012).

##### ***Fire Protection***

The Ukiah Fire Department (UFD), headquartered at 300 Seminary Avenue, provides fire protection and emergency response services to the City of Ukiah. UFD runs three shifts, with five personnel assigned to each shift. A minimum of four personnel per shift is maintained at all times, typically including a captain, engineer, and two firefighters. Staff works a “two by four” schedule, which comprises 48 hours on and 96 hours off. The department also staffs 20 volunteers. The entire staff is overseen by two division chiefs, and the overall management of the department is the responsibility of the Director of Public Safety. UFD equipment includes one ladder truck, four engines, two patrol

<sup>1</sup> The Uniform Crime Reporting (UCR) Program compiles statistics for the nation. The FBI is tasked with collecting, publishing, and archiving those statistics. Annual statistical publications are produced from data provided by nearly 17,000 law enforcement agencies across the United States.

trucks (with lower pump capacity than traditional engines), three ambulances, three pickup trucks, two trailers, one support vehicle, and one inflatable water rescue boat (Jennings, 2010; 2012).

UFD covers an area of approximately 4.5 square miles, and its average response time to calls within the city limits is 6 minutes. Approximately 70 percent of all calls are of a medical nature. UFD also has an Automatic Aid Agreement with the Ukiah Valley Fire District (UVFD). UVFD responds to all first alarm or greater fires within the City limits with an engine staffed with two personnel. Mutual Aid also allows for additional assistance from surrounding fire districts and CalFire, if necessary.

### **Schools**

The City of Ukiah and surrounding area are served by the Ukiah Unified School District (UUSD). The district comprises one preschool (Preschool Village), eight elementary schools (Calpella, Frank Zeek, Grace Hudson, Hopland, Nokomis, Oak Manor, Redwood Valley, and Yokayo), two middle schools (Eagle Peak and Pomalita), two high schools (South Valley and Ukiah), and one adult education and independent study center (UUSD, 2011a). In the 2010–2011 school year, UUSD had an enrollment of approximately 6,214 students, with 261.8 full-time equivalent teachers and an average of 23.7 students per teacher. This enrollment was a decrease from approximately 6,740 in the 2004–2005 school year, when there were 345.9 full-time equivalent teachers and an average of 19.5 students per teacher (Ed-data, 2012).

According to a 2009 study prepared by UUSD, declining enrollment is expected to continue through at least the 2013–2014 school year, and there is significant surplus space at seven of the district’s schools (UUSD, 2009). The study stated that elementary schools could be closed, and recommended leasing the school spaces or using the spaces for district-sponsored chartered schools. As of the 2011–2012 school year, UUSD continues to project declining student enrollment (UUSD, 2012b).

### **Parks and Recreational Facilities**

The City of Ukiah has 13 parks—which provide swimming pools, softball diamonds, picnic tables, and barbecue areas—within its boundaries. A summary of the city parks within Ukiah and their acreages and amenities are shown in **Table 3.9-1**, below. Other city facilities include the 87-acre Ukiah Municipal Golf Course—which offers an 18-hole course—and the 50-acre Twelfth District Fairgrounds (partly in the unincorporated county), which includes a driving range, horseshoe pits, racetrack, and area.

In addition, county facilities, including Mill Creek and Low Gap, provide 140 acres of outdoor recreational space. Federal facilities in the vicinity include both Lake Mendocino—which provides 5,110 acres of campsites, picnic areas, boat-launching ramps, a marina concession, a swimming beach, hiking trails, and an amphitheatre—and the Cow Mountain Recreation Area, of which 600 acres of hiking, camping, and horseback riding facilities lie within the City’s planning area. Finally, Mendocino Community College, located in the northwestern portion of the City’s planning area, includes a track, tennis courts, and volleyball courts available for public use, as

well as a gym used by organized sport leagues (City of Ukiah, 1995). Linear features in Ukiah that are available for recreation include the Russian River and the City’s system of bike routes.

**TABLE 3.9-1  
 SUMMARY OF NEIGHBORHOOD AND COMMUNITY PARKS FACILITIES IN UKIAH**

<b>Park</b>	<b>Amenities</b>	<b>Acreage</b>
Alex R. Thomas Plaza	Picnic Tables	0.8
Gardner Park	Picnic Tables	0.2
Giorno Park / Anton Stadium	Softball / baseball diamond	12.0
Hudson-Carpenter Park	Picnic Tables	0.8
McGarvey Park	Picnic Tables	1.0
Nokomis Tennis Courts	Tennis Courts	0.3
Oak Manor Park	Playground equipment, picnic tables, barbecues, reserve-able group areas, volleyball courts, tennis courts, and a baseball / softball diamond	4.0
Observatory Park	Walking labyrinth, benches, and historical building	2.5
Orchard Park	Playground equipment	0.25
Todd Grove Park	Playground equipment, picnic tables, barbecues, reserve-able group areas, volleyball courts, swimming pool	16.2
Ukiah Civic Center	Benches and shade areas	2.5
Vinewood Park	Playground equipment, picnic tables, barbecues, reserve-able group areas, volleyball courts, basketball courts	4.7
Ukiah Sports Complex	Playground equipment, picnic areas, softball / baseball diamonds, bathrooms, and stands. Youth soccer, Frisbee, and rugby are also played on the fields.	10.3
<b>Total Neighborhood and Community Parks Acreage Citywide<sup>a</sup></b>		<b>56.15</b>

<sup>a</sup> Summary above does not include public school sites within the City, most of which provide joint use recreation facilities.  
 SOURCE: Ukiah, 2010 (Parks and Recreation Areas webpage)

## Public Utilities

### Water

#### Water Supply System

The City of Ukiah Public Works Department Water and Sewer Division operates the City’s water system, which serves approximately 5,718 connections both in the City of Ukiah and surrounding unincorporated areas (City of Ukiah, 2011). The City is within the Russian River watershed, and the primary water source is the river’s underflow, although three percolating groundwater wells also provide water supply. Below is a summary of relevant portions of the City’s *2010 Urban Water Management Plan* (adopted in 2011) (City of Ukiah, 2011).

**Russian River.** The Russian River underflow is classified as “ground water under the direct influence of surface water” by both the United States Environmental Protection Agency and the North Coast Regional Water Quality Control Board, primarily because its turbidity fluctuates with the turbidity

of the river itself. Therefore, it is required to be treated and disinfected to the same standards as surface water bodies. Underflow is drawn from a Ranney collector and Wells 3 and 5.<sup>2</sup>

The Ranney collector has a production capacity of 3,194 gallons per minute (gpm). Water from the Ranney collector is pumped to the Ukiah Water Treatment Plant. Treatment processes include pre-chlorination, adsorption, clarification, mixed-media gravity filtration, and disinfection. Treated water is pumped to a 1.5 mg reservoir for post-chlorination. From the reservoir, the water is pumped into the distribution system by vertical turbine high service pumps. Well 5 has a pumping capacity of 300 gpm. Well 3 has a pumping capacity of 600 gpm.

**Groundwater.** Percolating groundwater Wells 4 and 7 both have a pumping capacity of 799 gpm; Well 8 has a pumping capacity of 694 gpm.

### **Water Rights**

**Russian River.** The City has a Pre-1949 Appropriative Right to divert 2.8 cubic feet per second (cfs) from the Russian River for a maximum of 2,027 acre-feet per year (AFY). The City also has a Water Right Permit to divert Russian River underflow at a rate not to exceed 20.0 cfs, with no annual limit.

**Lake Mendocino.** The City also has a water supply agreement with the Mendocino County Russian River Flood Control and Water Conservation Improvement District (Mendocino District). The Mendocino District has a Water Right Permit to store and use up to 8,000 AFY of water in Lake Mendocino and/or directly diverted from the East Fork of the Russian River. Ukiah's agreement allows the City to purchase up to 800 AFY under Mendocino District's permit. The City is also a party in the 2002 Emergency Interconnection Agreement, through which Ukiah, the Willow County Water District, and the Millview County Water District can deliver to neighboring districts in case of emergencies (City of Ukiah, 2011).

**Groundwater.** Regarding groundwater rights, the Ukiah Valley groundwater has not been adjudicated. Therefore, there are no specific rights to the City of Ukiah or any other water provider. However, it is estimated that the Ukiah Valley stores 90,000 AF in the upper 100 feet of the ground in its most productive area, as well as 45,000 AF in the valley margins. Groundwater levels have remained relatively stable over the past 30 years, and there are no prominent long-term declines. The groundwater levels have historically decreased during droughts, but have recovered to normal levels after the droughts are over.

In 2010, approximately 1,990 AFY was pumped from the groundwater basin. With the addition of the two new groundwater wells in 2008, the City estimates that total groundwater supply will be 3,705 AFY from 2015 through 2035.

**Total Water Supply.** In total, the City anticipates 21,440 AFY of water supply in 2015, and increasing to 22,474 AFY in 2035. In 2015, Russian River diversions would comprise 14,480

---

<sup>2</sup> The City's Wells 1, 2, and 6 are no longer in service.

AFY, the Mendocino District would comprise 800 AFY, and the three groundwater wells would comprise 3,705 AFY.

### **Pumping Capacity**

The total pumping capacity of the City's water system during the dry months is approximately 6,386 gpm or 10,308 AFY. Most of this water (3,194 gpm) is provided by the Ranney collector.

### **Water Distribution System**

The water distribution system consists of surface water well pumping, percolating groundwater well pumping, water treatment plant high service pumping station, storage reservoirs, and piping to and within the water distribution system. After chlorination, surface water and percolated groundwater is pumped directly into the water distribution system. The high service pumps are located at the WTP and take stored treated water and pump it into the water distribution system. The City has eight reservoirs. The combined storage capacity of the reservoirs is 6.1 million gallons (18.7 AF). The reservoirs provide short-term treated water storage to be used on a daily basis and for emergency situations such as fire fighting. It is not recognized as a water supply source separate from the Russian River underflow, Mendocino district water, and groundwater (City of Ukiah, 2011).

### **Demand**

In 2010, the City provided potable water service of 2,952 AFY, which is equivalent to 2.6 mgd, servicing a population of about 15,680. Residential accounts composed more than 60 percent of demand, and commercial and institutional uses composed about 30 percent. Landscape and industrial use comprised the remaining 10 percent. This demand is down from 3,754 AFY in 2005. Demand is anticipated to grow to 5,217 AFY by 2035 based on the City's 10-year baseline water use. However, by meeting the City's per capita water use targets for 2015 and 2020, the City could reduce its 2035 water use to 4,173 AFY. This total demand is well below the 22,474 AFY of 2035 water supply described above (City of Ukiah, 2011).

The City's 2010 UWMP evaluated the reliability of the system by modeling a worst-case multiple dry year scenario that would yield more than 10,000 AFY of water supply on an annual basis through 2035 (approximately 50 percent of normal supply). As stated above, the total water use for the City is expected to be 5,217 AFY by the year 2035. This projected demand falls below the multiple dry year event yield.

### **Wastewater**

The Ukiah Wastewater Treatment Plant (UWWTP) treats wastewater from the City and the Ukiah Valley Sanitation District (UVSD). The City collects wastewater from approximately 82 percent of the area within the current City limits, while the UVSD collects wastewater from the remaining portion of the City and from most of the urbanized areas surrounding the City. The collection system for the City and UVSD consists of pipes that range from 6 inches to 42 inches in diameter. Most of the collection system is served by gravity; however, two areas on the east side of the City require pumping stations to convey the flow to the gravity sewers. The total length of gravity pipe

is approximately 67 miles. Collected wastewater is transported by gravity through a main trunk sewer that is located along the west bank of the Russian River to the UWWTP located on the south end of the City (City of Ukiah, 2011).

Currently, the UWWTP discharges treated effluent under the National Pollutant Discharge Elimination System (NPDES) Permit No. CA0022888 issued by the Regional Water Board. The City and Water Board are in the process of renewing this permit. Two discharge points are permitted, one to the Russian River and the other to the three ponds.

The original WWTP consisted of two oxidation ponds or evaporation/percolation. Over the years, the plant capacity was increased to 2.8 mgd average dry weather flow (ADWF) with a maximum wet weather flow discharge to the Russian River of 7.0 mgd. A third evaporation/percolation pond was constructed to the north of the two existing ponds, and in 1989, an effluent pumping station was constructed to transfer secondary effluent to the third pond. Also in 1989, the Regional Water Board revised the Basin Plan to require advanced wastewater treatment (AWT) of the effluent discharged to the Russian River. Secondary treatment was also required for discharge to the ponds. In 1995, the new AWT system, as well as other facilities, was constructed.

Only seasonal (October 1st through May 14th) discharge to the Russian River at a discharge rate of 1 percent of the river flow is permitted. Flow above one percent of the Russian River flow between these dates, and all flow from May 15 through September 30, is disposed of by a combination of evaporation and percolation from the ponds and by reuse of treated effluent onsite.

The City estimates that 4,668 AFY of wastewater was collected and treated in 2010, of which 1,686 AFY was treated to tertiary standards and discharged to the Russian River, 2,782 AFY was treated to secondary standards in evaporation / percolation ponds, and 200 AFY was reused in the plant. The City estimates that the total treated wastewater would increase to 4,896 AFY by 2015 and 5,930 AFY by 2035 (City of Ukiah, 2011).

### **Solid Waste**

Ukiah Waste Systems is the City's franchise waste hauler, and it collects residential and commercial garbage. The City of Ukiah disposed of 9,359 tons of solid waste in 2010, down from 18,255 tons in 2005 and 13,970 tons in 2000. Solid Waste Systems operates Ukiah Valley Transfer Station, where municipal solid waste is delivered, consolidated, loaded, and shipped to Northern California landfills. The transfer station is permitted to collect up to 400 tons per day. 9,252 tons of solid waste from the City of Ukiah was transferred from the station to the Potrero Hills Landfill in Solano County in 2010. The remainder of the disposed materials was transferred to other landfills in northern and central California (CalRecycle, 2010; 2011).

As of 2000, the Potrero Hills landfill had a total estimated permitted capacity of 21,500,000 cubic yards, and it had an estimated remaining capacity of 64.5 percent (CalRecycle, 2010). In June 2009, Solano County issued a Notice of Determination for certification of an EIR for expansion of the landfill. The EIR analyzed the expansion of the landfill to 580 acres from 320 acres, and it analyzed an increase in the maximum height to 345 feet from 220 feet. Total estimated landfill capacity

would increase to 83 million cubic yards. The San Francisco Bay Conservation and Development Commission approved expansion plans in October 2010, and permit renewal is ongoing.

Solid Waste Systems secured a 5-year agreement with the County of Lake to dispose at the Eastlake Sanitary Landfill in Clearlake beginning in January 2012 (City Manager, 2011). According to CalRecycle's 2000 capacity information, the landfill has a total capacity of 6,050,000 cubic yards, of which approximately 47.3 percent is estimated remaining. Between 40,000 and 50,000 tons of solid waste per year has been disposed at the landfill in that time. In 2010, jurisdictions disposed of 40,830 tons of solid waste at the landfill, down from 48,212 tons in 2005 and 46,712 tons in 2000. The landfill's permit was renewed in 2008 and is up for review again in 2015.

The Mendocino Solid Waste Management Authority is a joint powers agency created by the County of Mendocino, City of Ukiah, City of Fort Bragg, and the City of Willits. The authority focuses on the implementation of regional waste diversion programs, as required by state law. The Ukiah Valley Transfer Station, the Ukiah Recycling Center, and the Ukiah Auto Dismantlers accept specific materials for recycling.

The California Department of Resources Recycling and Recovery (CalRecycle) indicates that the City of Ukiah's diversion rate increased to 42 percent in 2006 from 26 percent in 1995 (CalRecycle 2010). Beginning with the 2007 jurisdiction annual reports, diversion rates were no longer measured. With the passage of SB 1016 in 2006, the Per Capita Disposal Measurement System, only per capita disposal rates are measured to determine if jurisdiction's efforts are meeting the intent of AB 939 (see below). Ukiah's per resident disposal target rate is 5.2 pounds per person per day (PPD), and its per employee disposal target rate is 9.7 PPD. In 2010, which is the most recent date for which data is available, the City's resident disposal rate was 3.2 PPD and the employee waste disposal rate was 6.9 PPD (CalRecycle, 2011a).

### ***Electricity and Natural Gas***

The Electric Utility Department oversees the procurement and retail sales of electric energy within the City limits, and maintains and operates the local electric distribution system and the Lake Mendocino Hydroelectric Plant. Ukiah's electric utility is a member of the Northern California Power Agency (NCPA), which is a joint powers agency of 17 member communities and districts in Northern and Central California. In addition to hydroelectric facilities, NCPA also generates power from geothermal and combustion turbine sources. As of winter 2008, Ukiah received an average of 48 percent of electricity generated from eligible renewable resources, including biomass, geothermal, small hydroelectric, solar, and wind. Large hydroelectric comprised an additional 20 percent of the City's power, and the remainder was divided among natural gas, coal, nuclear, and other sources (City of Ukiah, 2010). Approximately 59 percent of this power was sold to non-residential accounts (PG&E, 2010). In 2007, the City of Ukiah delivered 115 million kW hours to customers, of which approximately 62 percent was sold to commercial buildings.

With a relatively mild Mediterranean climate and strict energy efficiency and conservation requirements, California has lower energy consumption rates than other parts of the country. According to the Department of Energy (DOE), per capita energy use in California is approximately

70 percent of the national average, the third lowest state in the nation. California has the lowest annual electrical consumption rates per person of any state and uses 20 percent less natural gas per person. Per capita transportation energy use in the state is near the national average. Nevertheless, with a population of 34 million people, the state is the tenth largest consumer of energy in the world. According to the California Energy Commission (CEC), petroleum supplies about 54 percent of the State's energy, natural gas about 33 percent, and imported electricity contributes 13 percent of total energy use.

Ukiah is located in a coastal climate zone (Climate Zone 2 in the Title 24 Climate Zone designation mapping), which is influenced by the ocean approximately 85 percent of the time and by inland air approximately 15 percent of the time (PG&E, 2010). Winters are cool and mild, and summers are usually mild, although hotter summer days can occur farther north in the zone, around Ukiah.

### **3.9.3 Regulatory Setting**

#### **Federal**

##### ***Safe Drinking Water Act***

The USEPA administers the Safe Drinking Water Act (SDWA), the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The Department of Health Services (DHS) implements the SDWA and oversees public water system quality statewide. DHS establishes legal drinking water standards for contaminants that could threaten public health.

#### **State**

##### ***Senate Bill (SB) 610 / Senate Bill (SB) 221***

Senate Bill (SB) 610, codified as Sections 10910-10915 of the California Public Resources Code, requires local water providers to conduct a water supply assessment (WSA) for projects proposing over 500 housing units, 250,000 square feet of commercial office space (or more than 1,000 employees), a shopping center or business establishment with over 500,000 square feet (or more than 1,000 employees), or equivalent usage. The Project does not meet this threshold and therefore will not require that a WSA be prepared.

Local water suppliers must also prepare or have already prepared an Urban Water Management Plan (UWMP) to guide planning and development in the water supplier's service area, and specifically pursues efficient use of water resources. The 2005 UWMP was prepared and adopted by the City of Ukiah in November 2007.

##### ***Assembly Bill (AB) 939 and SB 1016***

The California Integrated Waste Management Act of 1989, or Assembly Bill (AB) 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans and also mandated that local jurisdictions divert at least 50 percent of all solid waste generated



(from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. In 2006, Senate Bill 1016 updated the requirements. The new per capita disposal and goal measurement system moves the emphasis from an estimated diversion measurement number to using an actual disposal measurement number as a factor, along with evaluating program implementation efforts. These two factors will help determine each jurisdiction's progress toward achieving its Integrated Waste Management Act (AB 939) diversion goals. The 50 percent diversion requirement is now being measured in terms of per-capita disposal expressed as pounds per person per day.

### ***California Code of Regulations Title 24***

The State of California regulates energy consumption under Title 24 of the California Code of Regulations. The Title 24 Building Energy Efficiency Standards were developed by the California Energy Commission (CEC) and apply to energy consumed for heating, cooling, ventilation, water heating, and lighting in new residential and non-residential buildings. The latest update to the Title 24 standards became effective on January 1, 2011, and reflect the California Building Standards Commission approved 2008 Building Energy Efficiency Standards. The standards regulate energy consumed in buildings for heating, cooling, ventilation, water heating, and lighting (CEC, 2011). The California Green Building Code, effective January 1, 2011, also includes standards for water efficiency in residential and non-residential buildings.

## **Local**

### ***City of Ukiah General Plan and Growth Management Program***

The City of Ukiah General Plan contains the following goals and policies applicable to the proposed Project and this CEQA analysis:

**Goal EG-4:** Maximize on-site energy use, especially in new developments.

*Policy EG-4.1:* Incorporate solar energy considerations into the design, review and approval of all development.

**Goal EG-5:** Site design shall incorporate shade trees for energy conservation.

*Policy EG-5.1:* Encourage minimum canopy coverage of all paved area on a lot.

**Goal EG-6:** Promote energy efficiency features in the design of all new structures and in the retrofitting of existing structures.

*Policy EG-6.1:* Design new buildings with the maximum feasible energy efficiency.

**Goal CF-3:** Promote water conservation.

## 3.9.4 Impacts and Mitigation Measures

### Significance Criteria

Implementation of the Project would be considered to have a significant impact to public services and utilities if it would:

- Result in substantial adverse physical effects associated with the provision of new or physically altered police, fire, or school facilities, or the need for new or physically altered facilities; the construction of which could cause significant environmental impacts in order to maintain acceptable levels of service ratios, response times, or other performance objectives;
- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Have insufficient water supplies available to serve the project from existing entitlements and resources;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Not be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs;
- Not comply with federal, state, and local statutes and regulations related to solid waste; or
- Result in wasteful, inefficient, or unnecessary consumption of energy;
- Would increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would be accelerated or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

### Impact Analysis

#### **Impact 3.9.1: Implementation of the Project would not result in the need for new or physically altered police facilities.**

Development of the proposed Project result in construction and operation of a 148,000-square-foot Costco Wholesale warehouse and 20-pump fuel station. This facility would employ 175 to 200 people and provide 608 spaces in a surface parking lot. It would operate from 10:00 a.m. to 8:30 p.m. on weekdays, with shortened hours on weekends.

UPD does not anticipate that new police facilities would be required to ensure adequate police protection for the proposed project. UPD has adequate service levels to the proposed business and anticipates, based on Costco's business practices and known security practices, that there would be little additional demand for police services as a result of the proposed project (Taylor, 2012). As discussed in the Project Description, the proposed parking lot and building exterior would be lighted for security and safety. The project would not require the construction of new or altered police facilities, and the impact to police services would be **less than significant**.

**Mitigation:** None required.

---

**Impact 3.9.2: Implementation of the Project would not result in the need for new or physically altered fire and emergency service facilities.**

As stated above, the proposed Project would result in new employees and customers on the project site. These increases could result in an incremental increase in calls for fire and emergency medical services. The construction and operation of the Costco Wholesale warehouse, however, would not significantly affect UFD response times, nor require additional staff, equipment, or facility expansion.

The proposed Project would be required to meet UFD standards related to fire hydrants, water fire flow requirements and other fire code requirements. Fire sprinklers would be installed throughout the building. UFD would review the Project construction plans and inspect the construction work as it progresses to ensure that Project meets State and local Building and Fire Code requirements. In addition, the site would be paved and surrounded by urban uses so the fire hazard is low.

The proposed Project is not expected to generate a substantial increase in fire and emergency services demand such that new fire department facilities would need to be constructed (Jennings, 2010; 2012). (Emergency access to and from the Project site is discussed in Section 3.10, Transportation and Traffic.) Therefore, the proposed Costco Wholesale warehouse Project would result in **less-than-significant** impacts to existing fire and emergency facilities.

**Mitigation:** None required.

---

**Impact 3.9.3: Implementation of the Costco Wholesale warehouse and fuel station project would indirectly increase student enrollment at UUSD schools, but not to the extent that new facilities would be required.**

The Project would provide employment for approximately 175 to 200 employees, which has the potential to indirectly increase the number of residents in Ukiah and the surrounding area and, thus, increase the number of school age children attending UUSD schools. However, it is anticipated that most employees would either be current residents of Ukiah or would commute from other areas within Mendocino County and possibly beyond, rather than relocating to Ukiah.

Therefore, the Project is unlikely to increase the number of school age children in Ukiah beyond a negligible contribution. In addition, as stated above, the school district is expecting a continued decline in enrollment, and it would not be required to construct new facilities to meet any demand generated by the proposed Project.

Also, pursuant to Senate Bill 50 (SB 50), the Project applicant would be required to pay school impact fees established to offset potential impacts on school facilities. Therefore, although the Project is unlikely to result in substantial additional students within UUSD facilities, payment of the fees mandated under SB 50 is the mitigation measure prescribed by the statute, and payment of the fees is deemed full and complete mitigation. Therefore, no mitigation is required, and the potential impact is **less than significant**.

**Mitigation:** None required.

---

**Impact 3.9.4: The Project would not result in increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of these facilities would occur or be accelerated, nor would the Project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.**

The Project would activate the currently vacant site and create new employee and customer populations at the site. Therefore, the project could incrementally increase the use of existing neighborhood and regional parks or other recreational facilities. However, neither store employees (unless residents of Ukiah) nor shoppers (unless city residents) are likely to spend much time at city parks, since patrons of the proposed Project and employees would most likely only come to Ukiah to shop and work. Any increased use of city parks would not result in substantial physical deterioration of such facilities. Thus, the Project would not require the construction or expansion of additional recreational facilities and the potential impact is **less than significant**.

**Mitigation:** None required.

---

**Impact 3.9.5: Implementation of the Project would not significantly increase the demand for water supply.**

The City of Ukiah provides water to the Project site. The City's water accounting system does not categorize water demand factors by land use. Instead, water demand is averaged over all connections. The City estimates that each connection consumes an average of 0.77 AFY or approximately 687 gallons per day (gpd).

Development of the proposed Project would result in the construction and operation of a 148,000-square-foot Costco Wholesale warehouse and 20-pump fuel station. This facility would employ 175 to 200 people. The new facility and employees would increase water use at the Project site. Based on the 2010 Urban Water Management Plan, Commercial and Institutional Uses would increase the deliveries to 1,054 AFY by 2035, from 707 AFY in 2010.

The proposed Project's landscaping plan would include drought-tolerant plants that use less water than other common species. In addition, a new water-conserving irrigation system employing deep-root watering bubblers for the parking lot shade trees would minimize water usage for landscaping requirements. (Costco Wholesale, 2011).

In 2010, the City provided potable water service of 2,952 AFY, which is equivalent to 2.6 mgd, servicing a population of about 15,680. The total pumping capacity of the City's water system during the dry months is approximately 6,386 gpm or 10,308 AFY. The City anticipates 21,440 AFY of water supply in 2015, and increasing to 22,474 AFY in 2035 (City of Ukiah, 2011). This projected supply is well above the projected future demand. The City has adequate water supplies to serve the proposed Project. Therefore, the Project would result in **less-than-significant** impact to water supply.

**Mitigation:** None required.

---

**Impact 3.9.6: The Project would not exceed wastewater treatment requirements or require construction of new wastewater facilities or expansion of existing facilities.**

Development of the proposed Project would result in the construction and operation of up to 148,000 square feet of new development, as well as a 20-pump fuel station, that would employ 175 to 200 people. These new employees, as well as customers to the proposed project, would increase water demand.

As stated above, the City estimates that the total treated wastewater would increase to 4,896 AFY by 2015 and 5,930 AFY by 2035. The incremental increased flows from the proposed Project would not exceed the capacity of the City's WWTP. Therefore, the proposed Project would have a **less-than-significant** impact regarding wastewater treatment.

**Mitigation:** None required.

---

**Impact 3.9.7: The Project would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal, and would comply with federal, State, and local statutes and regulations related to solid waste.**

The proposed Project would result in new commercial square footage and employment on the Project site. CalRecycle estimates disposal rates for various industries based on several studies throughout the state. Solid waste disposal rate estimates include the amount of waste created by residences or businesses over a certain amount of time, inclusive of all materials discarded, whether or not they are later recycled or disposed in a landfill. The assumption for disposal rates is that industrial sectors of a certain type (e.g., retail trade—food sales) dispose similar wastes at similar rates (per employee), regardless of the location or size of the business.

Assuming that the Project would generate 5 pounds of solid waste per 1,000 square feet per day<sup>3</sup>, the proposed Project would generate an additional 140 tons of solid waste per year (153,700 square feet / 1,000 square feet \* 5 lbs. per day \* 365 days per year / 2000 lbs per ton) (CalRecycle, 2010).

A more conservative assessment would assume that the new employees of the Costco would generate the same amount of solid waste as existing employees citywide (6.9 PPD, as stated above). Under this assessment, each employee would generate 1.25 tons of solid waste per year (6.9 PPD \* 365 days per year / 2,000 pounds per ton). With 175 to 200 new employees, the new Costco would generate about 214 tons of solid waste per year.

Project-generated solid waste would be added to the City's municipal solid waste stream and would be delivered to the Ukiah Valley Transfer Station. From there, the waste would be delivered to the Eastlake Sanitary Landfill. Based on the estimate capacity of 2,862,000 in 2000, less capacity used by the 40,000 to 50,000 tons of solid waste deposited in the last ten years, the landfill would have sufficient additional capacity to absorb the incremental increase created by the proposed Project.

As a result, the proposed Project would have a less-than-significant impact regarding exceeding landfill capacities, and would not violate solid waste regulations.

**Mitigation:** None required.

---

**Impact 3.9.8: The Costco Wholesale warehouse Project would not exceed existing gas and electric supply or result in wasteful, inefficient, or unnecessary consumption of energy.**

The proposed Project would intensify development on the Project site, thereby increasing demand for gas and electric service. On-site employment and uses, such as the warehouse store and tire center, would use gas and electricity. These uses would generate demand for 2.44 million kilowatt hours of electricity per year (kWh). The Project area has existing distribution facilities and capacity to serve the Project.

The energy consumption demands of the proposed Project would conform to the State's Title 24 energy conservation standards such that the development would not be expected to wastefully use

---

<sup>3</sup> Waste generation rate is for a commercial land use, per CalRecycle, 2010.

gas and electricity. The proposed Project would also be designed to include several sustainable features. Among these features are regional sourcing of building materials, higher solar reflectivity metal wall panels, reflective roof materials, and tripled-glazed skylights (Costco, 2011). In addition, energy service to the Project site would be provided to meet the needs of the proposed Project as required by the California Public Utilities Code, which obligates electric providers to provide service to existing and potential customers. Since the proposed Project would comply with Title 24 conservation standards, implement additional sustainable features, and be served by the City of Ukiah, the proposed Project would not directly require the construction of new energy generation or supply facilities, or result in wasteful, inefficient, or unnecessary consumption of energy. Consequently, the impact would be **less than significant**.

**Mitigation:** None required.

---

## Cumulative Impacts

**Impact 3.9.9: The Project would not make a cumulatively considerable contribution to public services and utilities impacts associated with cumulative development in the Project vicinity.**

Cumulative developments in the Project site vicinity, combined with the proposed Project, would result in an increased demand for fire, police, schools, parks, water and wastewater services, as well as solid waste and energy services. As the cumulative projects, identified in Chapter 4, are predominantly commercial, the cumulative effect on schools and parks would be less than significant. (Similar to the discussion above, there is adequate capacity at schools plus all projects must pay a school fee.) Retail development may increase the demand for fire and police services, but given that the projects are located in developed areas, and within existing service areas, the need for additional or enhanced facilities is unlikely, and the cumulative effect less than significant. Also, given the extra capacity at the UWWTP and at the landfills, as well as the City's excess water and energy supplies, adequate wastewater, solid waste, water and energy supplies exist for the cumulative projects. Combined with cumulative development, the Costco Wholesale warehouse Project would result in an increase to energy, solid waste, and water and wastewater service demands, but these increases would be minimal and accommodated within the existing utility and service system (as described above). Therefore, the cumulative impacts would be **less than significant**.

**Mitigation:** None required.

---

### 3.9.5 References

- California Energy Commission (CEC), 2011. *California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6, of the California Code of Regulations)*, [www.energy.ca.gov/title24](http://www.energy.ca.gov/title24), accessed April 21, 2011.
- CEC, 2010. *Electricity Consumption by County*, [www.ecdms.energy.ca.gov/elecbycounty.aspx](http://www.ecdms.energy.ca.gov/elecbycounty.aspx), accessed July 1, 2010.
- California Department of Resources Recycling and Recovery (CalRecycle), 2012. [www.calrecycle.ca.gov](http://www.calrecycle.ca.gov), Accessed February 9, 2012.
- City Manager, 2011. *City Manager's Report: Proposal to Increase Solid Waste Collection and Disposal Service Rates*.
- City of Ukiah, 2010. Parks and Recreation Page. Available Online: [www.cityofukiah.com/pageserver/?page=parks\\_rec](http://www.cityofukiah.com/pageserver/?page=parks_rec). Accessed June 30, 2010.
- City of Ukiah, 2011. *2010 Urban Water Management Plan*, prepared by Carollo Engineers, Inc., adopted June 15, 2011.
- Ed-data, 2012. Education Data Partnership. School District Profile: [www.ed-data.k12.ca.us/\\_layouts/EdDataClassic/profile.asp?tab=0&level=06&Report](http://www.ed-data.k12.ca.us/_layouts/EdDataClassic/profile.asp?tab=0&level=06&Report). Accessed February 9, 2012.
- Jennings, Kevin, 2010. City of Ukiah Fire Department, Division Chief / Operations. Personal Communication. June 22, 2010.
- Jennings, Kevin, 2012. City of Ukiah Fire Department, Division Chief / Operations. Personal Communication. February 28, 2012.
- PG&E, 2010. California Climate Zone 2. Available Online: [www.pge.com/mybusiness/edusafety/training/pec/toolbox/arch/climate/index.shtml](http://www.pge.com/mybusiness/edusafety/training/pec/toolbox/arch/climate/index.shtml). Accessed July 10, 2010.
- Taylor, Trent, 2010. City of Ukiah Police Department. Services Commander. Personal Communication. June 17, 2010.
- Taylor, Trent, 2012. City of Ukiah Police Department. Services Commander. Personal Communication. February 14, 2012.
- UPD, 2010. "Public Safety Organizational/Responsibilities Chart." Available Online: [www.cityofukiah.com/pdf/police\\_department/public\\_safety\\_organizational\\_chart.PDF](http://www.cityofukiah.com/pdf/police_department/public_safety_organizational_chart.PDF). Accessed July 10, 2010.
- UPD, 2010. *Strategic Plan: 2010–2015*.
- UUSD, 2009. Ukiah Unified School District Board of Education District Advisory "711" Committee Final Report, June 23, 2009.
- UUSD, 2012a. Ukiah Unified School District Web Site, [www.uusd.net/pages/Ukiah\\_Unified/Our\\_District/About\\_UUSD](http://www.uusd.net/pages/Ukiah_Unified/Our_District/About_UUSD), accessed February 9, 2012.
- UUSD, 2012b. Ukiah Unified School District Budget Review: 2011 / 2012 1st Interim. No date provided.



## 3.10 Transportation and Traffic

This section discusses existing transportation and traffic conditions in the Project area, as well as potential impacts of the Project to those conditions.<sup>1</sup>

### 3.10.1 Environmental Setting

The existing transportation-related context for the Project is described below, beginning with a description of the study area and the street network that serves the project area. Existing transit service, bicycle and pedestrian facilities, and on- and off-street parking in the vicinity of the project are also described. Intersection and freeway levels of service are then defined and current conditions for roadways and intersections in the project area vicinity are summarized.

#### Existing Roadway Network

The proposed project is located on the west side of US 101 south of Talmage Road (SR 222) and Commerce Drive. The project property is within the Redwood Business Park on Airport Park Boulevard. The adjacent parcels to the north are currently developed as a unified shopping center including the Ken Fowler Auto Center, Walmart, FoodMaxx, Staples, Friedman's Home Improvement Center and a number of small to medium sized retail stores, restaurants and a gas station. Several hotels, a Starbucks, a bank and other services are located on the opposite side of Airport Park Boulevard. The shopping center and adjacent commercial uses are a destination for local shoppers from within the community as well as those from throughout the greater region since the nearest similar shopping opportunities are in Eureka to the north and Windsor to the south.

The project is located amongst a mix of transportation resources that provide local and regional access to the site including US 101 and the Talmage Road (SR 222) interchange, regional and local streets, bike lanes, sidewalks and transit. The local circulation system serving the project site is shown in **Figure 3.10-1**. Primary access to the Costco project site would be via two new access points on Airport Park Boulevard, while a secondary access driveway is proposed on the existing roadway that provides access to the Ken Fowler Auto Center.

#### Regional Roadways

**U.S. Highway 101 (U.S. 101)** is a primary route connecting the City of Ukiah to the City of Santa Rosa and the San Francisco Bay Area to the south, and Willits and other Mendocino County communities to the north. Within Ukiah, U.S. 101 is a four-lane freeway with interchanges at Talmage Road (SR 222), Gobbi Street, and Perkins Street.

<sup>1</sup> This section provides a summary of existing and cumulative transportation conditions associated with the proposed Costco Wholesale Project. Information provided in this section is taken from the Costco *Traffic and Circulation Report* (W-Trans, June 2012). The complete document is available in **Appendix E**.

### ***Arterial Roadways***

**Talmage Road** is a major arterial that provides a direct connection between South State Street and U.S. 101, a regional corridor. Talmage Road is a Caltrans highway (SR 222) between U.S. 101 and the community of Talmage to the east of U.S. 101.

**South State Street** is an arterial roadway and is generally a four-lane street that runs north-south and parallel to U.S. 101. Curbs, gutters, and sidewalks exist along both sides of the roadway.

**Gobbi Street** is a major arterial that provides a connection between South State Street and its interchange with U.S. 101. The roadway has two through lanes and a two-way left-turn lane separating the east-west travel lanes. Sidewalks and bicycle lanes exist along both sides of the roadway.

### ***Collector Roadways***

**Airport Park Boulevard** extends from just north of Talmage Road along the project frontage to its terminus approximately three-quarters of a mile south of Talmage Road. The roadway provides primary access to the project site. It has two travel lanes in each direction separated by planted medians and/or intermittent left turn lanes, and discontinuous sidewalks along the west side of the street. North of Talmage Road, Airport Park Boulevard connects to residential streets that eventually intersect with Gobbi Street and Perkins Street. The southern terminus of Airport Park Boulevard intersects Airport Road, which intersects South State Street via Hastings Road.

**Hastings Avenue-Airport Road** runs along the northern and eastern side of the Airport and connects South State Street to Airport Park Boulevard at the intersection with Commerce Drive. This roadway includes two lanes, on-street bicycle lanes on both sides of the street, and sidewalks on the northeastern side of the street. The southern terminus of Airport Road connects to Airport Park Boulevard.

**Waugh Lane** is a narrow north-south collector roadway that connects Gobbi Street and Talmage Road-SR 222. This two-way street does not have centerline striping, sidewalks, or bicycle lanes.

### ***Residential Roadways***

**Mill Street** is primarily a residential road with one lane in each direction with parking, curb, gutter, and sidewalks on both sides of the street. The roadway, east of South State Street provides a connection to Main Street, where it terminates.

## **Transit Service**

### ***Mendocino Transit Authority***

The Mendocino Transit Authority (MTA) provides fixed route bus service in Ukiah. MTA Local Route 9 provides loop service to destinations throughout the City and stops on Commerce Drive between Walmart and Furniture Design Center. Route 9 operates with approximately one-half hour headways, Monday through Friday between 7:00 a.m. and 8:30 p.m., and Saturdays between 10:00 a.m. and 5:00 p.m.

Routes 20, 21, and 30 provide inland service between Willits, the Redwood Valley, Calpella, and Ukiah. Each route stops on Commerce Drive between Walmart and Furniture Design Center and operates Monday through Friday with approximately one- to three-hour headways between 8:00 a.m. and 5:30 p.m.

Route 75, the South Mendocino Coast Bus, provides service between Gualala, Fort Bragg, and Ukiah, with a stop on Commerce Drive between Walmart and FoodMaxx. Route 75 operates Monday through Saturday with northbound and southbound service in the morning and afternoon.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. MTA Paratransit is designated to service the needs of individuals with disabilities within Ukiah and greater Mendocino County. In addition, two bikes can be carried on most MTA buses and bicycle rack space is on a first come, first serve basis.

## **Pedestrian Facilities**

Pedestrian facilities include sidewalks, crosswalks, pedestrian signals, curb ramps, and streetscape amenities. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the vicinity of the Project; however, notable sidewalk gaps, obstacles, and barriers can be found along each of the roadways connecting to the project site. Existing gaps and obstacles along the connecting roadways affect convenient and continuous access for pedestrians and present safety concerns in those locations where appropriate pedestrian infrastructure would address potential conflict points. A summary description of existing pedestrian conditions is provided below:

- *Talmage Road* – Intermittent sidewalk coverage, with notable gaps on one or both sides of the street between Hastings Frontage Road-Babcock Lane on the east side of U.S. 101 and South State Street. Curb ramps and crosswalks at side street approaches are intermittent, non-existent, or not compliant with current ADA standards.<sup>2</sup> High-speed vehicle movements associated with the Talmage Road / U.S. 101 interchange are in conflict with pedestrian movements. Overhead streetlights provide lighting of the corridor.
- *Airport Park Boulevard* – There is intermittent sidewalk coverage, with no sidewalks on the east side of the street along Walmart’s roadway frontage. Sidewalks are provided along the developed properties on the west side of the street between Talmage Road and Commerce Drive. South of Commerce Drive, limited sidewalk coverage is provided along developed property frontages. Marked crosswalks are not provided at the Airport Park Boulevard / Commerce Drive intersection, and curb ramps are not in compliance with current ADA standards. Street lighting is not provided on Airport Park Boulevard.
- *Airport Road* – Continuous sidewalks exist on the east side between Commerce Drive and Hastings Avenue, but sidewalks are not provided on the west side of the street. There are no streetlights on this road.

---

<sup>2</sup> ADA is an abbreviation of the Americans with Disabilities Act. Standards for accessible designed are published by the U.S. Department of Justice (*2010 ADA Standards for Accessible Design*).

- *Hastings Avenue* – Continuous sidewalks are provided on the north side between Airport Road and approximately 275 feet east of South State Street, but sidewalks are not provided on the south side of the street. Hastings Avenue has no street lighting.
- *South State Street* – Sidewalks are generally provided on both sides of the street, with intermittent gaps along undeveloped property frontages. Overhead streetlights provide lighting for the corridor.
- *Waugh lane, Betty Street, Lorraine Street, and Henderson Lane* are all narrow local streets that provide access to residences on the north side of Talmage Road. Sidewalks and streetlights are generally not provided along these local streets.
- *Costco site* – No sidewalks or pedestrian paths currently exist on the project site.

## Bicycle Facilities

The following bicycle facilities are identified in the *Mendocino County Bikeway Plan* (Mendocino County, 2006):

- **Class I** bicycle facilities are commonly referred to as “bicycle paths.” They provide a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorists minimized.
- **Class II** bicycle facilities are commonly referred to as “bicycle lanes.” They provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycle traffic, with through travel by motor vehicles or pedestrians prohibited. Adjacent vehicle parking and cross flows by pedestrians and motorists are permitted.
- **Class III** bicycle facilities are commonly referred to as “bicycle routes.” They are generally on-street facilities that provide right-of-way designated by signs and/or pavement markings and are shared with pedestrians and motorists.

In the project area, Class II bicycle lanes exist on Hastings Avenue between Airport Road and South State Street. Airport Park Blvd. is identified as a Class III bicycle route in AIP 1098.

## Study Intersections

In consultation with City staff, and considering previous traffic analysis prepared in the project area (see City of Ukiah Walmart Expansion Project EIR, State Clearinghouse # 2010032042), the following 10 intersections were identified for detailed analysis in this study because they would be the most likely to be affected by project traffic:

1. South State Street / Mill Street
2. South State Street / Gobbi Street
3. South State Street / Talmage Road-SR 222 (Caltrans)
4. South State Street / Hastings Avenue-Airport Road
5. Talmage Road / Waugh Lane (Caltrans)
6. Talmage Road / Airport Park Boulevard (Caltrans)
7. Talmage Road-SR 222 / U.S. 101 South Ramps (Caltrans)
8. Talmage Road-SR 222 / U.S. 101 North Ramps (Caltrans)

9. Talmage Road-SR 222 / Hastings Frontage Road-Babcock Lane (Caltrans)
10. Airport Park Boulevard / Commerce Drive

Segments of U.S. 101 to the north and south of the Talmage Road-SR 222 interchange were evaluated. The locations of these 10 intersections are shown on **Figure 3.10-1**.

### ***Intersection Operations Analysis Methodology***

The current technical guide to the evaluation of traffic operations is the 2000 *Highway Capacity Manual* (HCM) (Transportation Research Board, 2000). The HCM defines “Level of Service” as a qualitative measure that describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Level of service is a measure of “quality-of-flow.” There are six levels of service, LOS A through LOS F, which relate to traffic congestion from best to worst, respectively. **Table 3.10-1** summarizes the relationship between vehicle delay and LOS at intersections.

### ***Two-Way Stop-Controlled Intersections***

The intersections of Talmage Road-SR 222/Waugh Lane, Talmage Road-SR 222/US 101 South Ramps, Talmage Road-SR 222/US 101 North Ramps and Talmage Road-SR 222/Hastings Frontage Road-Babcock Lane, which have one or two approaches stop controlled, were analyzed using the “Two-Way Stop-Controlled” intersection capacity method from the HCM. This methodology determines a level of service for each minor turning movement by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements together with the weighted overall average delay for the intersection.

### ***All-Way Stop-Controlled Intersections***

The intersection of Airport Park Boulevard/Commerce Drive, which is the only intersection that is controlled by all-way stop controls, was analyzed using the “All-Way Stop-Controlled Intersection” methodology contained in the HCM. This methodology evaluates delay for each approach based on turning movements, opposing and conflicting traffic volumes, and the number of lanes. Average vehicle delay is computed for the intersection as a whole, and is then related to a Level of Service.

### ***Signalized Intersections***

The intersections of South State Street/Mill Street, South State Street/Gobbi Street, South State Street/Talmage Road-SR 222, South State Street/Hastings Avenue-Airport Road and Talmage Road-SR 222/Airport Park Boulevard, which are currently controlled by a traffic signal were evaluated using the signalized methodology from the HCM. This methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology.

**LEGEND**  
 ● Study Intersection



NOT TO SCALE



SOURCE: w-trans, 2012; and ESA, 2012

Ukiah Costco Project . 211169

**Figure 3.10-1**  
 Lane Configurations

**TABLE 3.10-1  
 DEFINITIONS FOR INTERSECTION LEVEL OF SERVICE**

Unsignalized Intersections			Signalized Intersections	
Description	Average Total Vehicle Delay (Seconds)	Level of Service Grade	Average Control Vehicle Delay (Seconds)	Description
No delay for stop-controlled approaches.	≤10.0	A	≤10.0	Free Flow or Insignificant Delays: Operations with very low delay, when signal progression is extremely favorable and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
Operations with minor delay.	>10.0 and ≤15.0	B	>10.0 and ≤20.0	Stable Operation or Minimal Delays: Generally occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
Operations with moderate delays.	>15.0 and ≤25.0	C	>20.0 and ≤35.0	Stable Operation or Acceptable Delays: Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
Operations with increasingly unacceptable delays.	>25.0 and ≤35.0	D	>35.0 and ≤55.0	Approaching Unstable or Tolerable Delays: Influence of congestion becomes more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop, but dissipate rapidly, without excessive delays.
Operations with high delays, and long queues.	>35.0 and ≤50.0	E	>55.0 and ≤80.0	Unstable Operation or Significant Delays: Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.	>50.0	F	>80.0	Forced Flow or Excessive Delays: Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

SOURCE: Transportation Research Board, *Highway Capacity Manual*, 2000.

**Level of Service Standards**

The *Ukiah Valley General Plan and Growth Management Program* (1995) establishes the criteria for acceptable operation. Policy CT-16.2 states that, “LOS D is the minimum acceptable LOS for state highways, freeways, expressways, arterials and collectors.” Based on discussions with the City of Ukiah it was determined that the level of service standard of LOS D would be applied to the overall intersection operation of stop-controlled intersections rather than individual movements or approaches of an intersection. This criterion was applied to all study intersections.

### **Traffic Signal Warrants**

The point at which signalization should be considered as a mitigation measure was determined based on information contained in the *Manual on Uniform Traffic Control Devices* (MUTCD, California supplement), Federal Highway Administration, 2003. For the purposes of this study, Warrant 3, the Peak Hour volume warrant, which determines the need for traffic control based on the highest volume hour of the day, was used as an initial indication of traffic control needs. The use of this signal warrant is common practice for planning studies. Other warrants, which are more generally applicable to existing traffic issues, require collection of traffic volumes for the highest four or eight hours of the day, review of the collision history, and evaluation of the system surrounding the location.

### **Analysis of Interchange Area Queuing**

Adverse queuing conditions can result in traffic impacts at closely spaced intersections, particularly at freeway interchanges where queues can potentially affect mainline freeway operation. For these reasons, an analysis of queuing was performed for the Talmage Road corridor between Waugh Lane and Hastings Frontage Road-Babcock Lane, including the intersections of Talmage Road at Airport Park Boulevard, US 101 Southbound Ramps and US 101 Northbound Ramps. The analysis was focused on the p.m. peak hour as this time period has the highest delays and the greatest potential for queuing impacts.

The projected vehicle queues were determined using the applied timing schemes in SIMTRAFFIC, which is a traffic simulation extension of SYNCHRO. SIMTRAFFIC generates random “seeding” of vehicles on the street network and then simulates how vehicles will flow through the system using the actual volumes, phasing, and timing developed in SYNCHRO. Because each SIMTRAFFIC run is unique, a series of six separate “runs” was used to develop queuing estimates. The maximum queues that occur for each lane in the six SIMTRAFFIC runs were averaged and are reported as the maximum queue. The signal phasing and storage lengths for each lane were obtained from Caltrans’ construction plans. The timing schemes for baseline and future conditions were assumed to remain unchanged upon the addition of project-generated traffic. Queuing impacts were considered significant if the calculated 95<sup>th</sup> percentile queue lengths either exceeded the available or proposed storage lengths of a left-turn pocket or was projected to queue back into the next controlled intersection or mainline freeway or freeway ramp facility.

### **Analysis of US 101 Freeway**

The freeway analysis methodology contained in Chapter 23 of the HCM, “Basic Freeway Segments,” was used to determine levels of service on US 101. The method uses variables such as traffic volumes, geometric configuration of the freeway (i.e., number of lanes, widths of lanes and shoulders), topography, the percentage of heavy vehicles, and free-flow speeds to determine LOS criteria including the “service flow rate.” Service flow rates are indicative of the travel demand on a freeway facility and are measured in the number of passenger cars per hour per lane. The ranges of service flow rates associated with the various Levels of Service are presented in **Table 3.10-2**.



Caltrans maintains a target LOS at the transition between LOS C and LOS D for freeway facilities, which translates to a service flow rate of approximately 1,680 passenger cars per hour per lane. Where an existing freeway is operating at less than the LOS C/D threshold an existing “measure of effectiveness” should be maintained. In determining whether a project would create an adverse impact to a freeway facility already operating at LOS E or F, the forecasted service flow rate was compared to ideal freeway capacity to establish a theoretical volume-to-capacity (v/c) ratio. The impact was considered cumulatively significant if the project would increase the freeway v/c ratio on a facility already operating at LOS E or F by 0.01 or more.

**TABLE 3.10-2  
 LEVEL OF SERVICE CRITERIA FOR FREEWAY SEGMENTS**

Level of Service	Maximum Service Flow Rate <sup>a</sup>
A	710 pc/hr/lane
B	1,170 pc/ hr/lane
C	1,680 pc/ hr/lane
D	2,090 pc/ hr/lane
E	2,350 pc/ hr/lane
F	Great than 2,350 pc/ hr/lane

a. Maximum service flow rate based on passenger cars per hour per travel lane (pc/hr/lane).

SOURCE: Transportation Research Board, *Highway Capacity Manual – Special Report 209*, 2000.

## Existing Conditions

### Traffic Volumes

Intersection vehicle turning movement volumes used in the analysis were collected in February of 2010. The existing intersection traffic volumes used in the analysis are shown in **Figure 3.10-2**.

Traffic volumes for the US 101 freeway segments were obtained from the Caltrans “Traffic and Vehicle Data Systems Unit” internet site and reflect 2008 conditions.

### Intersection Conditions

#### Levels of Service

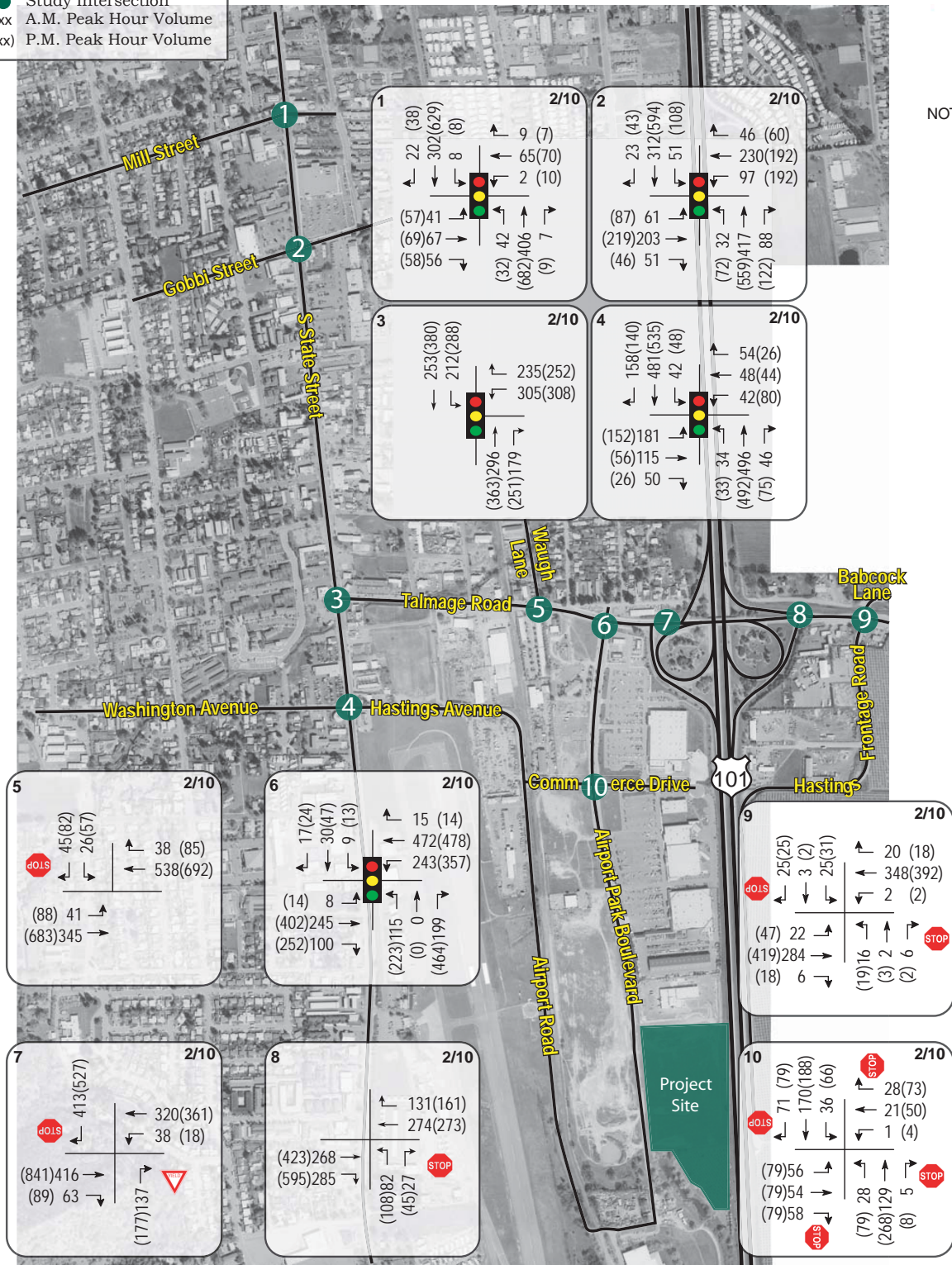
All of the study intersections are currently operating acceptably at LOS D or better overall during both peak periods evaluated. It should be noted that even though the southbound right-turn lane at the intersection of Talmage Road/US 101 Southbound Ramps is currently operating at LOS E during the p.m. peak period, this intersection is operating at LOS A or B overall and therefore is considered to fall within acceptable levels of service.

The existing levels of service for each of the study intersections are summarized in **Table 3-10-3**. Level of service calculation sheets are attached to the traffic and circulation report, **Appendix E** of this DEIR.

**LEGEND**

- Study Intersection
- xx A.M. Peak Hour Volume
- (xx) P.M. Peak Hour Volume

↑  
N  
NOT TO SCALE



**TABLE 3.10-3  
 EXISTING INTERSECTION LEVELS OF SERVICE (LOS)**

Intersection	A.M. Peak		P.M. Peak	
	Delay <sup>a</sup>	LOS	Delay <sup>a</sup>	LOS
1. South State Street / Mill Street	9.1	A	11.6	B
2. South State Street / Gobbi Street	24.6	C	35.9	D
3. South State Street / Talmage Road	22.5	C	29.9	C
4. South State Street / Hastings Avenue	34.1	C	22.2	C
5. Talmage Road / Waugh Lane	1.3	A	2.6	A
6. Talmage Road / Airport Park Boulevard	18.9	B	27.1	C
7. Talmage Road / U.S. 101 Southbound Off-Ramp	7.5	A	13.0	B
8. Talmage Road / U.S. 101 Northbound Off-Ramp	2.2	A	3.0	A
9. Talmage Road / Hastings Frontage Road	1.9	A	2.5	A
10. Airport Park Boulevard / Commerce Drive	9.2	A	11.0	B

a The LOS and delay for intersections represent conditions for the overall intersection.  
 SOURCE: W-Trans, 2012.

**Queuing Analysis – Existing Conditions**

Potential queuing interactions between the closely spaced intersections along the Talmage Road corridor, from Airport Park Boulevard to east of US 101 Northbound Ramps, were evaluated for both the a.m. and p.m. peak hours. Although both peak periods were analyzed, queuing results for only the p.m. peak hour are discussed below as this peak resulted in far worse queuing than a.m. peak conditions.

Under existing p.m. peak hour conditions, the projected maximum queues between intersections and in turn pockets near the Talmage Road interchange are accommodated within the available storage except at one location. The US 101 Southbound Off-Ramp at Talmage Road is calculated to have maximum queues that extend beyond the available storage. A summary of the existing p.m. peak hour queues is presented in **Table 3.10-4**. Copies of the SIMTRAFFIC Queuing Projections are contained in the traffic & circulation report (Appendix E).

**TABLE 3.10-4  
 EXISTING PM PEAK HOUR QUEUES NEAR TALMAGE ROAD-SR 222 INTERCHANGE <sup>a</sup>**

Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
<b>6. Talmage Road / Airport Park Boulevard</b>												
Available Storage	250	-	250	50	-	165	50	400	400	175	500	500
Maximum Queue	108	-	138	33	-	84	31	212	167	171	94	54
<b>7. Talmage Road / U.S. 101 SB Off-Ramps</b>												
Available Storage	-	-	1840	-	-	600	-	-	270	50	-	-
Maximum Queue	-	-	109	-	-	<b>728</b>	-	-	0	16	-	-
<b>8. Talmage Road / U.S. 101 NB Off-Ramps</b>												
Available Storage	930	-	-	-	-	-	-	-	-	-	-	-
Maximum Queue	113	-	-	-	-	-	-	-	-	-	-	-

a. Maximum Queue represents the maximum queues that develop within SIMTRAFFIC (values represent the average of six SIMTRAFFIC runs). All distances measured in feet. **Bold** indicate where queues exceed available storage.

SOURCE: W-Trans, 2012.

### Existing Freeway Segment Levels of Service

The segments of US 101 to the north and south of Talmage Road are currently operating at LOS A in both the northbound and southbound directions during the p.m. peak hour. The existing levels of service for the freeway segments are summarized in **Table 3.10-5**. Level of service calculation sheets for freeway segments are included in the traffic & circulation report (Appendix E).

**TABLE 3.10-5  
 EXISTING FREEWAY SEGMENT PM PEAK-HOUR LEVELS OF SERVICE (LOS)**

Freeway Segment	Northbound		Southbound	
	Vp <sup>a</sup>	LOS	Vp <sup>a</sup>	LOS
North of Talmage Road	704	A	697	A
South of Talmage Road	372	A	368	A

a. Vp = Service flow rate, measured in passenger cars per hour per lane (pc/hr/ln).

SOURCE: W-Trans, 2012.

### Collision History

The collision history for the study area was reviewed to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated based on the most recent available records from January 1, 2006, through December 31, 2010, obtained from the California Highway Patrol and published in their Statewide Integrated Traffic Records System (SWITRS) reports. As presented in traffic & circulation report (Table 5 of Appendix E), the calculated collision rates for the study intersections were compared to average collision rates for similar facilities statewide, as indicated in *2007 Accident Data on California State Highways*, California Department of Transportation.

Two of the existing study intersections have experienced higher collision rates than the statewide averages, while eight intersections experienced lower than average rates.

The intersection of South State Street/Mill Street has a collision rate for the five-year study period that is slightly higher than the Statewide average rate. The percentage of collisions that involved injuries was 55.6 percent, which is above the statewide average of 43.9 percent. Of the 18 collisions experienced at this intersection, eight were broadside collisions and six were rear-end collisions. With the high number of rear-end and broadside collisions there may be existing traffic signal timing and vehicle detection deficiencies which put drivers in a 'dilemma zone' when approaching this intersection.

The intersection of South State Street/Talmage Road had a collision rate slightly higher than the Statewide average rate. The percentage of collisions that involved injuries was 46.2 percent, which is also slightly above the statewide average of 43.3 percent. Collisions at this intersection were primarily rear-end and collisions. The high incidence of rear-end crashes is fairly common at signalized locations, especially during periods of congestion.

## 3.10.2 Regulatory Setting

### State

#### ***California Department of Transportation***

Caltrans manages interregional transportation, including management and construction of the California highway system. In addition, Caltrans is responsible for permitting and regulation of the use of state roadways. Within proximity of the project site, there are two facilities that fall under Caltrans' jurisdiction: U.S. Highway 101 and Talmage Road-SR 222.

### Local

#### ***City of Ukiah General Plan and Growth Management Program***

The City of Ukiah *General Plan and Growth Management Program* (City of Ukiah, 2004) provides a blueprint for growth within the City, and sets the goals, policies, and programs that apply to the project area. The following initiatives from the *General Plan* are relevant to the project:

***Policy CT-1.3:*** All proposed development shall be reviewed for its immediate and cumulative transportation impacts.

***Goal CT-3:*** Design new development and redevelopment projects to be as accessible by foot, bicycle, and transit, as they are by auto.

***Policy CT-3.1:*** New development and redevelopment projects shall specifically include plans for pedestrian facilities, bicycle lanes, bicycle racks, and transit stops.

***Implementation CT-3.1(a):*** Working with Mendocino Transit Authority and other appropriate agencies, the City and County shall include in the land development code a menu of options to facilitate and encourage alternative modes of travel and transportation.

**Goal CT-6:** Increase the use of bicycle transportation.

*Implementation CT-6.1(a):* Utilize the Land Development Code to ensure that there is secure and safe parking for bicycles in new parking facilities.

**Policy CT-6.2:** Promote the use of bicycles as a viable and attractive alternative to cars.

*Implementation CT-6.2(b):* Provide incentives and technical support to encourage employers to provide convenient, safe, and secure bicycle parking at places of employment.

**Policy CT-6.3:** Provide bicycle lanes or paths along major streets.

*Implementation CT-6.3(a):* Require that streets linking residential areas with school facilities and shopping areas be designed to include bicycle lanes.

*Implementation CT-6.3(b):* Consider bicycle operating characteristics in the design of intersections and traffic control systems and include appropriate features in intersection design standards.

**Goal CT-7:** Develop pedestrian access.

**Policy CT-7.1:** Treat pedestrian access as an integral part of all road improvements within the City and within urbanized development areas of the County.

*Implementation CT-7.1(b):* Pedestrian walkways shall be integrated and designed to provide direct access between areas.

*Implementation CT-7.2(d):* Pedestrian access shall be accessible to the handicapped with appropriate curb cuts, grades, and ramps.

**Goal CT-8:** Encourage increased use of public transportation.

**Policy CT-8.1:** Make it easier to utilize bus service.

*Implementation CT-8.1(d):* The City and County shall work with MTA and Caltrans to ensure that project design maximizes potential sources of transit ridership through the use of shelters, passenger amenities, and service schedules.

**Goal CT-9:** Maximize the use of public transportation through efficient land use patterns and supporting incentive programs.

**Policy CT-9.1:** Include design features in new commercial and residential areas that make public transportation convenient.

*Implementation CT-9.1(b):* As a part of project review for new development, seek comments and recommendations from the Mendocino Transit Authority concerning the agency's needs to better serve the project.

*Implementation CT-9.1(d):* No mitigation measures or project conditions shall exceed the direct relationship between the economic cost of the requirement measured against the project's actual impact.

**Policy CT-9.2:** Support a strategy to provide funding and incentives to increase ridership opportunities.

*Implementation CT-9.2(a):* Develop an overall strategy to mitigate traffic and air quality impacts from new development which cannot directly be served by public transit. Consider a range of alternatives designed to encourage people to use alternatives to the automobile. These programs may include, and are not limited to, incentives for public transit ridership, or construction of nearby or convenient bus stops.

**Goal CT-11:** Encourage increased use of car- or van-pooling.

**Policy CT-11.1:** Implement programs to increase car-pooling.

*Implementation CT-11.1(c):* Work to develop a program of incentives – such as preferential van- or car-pool parking at employment sites, to increase the use of car- or van-pooling to reduce the number of single occupant vehicles on area roads.

**Goal CT-16:** Development shall be permitted within road capacities.

**Policy CT-16.1:** Level of service shall be the standard to judge whether a road has adequate remaining capacity to service the traffic generated by a proposed project.

**Policy CT-16.4:** Balance the need for new development with methods of accommodating increased traffic.

*Implementation CT-16.4(d):* Continue to analyze project impacts on the capacity of the City's roadway system as part of CEQA review, and review design and mitigation measures in consultation with provider agencies. If CEQA or other analysis of the traffic impacts of a proposed development project concludes that a proposed project would result in a significant deterioration of service or would cause level of service standards to be exceeded, respond in one of the following ways:

(i) Require project redesign in order to prevent service from deteriorating or capacities being exceeded, provided that economic use of the property is not prevented.

(ii) Condition the project on developer funding of improvements needed to maintain services and/or provide additional traffic improvements.

(iii) Approve the project if it can be found that it will:

- Generate substantial overriding public benefits;
- Be in compliance with all of the other goals and policies of the General Plan, and
- Benefit the public health, safety and general welfare of the community.  
*Revised as part of Resolution 2004-30.*

*Implementation CT-16.4(e):* Adopt the following intersection Level of Service standards on an **interim basis until** the citywide traffic model is completed:

- (a) At intersections with signals or four-way stop signs: operations at LOS D,
- (b) At intersections with stop signs on side streets only: operation at LOS E, except where side streets have very low traffic volumes, in which case LOS F conditions may be acceptable.

### **City of Ukiah Airport Industrial Park Ordinance 1098**

Airport Industrial Park (AIP) Ordinance 1098, adopted by the City of Ukiah on August 1, 2007, amended the Airport Industrial Park Planned Development Ordinance. Transportation-related development standards in AIP Ordinance 1098 that would apply to the proposed project include the following:

**G.9: Bicycle Lanes.** Class III bicycle routes shall be provided on all primary streets, according to Caltrans standards.

**I.6(a): Design Amenities.** Bicycle parking facilities shall be provided near the entrance to buildings. One bicycle space shall be provided for every ten employees, plus one space for every 50 automobile parking spaces.

## **3.10.3 Impacts and Mitigation Measures**

### **Significance Criteria**

Consistent CEQA *Guidelines* Appendix G (Environmental Checklist), the project would have a significant impact if it would:

- a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

The significance criteria presented in the *City of Ukiah General Plan and Growth Management Program* level of service standards were used to determine intersection performance. Impacts would be considered significant if project-related traffic cause any of the following to occur:

*Implementation CT-16.4(e):* Adopt the following intersection Level of Service standards on an interim basis until the citywide traffic model is completed:

- (a) At intersections with signals or four-way stop signs: operations at LOS D,
- (b) At intersections with stop signs on side streets only: operation at LOS E, except where side streets have very low traffic volumes, in which case LOS F conditions may be acceptable.



The significance criteria established by Caltrans level of service standards were used to determine freeway segment performance. Impacts would be considered significant if project-related traffic cause any of the following to occur:

Caltrans maintains a target LOS at the transition between LOS C and LOS D for freeway facilities, which translates to a service flow rate of approximately 1,680 passenger cars per hour per lane (pc/h/ln). Where an existing freeway is operating at less than the LOS C/D threshold an existing “measure of effectiveness” should be maintained. In determining whether a project would create an adverse impact to a freeway facility already operating at LOS E or F, the forecasted service flow rate was compared to ideal freeway capacity to establish a theoretical volume-to-capacity (V/C) ratio. The impact was considered cumulatively significant if the project would increase the freeway V/C ratio on a facility already operating at LOS E or F by 0.01 or more.

- c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

The Project would neither alter the physical characteristics of the existing roadway network serving the area, nor generate traffic that is incompatible with existing traffic patterns. For purposes of this EIR, however, the project would have a significant impact if it would cause a lane or lanes to queue back from an intersection into the next controlled intersection or mainline freeway or freeway ramp facility, or to cause the 95<sup>th</sup> percentile queue length to exceed the available storage length of a left-turn pocket at an intersection.<sup>3</sup>

- e) Result in inadequate emergency access; or
- f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

### **CEQA Guidelines Appendix G topics that will not be discussed further in this EIR**

Review and comparison of the setting circumstances and Project characteristics, with the significance criteria stated above, clearly show that no impacts would be associated with some of the above criteria. The following provides a discussion of each topic area for which there would be no transportation and traffic impact:

- c) Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

The Project site is located approximately 800 feet east of the Ukiah Municipal Airport; however, construction of the Project would not involve aircraft, nor would the store intrude into aircraft flight paths or air traffic spaces. Therefore, the Project would have no

<sup>3</sup> The 95th percentile queue length is defined as the length that is exceeded five percent of the time.

impact on air traffic patterns that results in substantial safety risks. For additional discussion of consistency with the Comprehensive Land Use Plan for Ukiah Municipal Airport, please see Section 3.5, Hazards and Hazardous Materials.

**e) Would the Project result in inadequate emergency access?**

The Project site will include multiple access locations for emergency vehicles. The Project's site plan is subject to approval and must provide access for all vehicle types. Any activities associated with project construction and operation would not prevent emergency vehicles from accessing the site. As a result, the project would have no impact on emergency access.

## **Approach to Analysis**

The Project's potential effects on key intersections, freeway segments along U.S. 101, pedestrian, bicycle, and transit facilities were assessed, and measures necessary to mitigate significant impacts were identified. Three impact analysis scenarios were analyzed to determine the extent to which the project may increase traffic to and from the site and how the potential increase in traffic would affect the surrounding transportation environment. These scenarios are summarized below:

1. *Existing Conditions* – this scenario is presented in the “Environmental Setting” section of this chapter, and represents the baseline against which project impacts are compared.
2. *Existing plus Project* – this scenario represents Project-related traffic volumes added on top of existing traffic volumes. No other cumulative traffic or future roadway improvements are considered in this scenario.
3. *Near-Term No Project* – This scenario (which is called the “Baseline” scenario in the traffic and circulation report) represents a near-term horizon of 2012-2014 when the proposed project would be fully operational and other approved projects would be operational. The planned intersection improvements at Study Intersections #4 and #10 are included in the Near-term analysis. For the purposes of CEQA, it represents one of two cumulative scenarios, the other being Future (2030) described below.
4. *Near-Term plus Project* – This scenario adds Project-related traffic volumes to the Near-term scenario. Project traffic volumes and distribution are the same as the *Existing plus Project* scenario.
5. *Future (2030) No Project* – this scenario includes projected future (year 2030) traffic volumes derived from the Ukiah Valley Area Plan (UVAP) traffic model. The other cumulative projects identified in Chapter 5 are consistent with UVAP model and captured within these 2030 traffic volumes. The UVAP model presumes the completion of certain roadway projects that are not all funded or universally agreed-upon; therefore, the Near Term network was used for this scenario to present a worst-case future baseline against which to assess Project impacts.
6. *Future (2030) plus Project* – this scenario adds Project-related traffic volumes to the Future (2030) No Project volumes. Project traffic volumes and distribution are the same as the *Existing plus Project* scenario.

## **Future Transportation Improvements**

The following transportation projects, as identified by the City of Ukiah, are proposed within the general vicinity of the Project area:

### **Intersection Improvements**

The City of Ukiah is currently designing improvements to two of the study intersections:

4. South State Street / Hastings Avenue-Airport Road. The intersection will be reconfigured to provide a left-turn lane on the westbound Hastings Avenue approach. Construction of this planned improvement, which is listed in the City's current *Capital Improvement Program*, would be expected to begin in 2012 or 2013. This planned improvement was included in the traffic analysis for Baseline and Future conditions.
  
10. Airport Park Boulevard/Commerce Drive. Installation of a traffic signal is planned. The lane configuration at this signalized intersection will remain the same as under Existing conditions. Construction of this planned improvement is expected to begin in 2012 or 2013. Therefore, this planned improvement was included in the traffic analysis of Baseline and Future conditions.

These improvements are considered in the cumulative analysis: Near-term and Future (2030).

### **Talmage Road Planned Improvements**

In addition to the improvements described above, the City of Ukiah had planned modifications to Talmage Road at the intersections with Airport Park Boulevard and the US 101 SB Ramps. However, previous analysis from the *Walmart Expansion DEIR Traffic & Circulation* report determined that the original planned intersection improvements would not mitigate the project traffic impacts to an acceptable level. Although the subject Walmart Expansion project was not approved, this report was still used as a reference and therefore these improvements were not included in the analysis.

The *Walmart Expansion DEIR Traffic & Circulation* report included an assessment of potential interchange modification alternatives to accommodate existing deficiencies and increased traffic at the Talmage Road interchange. Two alternatives were presented for the southbound ramp intersection: a traffic signal alternative and a roundabout alternative. Although the Walmart Expansion project was not approved, and no mitigation measures were officially adopted, the City has continued with planning of the traffic signal alternative to address existing queuing issues and future LOS impacts at this location. For the purpose of this EIR (and the traffic & circulation report that forms the basis of the traffic impact analysis) the traffic signal alternative presented in the Walmart report is used as a basis for determining necessary improvements with appropriate modification, if needed.

The interchange improvements considered in the previous study includes the closure of the existing stop-controlled US 101 Southbound Off-Ramp right-turn to westbound Talmage Road. All US 101 Southbound Off-Ramp traffic would be redirected to access Talmage Road via a new full access intersection where the current loop ramp connects with Talmage Road so that all off-ramp traffic would utilize the off-loop ramp. The existing US 101 Southbound Off-Ramp loop would be

reconfigured to a more standard 90-degree angle. Under this mitigation, the intersection of the loop ramp with Talmage Road would be controlled by a traffic signal. Both the eastbound Talmage Road and northbound US 101 Southbound Off-Ramp right-turn lanes will have right-turn overlap phasing, while the westbound Talmage Road approach would include protected left-turn phasing. This mitigation would allow the existing two-lane Talmage Road overcrossing to be maintained (see Figure 3.10-4).

The design would also provide for two left-turn lanes on the westbound Talmage Road approach to Airport Park Boulevard, which should extend the entire distance to the adjacent intersection. Since the left-turn lanes would extend all the way to the intersection, it is important that signs and markings on the off-ramp are provided to direct drivers to the correct lane for their destination. Further, intersection markings should be incorporated that provide guidance so as not to create a trap-lane situation for drivers in the far northbound left lane. In order to avoid unacceptable vehicle queuing on eastbound Talmage Road between Airport Park Boulevard and US 101 Southbound Ramps, it would be necessary to remove the existing northbound right-turn overlap phasing at Airport Park Boulevard/Talmage Road. This change may appear counterintuitive to improving operations, but the purpose of the change is to meter vehicles entering the segment, and instead use the space on northbound Airport Park Boulevard where more queuing space is available.

### **Bicycle and Pedestrian Improvements**

According to the City of Ukiah *General Plan*, there are two planned bicycle and pedestrian improvement projects in the vicinity of the Project (City of Ukiah, 2004). It should be noted that the planned improvements listed in Ukiah's *General Plan* or *Bicycle Master Plan* did not include specifics about the timing or funding for implementation of these projects. These improvement projects are listed below:

- A planned Class III bicycle route on Talmage Road between South State Street and Ukiah's eastern city limit.
- A planned North Western Pacific (NWP) Rail Trail (Class I pathway) along the rail corridor just west of the Project site between Ford Road and Norgard Lane. The City has recently been awarded a Bicycle Transportation Account (BTA) grant which will fund the design and construction of the first phase of the NWP Rail Trail from Clara Avenue to Gobbi Street.

### **Trip Generation**

The proposed project would consist of a new Costco Wholesale warehouse with a Costco fuel station. The trip generation evaluation is based on a maximum 148,000 square foot warehouse and 20-fueling stations (initially only 16 fueling stations are proposed). The 15.33-acre project site is currently vacant and is located on the east side of Airport Park Boulevard between the existing Ken Fowler Auto Center and the Mendocino Brewing Company.

Estimating the number of new trips that the potential Project could be expected to generate was based on the traffic surveys gathered at three Costco stores in similar market areas, all of which include Costco fueling stations with 12 fueling positions. This information was provided by Kittleson & Associates. The PM peak hour trip generation rate for the proposed Costco project was based on the average PM peak hour rate of the three representative Costco sites. Since the data for these

representative sites did not include daily or AM peak hour trip generation information, rates for these periods were obtained using a ratio between this new average rate and the average rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation*, 8th Edition, 2008.

It should be noted that the surveyed trip generation rates include traffic associated with only a 12-position fueling station, while the project is proposing 20 fueling positions. Therefore, potential trips associated with the eight additional fueling stations were added to the overall trips. A summary of the existing Costco sizes as well as the PM peak hour trips and associated trip rates are shown in **Table 3.10-6**.

**TABLE 3.10-6  
EXISTING COSTCO SIZES AND PM PEAK HOUR TRIPS/RATES**

Costco Location:	Total Store Size	PM Peak Hour Trips	PM Peak Hour Trip Rate
Turlock, CA	136,778	910	6.65
Eureka, CA	121,202	877	7.24
Carson City, NV	148,663	948	6.38
<b>Average:</b>	135,548	912	6.76

Project trip generation estimates are presented in **Table 3.10-7**, and a complete description of trip generation methodologies is presented in the transportation impact analysis report (Appendix E). As shown in **Table 3.10-7**, the project's total trip generation is projected to be 11,204 new trips per weekday. Of these, 144 are expected during the a.m. peak hour, and 700 are expected during the p.m. peak hour.

**TABLE 3.10-7  
PROJECT TRIP GENERATION SUMMARY**

Land Use	Size	Daily		A.M. Peak Hour				P.M. Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Costco w/ 12 vfp Gas Station	148 ksf	66.6	9,856	0.89	132	94	38	6.76	1,000	491	509
Additional Gas Positions	8 vfp	168.56	1,348	12.16	97	50	47	13.87	111	55	56
Sub-total			11,204	-	229	144	85	-	1,111	546	565
Pass-by Trips			n/a	37%	-85	-53	-32	37%	-411	-202	-209
<b>Total Trips</b>			<b>11,204</b>	<b>-</b>	<b>144</b>	<b>91</b>	<b>53</b>	<b>-</b>	<b>700</b>	<b>344</b>	<b>356</b>

Note: vfp = vehicle fueling positions, ksf = thousand square feet

SOURCE: W-Trans, 2012 (using ITE, *Trip Generation*, 8<sup>th</sup> Edition, 2008).

### Saturday Trips

The project is expected to generate 8,708 net new trips per weekend day, which is less than the 11,204 weekday trips. However, while the project would generate approximately 907 net new trips during the Saturday peak hour, which is more than the weekday peak hour trip generation of 700 trips, existing traffic volumes during the Saturday peak were approximately 31 percent lower than those during the weekday p.m. peak hour.

### **Saturday Peak Hour Conditions**

Because the project has its highest single hourly trip generation on a Saturday, conditions during this weekend peak hour were evaluated for Future plus Project conditions. The impacts to the intersections of Talmage Road/Airport Park Boulevard and Talmage Road/US 101 Southbound Ramps were found to be similar to what would be experienced during the weekday p.m. peak hour. These conditions were then tested with recommended mitigation measures and it was determined that the impacts during the Saturday peak hour would be fully mitigated to levels of service that are higher than projected for the weekday p.m. peak hour.

### **Pass-by Trips**

Some portion of traffic associated with commercial uses is typically drawn from existing traffic on nearby streets. These vehicle trips are not considered "new," but are instead comprised of drivers who are already driving on the adjacent street and choose to make an interim stop. These types of trips are referred to as "pass-by." Based on trip type data collected at Costco sites throughout the country, an average pass-by trip percentage of 37 percent is experienced during both the a.m. and p.m. peak periods. These pass-by trips were assumed to be attracted from both Talmage Road as well as traffic on Airport Park Boulevard.

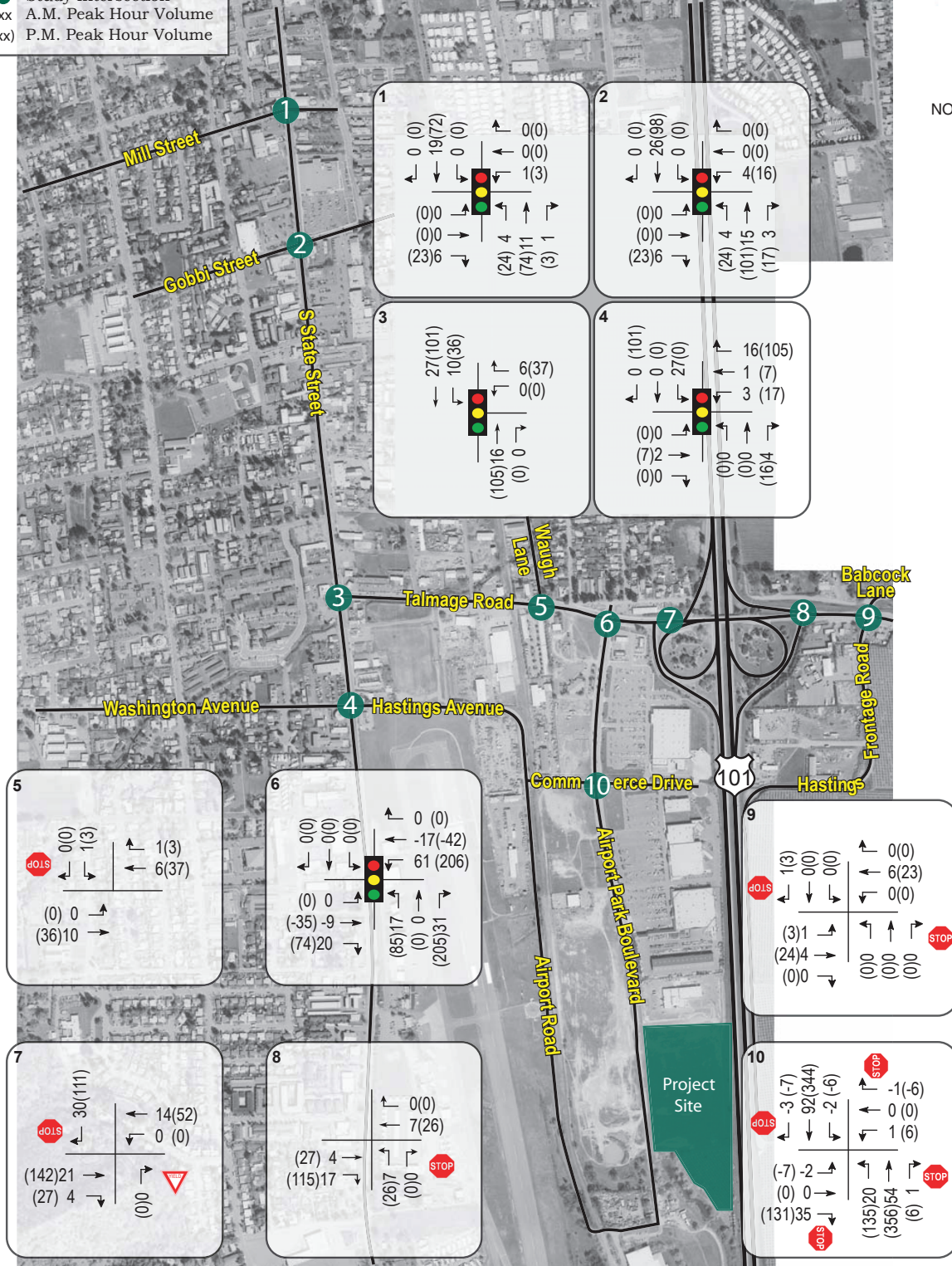
### ***Project Trip Distribution and Assignment***

The distribution of project traffic was determined based on the population densities in the primary and secondary markets areas identified in "Costco Wholesale Warehouse Urban Decay Analysis" prepared in April 2012 by ALH | ECON. The potential route to and from each market area was determined based on current travel patterns to and from the project area, and a percentage of assigned Project-generated vehicle trips were derived from the share of each market area. These distribution percentages were then applied to the trip generation estimates to determine the number of vehicle trips on each route to and from the market destinations. Project trips were then added to all travel routes throughout the surrounding circulation system, as shown in **Figure 3.10-3**. Project trip distribution assumptions are presented in **Table 3.10-8**.

**LEGEND**

- Study Intersection
- xx A.M. Peak Hour Volume
- (xx) P.M. Peak Hour Volume

↑  
N  
NOT TO SCALE



SOURCE: w-trans, 2013; and ESA, 2013

Ukiah Costco Project . 211169  
**Figure 3.10-3**  
Project Traffic Volumes

**TABLE 3.10-8  
 PROJECT TRIP DISTRIBUTION/ASSIGNMENT PATTERNS**

Origin/Destination	Distribution Percentage
U.S. 101 north of Talmage Road	34
U.S. 101 south of Talmage Road	8
South State Street north of Mill Street	22
South State Street south of Hastings Avenue	5
Washington Avenue west of South State Street	2
Gobbi Street west of South State Street	7
Mill Street west of South State Street	7
Gobbi Street east of South State Street	5
Babcock Lane north of Talmage Road	1
Mill Street east of South State Street	1
Waugh Lane north of Talmage Road	1
Talmage Road east of Hastings Frontage Road	7
<b>Total</b>	<b>100</b>

SOURCE: W-Trans, 2012

## Impact Analysis

**Impact 3.10.1: Implementation of the Project would increase traffic volumes on area roadways compared to existing conditions. This impact is potentially significant.**

### *Existing plus Project Intersection Levels of Service*

With Existing plus Project traffic volumes, all of the study intersections are expected to continue operating at acceptable levels of service during both peak periods, except at the intersection of #6 Talmage Road/Airport Park Boulevard which is expected to operate at LOS E overall during the p.m. peak hour. Existing plus Project traffic operation at the study intersections is summarized in **Table 3.10-9**. These conditions do not include any of the planned improvements.

**TABLE 3.10-9  
 EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE (LOS)**

Intersection	A.M. Peak		P.M. Peak	
	Delay <sup>a</sup>	LOS	Delay <sup>a</sup>	LOS
1. South State Street / Mill Street	9.3	A	14.0	B
2. South State Street / Gobbi Street	25.2	C	43.0	D
3. South State Street / Talmage Road	23.7	C	39.1	D
4. South State Street / Hastings Avenue	41.0	D	54.1	D
5. Talmage Road / Waugh Lane	1.3	A	2.8	A
6. Talmage Road / Airport Park Boulevard	20.5	C	<b>62.7</b>	<b>E</b>
Mitigation – Two WB Left Turn Lanes	23.4	C	<b>33.1</b>	<b>C</b>
7. Talmage Road / U.S. 101 Southbound Off-Ramp	9.2	A	39.6	D
8. Talmage Road / U.S. 101 Northbound Off-Ramp	2.4	A	4.0	A
9. Talmage Road / Hastings Frontage Road	1.9	A	2.7	A
10. Airport Park Boulevard / Commerce Drive	10.2	B	27.0	D

a. The LOS and delay for intersections represent conditions for the overall intersection, based on worst-case scenario (see discussion on previous page). Intersections were analyzed under existing configurations, unless noted otherwise below.

SOURCE: W-Trans, 2012.



### Existing plus Project Queuing Analysis

For the Existing plus Project scenario, anticipated maximum queues between intersections and in turn pockets near the Talmage Road interchange were examined. As shown in **Table 3.10-10**, the projected maximum queues between intersections and in turn pockets near the Talmage Road interchange can be accommodated within the available storage except at two locations. The westbound Talmage Road left-turn lanes at Airport Park Boulevard are both projected to have maximum queues that extend beyond the available storage. Also, the US 101 Southbound Off-Ramp at Talmage Road is anticipated to have maximum queues that extend beyond the available storage. Queuing analysis calculation sheets are provided in the transportation impact analysis report (**Appendix E**).

**TABLE 3.10-10  
 EXISTING PLUS PROJECT PM PEAK HOUR QUEUES  
 NEAR TALMAGE ROAD-SR 222 INTERCHANGE<sup>a</sup>**

Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
<b>6. Talmage Road / Airport Park Boulevard</b>												
Available Storage	250	-	250	50	-	165	50	400	400	175	500	500
Maximum Queue	137	-	<b>262*</b>	36	-	80	23	255	235	<b>252</b>	185	77
Mitigation – Two WB Left Turn Lanes												
Available Storage	250	-	250	50	-	165	50	400	400	285	285	285
Maximum Queue	119	-	<b>261*</b>	21	-	72	27	165	192	187	146	114
<b>7. Talmage Road / U.S. 101 Southbound Off-Ramps</b>												
Available Storage	-	-	1840	-	-	600	-	-	270	50	-	-
Maximum Queue	-	-	163	-	-	<b>1037</b>	-	-	4	23	-	-
Mitigation – Traffic Signal												
Available Storage	900	-	900	-	-	-	-	285	285	260	940	-
Maximum Queue	441	-	94	-	-	-	-	227	253	42	150	-
<b>8. Talmage Road / U.S. 101 Northbound Off-Ramps</b>												
Available Storage	930	-	-	-	-	-	-	-	-	-	-	-
Maximum Queue	79	-	-	-	-	-	-	-	-	-	-	-

a. Maximum Queue represents the maximum queues that develop within SIMTRAFFIC (values represent the average of six SIMTRAFFIC runs). All distances measured in feet. **Bold** indicate where queues exceed available storage.

\* Queue is not considered significant since it does not extend into a controlled intersection

SOURCE: W-Trans, 2012.

Under Existing plus Project conditions, unacceptable queuing is expected to occur in the westbound left-turn lane at Talmage Road/Airport Park Boulevard. In addition, Under Existing plus Project conditions, traffic associated with the proposed project would contribute to inadequate queuing storage in the southbound approach of the freeway off-ramp at the intersection of Talmage Road/US 101 Southbound Off-Ramp. The Peak Hour Volume traffic signal warrant would be met. For these reasons, this impact is considered **potentially significant**.

### Existing plus Project Freeway Segment Levels of Service

As shown in **Table 3.10-11**, the freeway segments north and south of Talmage Road would operate at LOS B or better during both peak hours. The project impact would be **less than significant**. The Existing plus Project LOS calculation sheets are found in **Appendix E**.

**TABLE 3.10-11  
 EXISTING PLUS PROJECT  
 FREEWAY SEGMENT PM PEAK-HOUR LEVELS OF SERVICE (LOS)**

Freeway Segment	Northbound		Southbound	
	Vp <sup>a</sup>	LOS	Vp <sup>a</sup>	LOS
1. North of Talmage Road	767	B	758	B
2. South of Talmage Road	386	A	383	A

a. Vp = Service flow rate, measured in passenger cars per hour per lane (pc/hr/lane).

SOURCE: W-Trans, 2012.

### Mitigation Measure

**Measure 3.10.1:** Construct the Talmage Road Interchange improvements described above, including the provision of two left-turn lanes on the westbound Talmage Road approach to Airport Park Blvd. The Project applicant shall contribute proportional-share payments to the City of Ukiah for the improvements.

(Note: If the capital improvement fee for subject developments with the Airport Industrial Park is updated to include the Talmage Road Interchange, this shall constitute proportional-share payment).

**Impact Significance After Mitigation:** Implementation of the recommended improvements at Talmage Road/Airport Park Boulevard and Talmage Road/US 101 Southbound Off-Ramp would result in acceptable operating conditions during both the a.m. and p.m. peak hours, and would result in acceptable queuing conditions in both the a.m. and p.m. peak hours. See **Figure 3.10-4** for a conceptual drawing of the proposed mitigation measure. The City has begun preliminary engineering on the improvements. As a state facility, modification of the interchange will require approval from Caltrans. The City has consulted with Caltrans and there is agreement on the need for improvements at that location. Preliminary designs of the intersection improvements have been shared and discussed with Caltrans staff. Funding sources have been identified, but full funding is not guaranteed at this time. Due to the uncertainty of timing, the impact is considered **significant and unavoidable**.



NOT TO SCALE

SOURCE: w-trans, 2012; and ESA, 2012

Ukiah Costco Project . 211169

**Figure 3.10-4**  
Talmage Road Interchange – Mitigation

**Impact 3.10.2: Implementation of the Project would conflict with adopted policies, plans, or programs regarding public transit, pedestrian, or bicycle facilities, or otherwise decrease the performance or safety of such facilities.**

The Project would be expected to increase transit, bicycle, and pedestrian activity along roadways and routes leading to the Project site. As a result, an increase in non-auto travel demand to the project site would occur along existing routes and facilities, potentially affecting transit service and safety of such facilities. There is a Mendocino Transit Authority (MTA) bus stop on Commerce Drive, just east of Airport Park Boulevard. MTA will extend transit service to the Project if a bus stop location can be provided.

AIP Ordinance 1098 requires sidewalks for pedestrian movement and identifies Airport Park Boulevard as a Class III Bicycle Route. AIP Ordinance 1098 also includes bicycle parking requirements, which are one bicycle parking space for every 50 vehicle parking spaces plus one bicycle parking space for every 10 employees. If the Project were to interfere with the implementation of these alternative transportation policies, plans and programs, the impact is **potentially significant**.

**Mitigation Measures**

**Measure 3.10.2a:** Provide a concrete pad suitable for future location of bus shelter on the northern frontage of the Project site, adjacent to the proposed sidewalk.

**Measure 3.10.2b:** The Project Applicant shall implement the following measures to reduce potential pedestrian impacts associated with the Project:

- Install sidewalks along the project frontage on Airport Park Boulevard as identified in the project site plan.
- Install high visibility crosswalk markings across driveway entrances to the project to increase visibility of pedestrians.
- Install ADA compliant curb ramps at driveway crossings and transition points along the project frontage.
- Install crosswalks across all four legs of the intersection of Airport Park Boulevard/Commerce Drive.
- Provide an adequate pedestrian connection from the street frontage and main parking area to the retail store entrance (per Ordinance 1098).

**Measure 3.10.2c:** The Project Applicant shall implement the following measures to reduce potential bicycle impacts associated with the Project:

- Install Class III bike lanes along the Project frontage on Airport Park Boulevard.
- The Project Applicant shall comply with Ordinance 1098, Airport Industrial Park Planned Development, requirements to install the required number of bicycle parking spaces (long-term spaces [bicycle lockers or covered parking spaces to reduce exposure to the elements and vandalism] for Project employees and short-term spaces for Project patrons and employees [at a convenient location adjacent to the store's primary entry points]). Bicycle racks should be an appropriate design and installed correctly to ensure proper function.

**Significance after Mitigation:** Less than Significant.

## Cumulative Impacts

Transportation conditions were evaluated under Near-Term and Future (2030) conditions. Peak hour travel demand estimates based on the amount of additional vehicle trips associated with the Project and the effect on the future transportation network were evaluated. Conditions for intersection #4, South State Street/Hastings Avenue-Airport Road, and intersection #10, Airport Park Boulevard/Commerce Drive, include the City's planned improvements.

### *Near-Term Analysis*

#### **Impact 3.10.3: Implementation of the Project would increase traffic volumes on area roadways under Near-Term conditions. This impact is potentially significant.**

The Near-Term traffic scenario represents a near-term horizon of the end of 2013 or 2014, when the proposed Project would be completed.<sup>4</sup> This scenario reflects conditions with traffic from projects that the City deems likely to be constructed and generating traffic by this horizon year. For the purposes of this analysis, the following projects affecting the study area were included in the Near-Term scenario.

- A 12,295 square foot restaurant (Crush, formerly identified as Branches) which opened at the end of 2010, is located on the northwestern corner of Airport Park Boulevard/Commerce Drive-Hastings Avenue and is within the Airport Business Park.
- An Arco AM/PM Market is located approximately 0.75 miles northeast of Costco on the southwest corner of Talmage Road/ Hastings Frontage Road-Babcock Lane. The Arco AM/PM Market is approximately 3,000 square feet of convenience market space with a six-vehicle fueling position gas station.
- The Guillon project has been approved by the City, and is sited on the west side of Airport Park Boulevard south of Commerce Drive, within the Airport Business Park. This project includes up to 16,000 square feet of retail and commercial space.
- The Kunzler Terrace Mine project site is located approximately three miles northeast of Costco, and will add minimal vehicle traffic to the US 101 ramp intersections on Talmage Road.

#### **Near Term plus Project Intersection Levels of Service**

Under Near-Term No Project conditions, all of the study intersections are projected to continue operating at acceptable levels of service. The Near-Term Traffic Volumes, which do not include trips associated with the proposed Project, are presented in **Figure 3.10-5**.

Under Near-Term Plus Project conditions, all of the study intersections are expected to continue operating at acceptable levels of service during both peak periods, except intersection #6, Talmage Road/Airport Park Boulevard, which is expected to operate at LOS E overall, and #7, Talmage Road/US 101 Southbound Off-Ramp would operate at LOS F, both during the p.m. peak hour. Near-Term plus Project traffic operation at the study intersections is summarized in **Table 3.10-12**. This impact is **potentially significant**.

<sup>4</sup> In the W-Trans traffic report, the Near-Term scenario is referred to as the "Baseline" scenario.

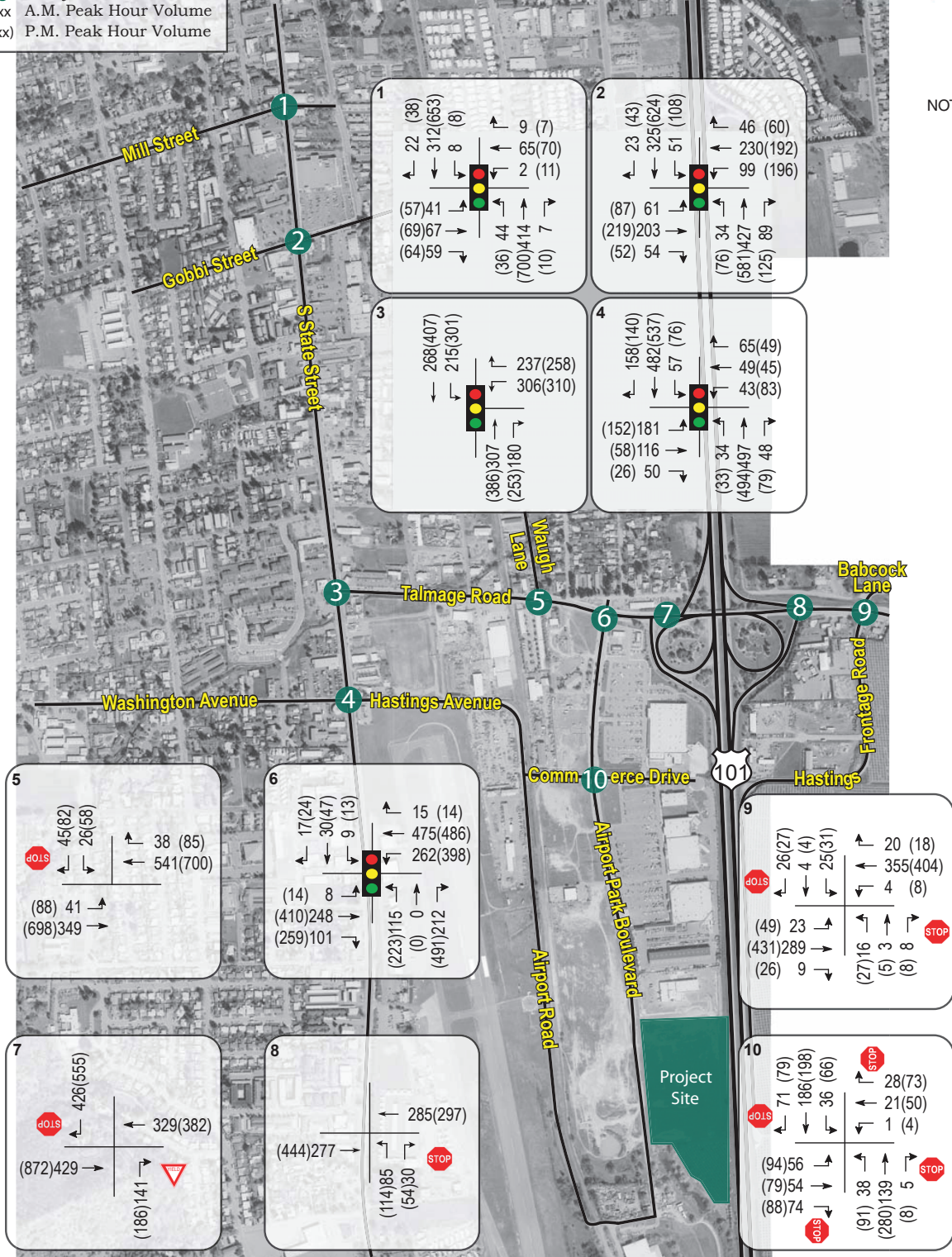


**LEGEND**

- Study Intersection
- xx A.M. Peak Hour Volume
- (xx) P.M. Peak Hour Volume



NOT TO SCALE



SOURCE: w-trans, 2013; and ESA, 2013

**Figure 3.10-5**  
Near-Term Traffic Volumes

**TABLE 3.10-12  
SUMMARY OF NEAR-TERM PLUS PROJECT LEVEL OF SERVICE CALCULATIONS**

Intersection <i>Minor Approach</i>	AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS
1. South State St/Mill St	9.3	A	14.8	B
2. South State St/Gobbi St	25.4	C	45.1	D
3. South State St/Talmage Rd	24.5	C	42.8	C
4. South State St/Hastings Ave*	41.8	D	35.9	D
5. Talmage Rd/Waugh Ln	1.3	A	2.8	A
6. Talmage Rd/Airport Park Blvd	20.7	C	<b>73.5</b>	<b>E</b>
Mitigation – Two WB Left-Turn Lanes	23.8	C	37.3	D
7. Talmage Rd/US 101 SB Off-Ramp	10.2	A	<b>52.9</b>	<b>F</b>
Mitigation – Traffic Signal	21.3	C	32.1	C
8. Talmage Rd/US 101 NB Off-Ramp	2.5	A	4.6	A
9. Talmage Rd/Hastings Frontage Rd	2.1	A	3.4	A
10. Airport Park Blvd/Commerce Dr*	5.8	A	11.6	B

US 101 Freeway Segments PM Peak Hour	Northbound		Southbound	
	Vp	LOS	Vp	LOS
North of Talmage Rd-SR 222	785	B	780	B
South of Talmage Rd-SR 222	396	A	391	A

Delay is in average seconds per vehicle; LOS = Level of Service; \* = Includes planned improvements; **Bold** = Deficient level of service; Shaded Cells = Mitigation measures; Vp = Service flow rate, measured in passenger cars per hour per lane

**Near-Term plus Project Queuing Analysis**

Under Near-Term No Project p.m. peak hour conditions, the projected maximum queues between intersections and in turn pockets near the Talmage Road interchange can be accommodated within the available storage except at two locations. The westbound Talmage Road left-turn lanes at Airport Park Boulevard are projected to have maximum queues that extend beyond the available storage. Also, the US 101 Southbound Off-Ramp at Talmage Road is projected to have maximum queues that extend beyond the available storage.<sup>5</sup>

Under the Near-Term plus Project p.m. peak hour conditions, the projected maximum queues between intersections and in turn pockets near the Talmage Road interchange can be accommodated within the available storage except at three locations. The northbound Airport Park Boulevard right-turn lane and the westbound Talmage Road left-turn lanes at the intersection of Talmage Road/ Airport Park Boulevard are expected to have maximum queues that extend beyond the available storage. Also, the US 101 Southbound Off-Ramp at Talmage Road is anticipated to have maximum queues that extend well beyond the available storage. A summary of the Near-Term plus Project p.m. peak hour queues is presented in **Table 3.10-13**. As

<sup>5</sup> See Appendix E, the Traffic & Circulation Report, for the “Baseline” queuing summary (Table 6) and the SIMTRAFFIC Queuing Projections.

the conditions at these two locations operate measurably worse compared to the Near-Term No Project condition, this impact is potentially significant.

**TABLE 3.10-13  
 PM PEAK HOUR QUEUES NEAR TALMAGE ROAD-SR 222 INTERCHANGE – NEAR-TERM PLUS PROJECT**

Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
<b>6. Talmage Rd/Airport Park Blvd</b>												
Available Storage	250	-	250	50	-	165	50	400	400	175	500	500
Maximum Queue	124	-	<b>271</b>	28	-	70	45	251	237	<b>259</b>	312	111
Mitigation – Two WB Left-Turn Lanes												
Available Storage	250	-	250	50	-	165	50	400	400	285	285	285
Maximum Queue	170	-	<b>271*</b>	24	-	83	47	177	246	254	254	133
<b>7. Talmage Rd/US 101 SB Off-Ramp</b>												
Available Storage	-	-	1840	-	-	600	-	-	270	50	-	-
Maximum Queue	-	-	242	-	-	<b>1192</b>	-	-	4	26	-	-
Mitigation Alternative – (Traffic Signal)												
Available Storage	900	-	900	-	-	-	-	285	285	260	940	-
Maximum Queue	508	-	135	-	-	-	-	271	282	44	160	-
<b>8. Talmage Rd/US 101 NB Off-Ramp</b>												
Available Storage	930	-	-	-	-	-	-	-	-	-	-	-
Maximum Queue	67	-	-	-	-	-	-	-	-	-	-	-

Maximum Queue represents the actual maximum queues that develop within SIMTRAFFIC (values represent the average of 6 SIMTRAFFIC runs); All distances are measured in feet; **Bold** = movements where queues exceed available storage; Shaded Cells = mitigation options; \* Queue is not considered significant since it does not extend into a controlled intersection.

**Near-Term plus Project Freeway Segment Levels of Service**

The segments of US 101 both to north and south of Talmage Road (SR 222) are expected to operate acceptably at LOS A or B under both Near-Term No Project and Near-Term plus Project conditions. The LOS for Near-Term plus Project are shown in Table 3.10-11.

**Mitigation Measures**

**Implement Mitigation Measure 3.10.1**

**Impact Significance after Mitigation:** Implementation of the recommended improvements at Talmage Road/Airport Park Boulevard and Talmage Road/US 101 Southbound Off-Ramp would result in acceptable operating conditions during both the a.m. and p.m. peak hours, and would result in acceptable queuing conditions in both the a.m. and p.m. peak hours. See **Figure 3.10-4** for a conceptual drawing of the proposed mitigation measure. The City has begun preliminary engineering on the improvements. As a state facility, modification of the interchange will require approval from Caltrans. The City has consulted with Caltrans and there is agreement on the need for improvements at that location. Funding sources have been identified, but full funding is not guaranteed at



this time. Due to the uncertainty of timing, the impact is considered **significant and unavoidable**.

### ***Future (2030) Analysis***

#### **Impact 3.10.4: Implementation of the Project would increase traffic volumes on area roadways under Future (2030) conditions. This impact is potentially significant.**

The Future (2030) scenario represents future traffic conditions based on the UVAP travel demand model (“2030 No Project with 2007 Network”). As described in the traffic & circulation report (Appendix E), the UVAP scenario was then adjusted (by analyzing the Costco site as vacant and adjusting future Redwood Business Park growth to reflect actual development trends). This became the Future (2030) No Project scenario, which is compared with the Future (2030) plus Project Scenario to identify potential cumulative impacts.

#### **Future Year 2030 plus Project Intersection Levels of Service**

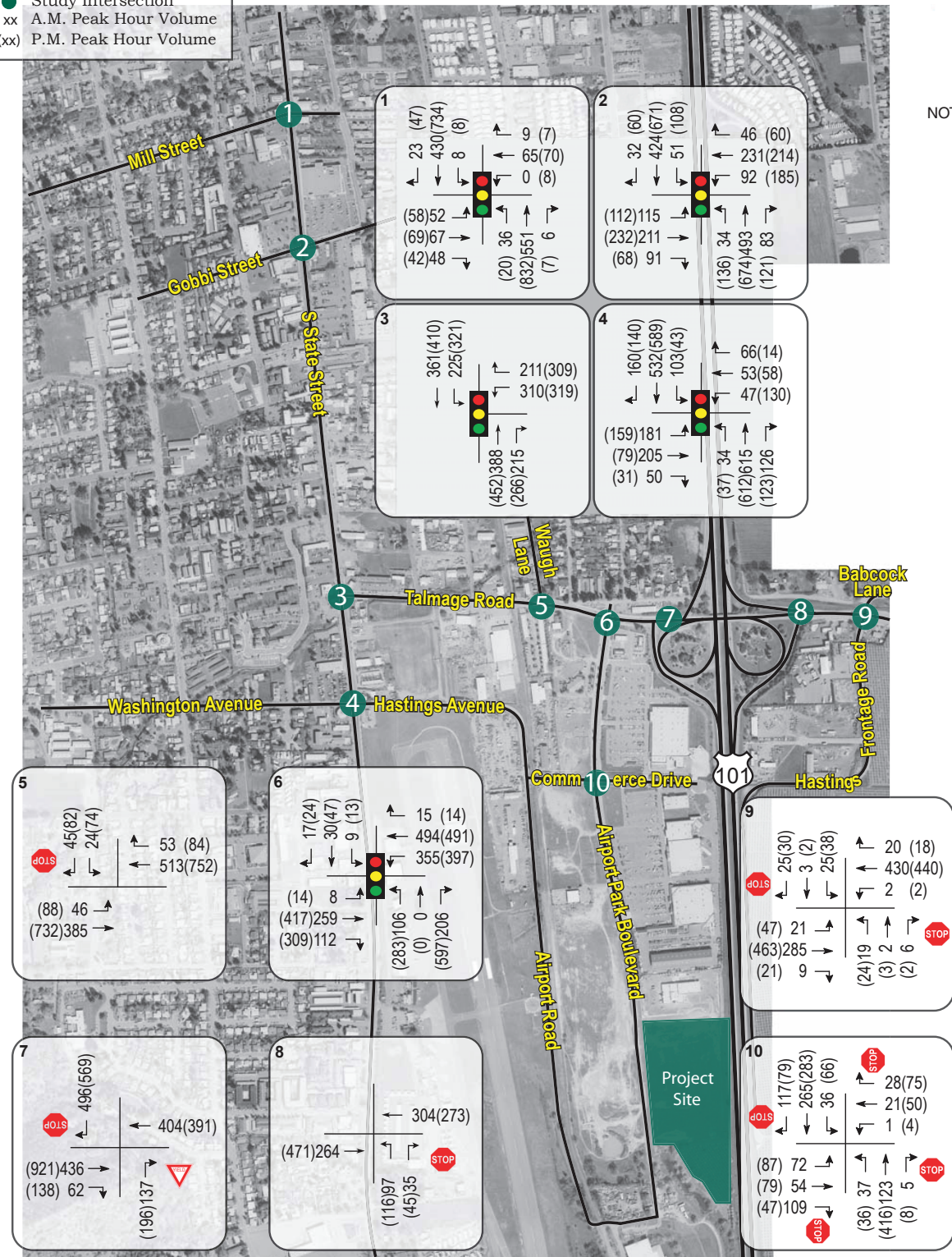
Under Future Year 2030 No Project conditions, all of the study intersections are projected to continue operating at acceptable levels of service (LOS D or better). Although the Southbound US 101 Off-Ramp at Talmage Road was identified as having individual movements that would operate at LOS F, the overall intersection is expected to operate acceptably at LOS B or C. Future Year 2030 No Project traffic volumes used in the analysis are shown in **Figure 3.10-6**.

As shown in **Table 3.10-14**, with Future plus Project traffic volumes, all of the study intersections are anticipated to continue operating at acceptable levels of service during both peak periods evaluated, except for the intersections of South State Street/Hastings Avenue-Airport Road, Talmage Road/Airport Park Boulevard and Talmage Road/US 101 Southbound Off-Ramp. Conditions for the South State Street/Hastings Avenue-Airport Road and Airport Park Boulevard/Commerce Drive intersections include the City’s planned improvements, as shown in Table 3.10-13.

**LEGEND**

- Study Intersection
- xx A.M. Peak Hour Volume
- (xx) P.M. Peak Hour Volume

↑  
N  
NOT TO SCALE



**TABLE 3.10-14  
 FUTURE YEAR 2030 PLUS PROJECT  
 INTERSECTION LEVELS OF SERVICE (LOS)**

Intersection	A.M. Peak		P.M. Peak	
	Delay <sup>a</sup>	LOS	Delay <sup>a</sup>	LOS
1. South State Street / Mill Street	10.5	B	16.6	B
2. South State Street / Gobbi Street	26.7	C	50.7	D
3. South State Street / Talmage Road	28.6	C	45.9	D
4. South State Street / Hastings Avenue	54.7	D	<b>68.8</b>	<b>E</b>
With Mitigation (eastbound left-turn lane)	29.2	C	31.7	C
5. Talmage Road / Waugh Lane	1.3	A	3.3	A
6. Talmage Road / Airport Park Boulevard	22.5	C	<b>77.7</b>	<b>F</b>
With Mitigation (two westbound left-turn lanes)	28.0	C	49.9	D
7. Talmage Road / U.S. 101 Southbound Off-Ramp	15.5	C	<b>45.6</b>	<b>E</b>
With Mitigation - Traffic Signal	13.2	B	24.8	C
8. Talmage Road / U.S. 101 Northbound Off-Ramp	2.7	A	4.2	A
9. Talmage Road / Hastings Frontage Road	1.9	A	3.1	A
10. Airport Park Boulevard / Commerce Drive	6.6	A	9.3	B

a The LOS and delay for intersections represent conditions for the overall intersection. **Bold** indicates unacceptable LOS.

SOURCE: W-Trans, 2012.

Under Future plus Project conditions, the intersection of South State Street/Hastings Avenue-Airport Road is expected to operate unacceptably at LOS E during the p.m. peak periods; the intersection of Talmage Road/Airport Park Boulevard is expected to operate unacceptably at LOS F during the p.m. peak period; and the intersection of Talmage Road/US 101 Southbound Off-Ramp is expected to operate unacceptably at LOS E during the p.m. peak hour. The Peak Hour Volume traffic signal warrant would be met. Therefore, this impact is considered potentially significant.

### Mitigation Measures

#### Implement Mitigation Measure 3.10.1.

**Measure 3.10.4:** In addition to the planned left-turn lane on the westbound approach of Airport Road, a left-turn lane on the eastbound Hastings Avenue approach should be installed at South State Street/Hastings Avenue. Implementation of the recommended improvements at Talmage Road/Airport Park Boulevard would result in acceptable operating conditions during both the a.m. and p.m. peak hours.

**Significance after Mitigation:** Implementation of the planned improvements at South State Street/Hastings Avenue would result in acceptable operating conditions in the p.m. peak hour.

Implementation of the recommended improvements at Talmage Road/Airport Park Boulevard and Talmage Road/US 101 Southbound Off-Ramp would result in acceptable operating conditions during both the a.m. and p.m. peak hours, and would result in acceptable queuing conditions in both the a.m. and p.m. peak hours. See **Figure 3.10-4** for a conceptual drawing of the proposed mitigation measure. The City has begun preliminary engineering on the improvements. As a state facility, modification of the interchange will require approval from Caltrans. The City has consulted with Caltrans and there is agreement on the need for improvements at that location. Funding sources have been identified, but full funding is not guaranteed at this time. Due to the uncertainty of timing, the impact is considered **significant and unavoidable**.

### Future Year 2030 plus Project Freeway Segment Levels of Service

As shown in **Table 3.10-15**, the freeway segments of U.S. 101 north and south of Talmage Road would continue to operate at LOS B or better during both peak hours. The Future Year 2030 plus Project levels of service calculation sheets are provided in the transportation impact analysis report (**Appendix E**).

**TABLE 3.10-15  
 FUTURE YEAR 2030 PLUS PROJECT  
 FREEWAY SEGMENT PM PEAK-HOUR LEVELS OF SERVICE (LOS)**

Freeway Segment	Northbound		Southbound	
	Vp <sup>a</sup>	LOS	Vp <sup>a</sup>	LOS
1. North of Talmage Road	763	B	1,014	B
2. South of Talmage Road	555	A	632	A

a Vp = Service flow rate, measured in passenger cars per hour per lane (pc/h/ln).  
 SOURCE: W-Trans, 2012.

**Mitigation:** None required.

### Future Year 2030 plus Project Queuing Analysis

**Impact 3.10.5: Under Future plus Project conditions, traffic associated with the Project would contribute to inadequate queuing storage at Talmage Road/Airport Park Blvd. and Talmage Road/US 101 Southbound Off-Ramp. This impact is potentially significant.**

Under Future plus Project p.m. peak hour conditions, the projected maximum queues between intersections and in turn pockets near the Talmage Road interchange can be accommodated within the available storage except at three locations. The northbound Airport Park Boulevard right-turn lane as well as the westbound Talmage Road left-turn lanes at the intersection of Talmage Road/Airport Park Boulevard are expected to have maximum queues that extend beyond the available storage. Also, the US 101 Southbound Off-Ramp at Talmage Road is anticipated to have maximum queues that extend well beyond the available storage. A summary of the Future

plus Project p.m. peak hour queues is presented in **Table 3.10-16**. Copies of the SIMTRAFFIC Queuing Projections are contained in Appendix E.

**TABLE 3.10-16  
 FUTURE YEAR 2030 PLUS PROJECT  
 PM PEAK HOUR QUEUES NEAR TALMAGE ROAD-SR 222 INTERCHANGE <sup>A</sup>**

Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
<b>6. Talmage Road / Airport Park Boulevard</b>												
Available Storage	250	-	250	50	-	165	50	400	400	175	500	500
Max Queue	183	-	242	38	-	90	27	281	288	<b>255</b>	281	288
<i>Mitigation – Two WB Left-Turn Lanes</i>												
Available Storage	250	-	250	50	-	165	50	400	400	225	285	285
Max Queue	<b>341*</b>	-	<b>475*</b>	32	-	83	51	241	354	244	279	147
<b>7. Talmage Road / U.S. 101 SB Off-Ramps</b>												
Available Storage	-	-	1840	-	-	600	-	-	270	50	-	-
Maximum Queue	-	-	203	-	-	<b>1180</b>	-	-	7	29	-	-
<i>Mitigation – Traffic Signal</i>												
Available Storage	900	-	900	-	-	-	-	285	285	260	940	-
Max Queue	445	-	144	-	-	-	-	273	264	58	120	-
<b>8. Talmage Road / U.S. 101 NB Off-Ramps</b>												
Available Storage	930	-	-	-	-	-	-	-	-	-	-	-
Maximum Queue	76	-	-	-	-	-	-	-	-	-	-	-

a. Maximum Queue represents the maximum queues that develop within SIMTRAFFIC (values represent the average of six SIMTRAFFIC runs). All distances measured in feet. **Bold** indicate where queues exceed available storage.

\* Queue is not considered significant since it does not extend into a controlled intersection

SOURCE: W-Trans, 2012.

Under Future plus Project conditions unacceptable queuing is expected to occur in both the northbound right and left-turn lanes as well as the westbound left-turn lane at Talmage Road/Airport Park Boulevard. Traffic associated with the proposed project would not contribute to inadequate queuing storage at the intersections of Talmage Road/US 101 Southbound Off-Ramps. The Peak Hour Volume traffic signal warrant would be met. For these reasons, this impact is considered potentially significant.

**Mitigation Measure**

**Implement Mitigation Measure 3.10.1.**

**Significance after Mitigation:** Implementation of the recommended improvements at Talmage Road/Airport Park Boulevard and Talmage Road/US 101 Southbound Off-Ramp would result in acceptable queuing conditions in both the a.m. and p.m. peak hours. See **Figure 3.10-4** for a conceptual drawing of the proposed mitigation measure. The City has begun preliminary engineering on the improvements. As a state facility, modification of the interchange will require approval from Caltrans. The City has consulted with Caltrans and there is agreement on the need for improvements at that location. Funding sources have

been identified, but full funding is not guaranteed at this time. Due to the uncertainty of timing, the impact is considered **significant and unavoidable**.

---

### 3.10.4 References

- California Department of Transportation (Caltrans), 2007, *Accident Data on California State Highways*.
- ALH, 2012. *Costco Wholesale Warehouse Urban Decay Analysis*, prepared in April 2012 by ALH | ECON.
- City of Ukiah, 2004. *City of Ukiah General Plan and Growth Management Program*, adopted December 1995, revised 2004.
- City of Ukiah, 2010. *City of Ukiah Municipal Code*, Chapter 2: Zoning, Article 7: Regulations in Community Commercial Districts, Section 9086: Required Parking, adopted March 3, 2010.
- Institute of Transportation Engineers (ITE), 2008. *Trip Generation*, 8<sup>th</sup> Edition.
- Mendocino County, 2006. *2006 Mendocino County Regional Bikeway Plan Final Report*, approved June 2006.
- Transportation Research Board, 2000. *Highway Capacity Manual*, December 2000.
- TJKM Consultants, 2005. *Route 101 Corridor Interchange Study in Mendocino County (Ukiah Area) Final Report*, prepared for Mendocino Council of Governments (MCOG), August 2005.
- U.S. Department of Justice, 1994. *Code of Federal Regulations – Americans with Disabilities Act of 1994 Standards for Accessible Design*, revised as of July 1, 1994.

## 3.11 Global Climate Change

### 3.11.1 Introduction

The earth's natural warming process is known as the "greenhouse effect." Certain atmospheric gases act as an insulating blanket for solar energy to keep the global average temperature in a suitable range. These gases are called 'greenhouse gases' (GHGs) because they trap heat like the glass walls of a greenhouse. The greenhouse effect raises the temperature of the earth's surface by about sixty degrees Fahrenheit. With the natural greenhouse effect, the average temperature of the earth is about 45 degrees Fahrenheit; without it, the earth would be about minus 15 degrees. It is normal for the earth's temperature to fluctuate over extended periods of time. Over the past one hundred years, however, the earth's average global temperature has generally increased by one degree Fahrenheit. In some regions of the world, the increase has been as much as four degrees Fahrenheit.

Scientists studying the particularly rapid rise in global temperatures during the late twentieth century believe that natural variability alone does not account for that rise. Rather, human activity spawned by the industrial revolution has resulted in increased emissions of carbon dioxide and other forms of GHGs, primarily from the burning of fossil fuels (during motorized transport, electricity generation, consumption of natural gas, industrial activity, manufacturing, etc.) and deforestation, as well as agricultural activity and the decomposition of solid waste. The most common GHG is CO<sub>2</sub>, which constitutes approximately 84 percent of all GHG emissions in California (California Energy Commission (CEC), 2006). Worldwide, the State of California ranks as the 12th to 16th largest emitter of CO<sub>2</sub> (the most prevalent GHG) and is responsible for approximately 2 percent of the world's CO<sub>2</sub> emissions (CEC, 2006).

Scientists refer to the global warming context of the past century as the "enhanced greenhouse effect" to distinguish it from the natural greenhouse effect. While the increase in temperature is known as "global warming," the resulting change in weather patterns is known as "global climate change." Global climate change is evidenced in changes to wind patterns, storms, precipitation, and air temperature.

An individual project cannot generate enough GHG emissions to effect a discernible change in global climate. However, the project may participate in this potential impact by its incremental contribution combined with the cumulative increase of all other sources of GHGs which, when taken together, may influence global climate change. Because these changes may have serious environmental consequences, this section will evaluate the potential for the project to have a significant effect upon California's environment as a result of its potential contribution to the enhanced greenhouse effect.

## 3.11.2 GHG Environmental Setting

### Global Warming Potential

Global Warming Potentials (GWPs) are one type of simplified index based upon radiative properties that can be used to estimate the potential future impacts of emissions of different gases upon the climate system in a relative sense. GWP is based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of carbon dioxide, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of carbon dioxide.

The EPA defines GWP as the “cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas,” the reference gas in this case being CO<sub>2</sub>. (EPA Glossary of Climate Change Terms – [www.epa.gov/climatechange/glossary.html](http://www.epa.gov/climatechange/glossary.html)) One tetragram of carbon dioxide equivalent (Tg CO<sub>2</sub>e) essentially equals the emissions of the gas multiplied by the GWP. One tetragram is equal to one million metric tons. A summary of the atmospheric lifetime and GWP of selected gases is presented at **Table 3.11-1**. As indicated, GWP ranges from 1 to 23,900.

**TABLE 3.11-1  
 ATMOSPHERIC LIFETIMES AND GLOBAL WARMING POTENTIALS**

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)
Carbon Dioxide	50 – 200	1
Methane	12 (+/-3)	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CF <sub>4</sub> )	50,000	6,500
PFC: Hexafluoroethane (C <sub>2</sub> F <sub>6</sub> )	10,000	9,200
Sulfur Hexafluoride (SF <sub>6</sub> )	3,200	23,900

SOURCE: IPCC Second Assessment Report, 1995.<sup>1</sup>

### GHG Inventory

Data compiled by the United Nations Framework Convention on Climate Change (UNFCCC) indicates that, in 2006, total worldwide GHG emissions were 22,170 million metric tons of carbon dioxide equivalents (MMTCO<sub>2</sub>e), emissions in the U.S. were 7054.2 MMTCO<sub>2</sub>e, and emissions in California were 483.9 MMTCO<sub>2</sub>e. (United Nations Framework Convention on Climate Change, 2009).

<sup>1</sup> To comply with international reporting standards under the UNFCCC, official emission estimates are reported using the Second Assessment Report GWP values even though additional Assessment Reports have been published since 1995.



2008 saw a small decrease in statewide GHG emissions, driven by a noticeable drop in on-road transportation emissions. California's gross emissions of GHG increased 4.3 percent between 2000 and 2008 due to an 11.8 percent population growth. The major source of GHG in California is transportation, contributing approximately 36.5 percent of the state's total GHG emissions. Electricity generation is the second largest generator. (CalEPA, 2010)

## **GHG Emissions Components and Health Effects**

The California Global Warming Solutions Act of 2006 (see below) defined GHG to include carbon dioxide, methane, nitrogen oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. California SB104 (approved by the Governor in October 11, 2009) added nitrogen trifluoride to this list. Below is a description of these GHGs.

### ***Carbon Dioxide***

Carbon dioxide (CO<sub>2</sub>) is an odorless and colorless GHG. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks.

Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO<sub>2</sub> concentrations were fairly stable at 280 ppm. Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources. (IPCC Working Group I Third Assessment Report, 2001)

### ***Methane***

Methane (CH<sub>4</sub>) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs. No health effects are known to occur from exposure to methane.

Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

### **Nitrous Oxide**

Nitrous oxide (N<sub>2</sub>O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage).

Concentrations of nitrous oxide also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction.

### **Hydrofluorocarbons**

Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for chlorofluorocarbons (CFCs), which have now been banned for destroying the ozone layer. Out of all the greenhouse gases, HFCs are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order), HFC-23 (CHF<sub>3</sub>), HFC-134a (CF<sub>3</sub>CH<sub>2</sub>F), and HFC-152a (CH<sub>3</sub>CHF<sub>2</sub>). Prior to 1990, the only significant emissions were of HFC-23. HFC-134a emissions are increasing due to its use as a refrigerant. The U.S. EPA estimates that concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each; and that concentrations of HFC-152a are about 1 ppt. No health effects are known to result from exposure to HFCs, which are manmade for applications such as automobile air conditioners and refrigerants.

### **Perfluorocarbons**

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above Earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF<sub>4</sub>) and hexafluoroethane (C<sub>2</sub>F<sub>6</sub>). The U.S. EPA estimates that concentrations of CF<sub>4</sub> in the atmosphere are over 70 ppt.

No health effects are known to result from exposure to PFCs. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

### **Sulfur Hexafluoride**

Sulfur hexafluoride (SF<sub>6</sub>) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900). The U.S. EPA indicates that concentrations

in the 1990s were about 4 ppt. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

## **Projected Impacts of Global Warming in California**

The California Environmental Protection Agency (CalEPA) published a report titled “Scenarios of Climate Change in California: An Overview” (Climate Scenarios report) in February 2006 (CalEPA, 2006), that, while not adequate for a CEQA project-specific or cumulative analysis, is generally instructive about the statewide impacts of global warming.

The Climate Scenarios report uses a range of emissions scenarios developed by the Intergovernmental Panel on Climate Change (IPCC) to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century: lower warming range (3.0-5.5°F); medium warming range (5.5-8.0°F); and higher warming range (8.0-10.5°F). The Climate Scenarios report then presents an analysis of future climate in California under each warming range that, while uncertain, present a picture of the impacts of global climate change trends in California.

In addition, most recently on December 2, 2009, the State’s Natural Resources Agency released its “California Climate Adaptation Strategy” report that details many vulnerabilities arising from climate change with respect to matters such as temperature extremes, sea level rise, wildfires, floods and droughts and precipitation changes. This report responds to the Governor’s Executive Order S-13-2008 that called on state agencies to develop California’s strategy to identify and prepare for expected climate impacts.

According to these reports, substantial temperature increases arising from increased GHG emissions potentially could result in a variety of impacts to the people, economy, and environment of California associated with a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming.

Under the emissions scenarios of the Climate Scenarios report, the impacts of global warming in California have the potential to include, but are not limited to, the following areas:

### **Public Health**

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending

on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

### **Water Resources**

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If GHG emissions continue unabated, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major state fresh water supply.

### **Agriculture**

Increased GHG emissions could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. Although higher CO<sub>2</sub> levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate O<sub>3</sub> pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts.

In addition, continued global climate change could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued global climate change could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

### ***Forests and Landscapes***

Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90 percent due to decreased precipitation.

Moreover, continued global climate change has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of global climate change.

### ***Rising Sea Levels***

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Sea levels along the California coast have risen up to 7 inches over the last century under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

## **3.11.3 GHG Regulatory Setting**

Climate change and GHG emissions are governed by an increasingly evolving body of treaties, laws, regulations, and case law. Below are summaries of some of the key regulations; in no way is the discussion below exhaustive of this ever-growing body of regulation.

## International Regulation: The Kyoto Protocol and Copenhagen

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling greenhouse gas emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The Plan currently consists of more than 50 voluntary programs.

The Kyoto protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. Some have estimated that if the commitments outlined in the Kyoto protocol are met, global GHG emissions could be reduced an estimated 5 percent from 1990 levels during the first commitment period of 2008-2012. Notably, while the United States is a signatory to the Kyoto protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments.

In December 2009, international leaders from 192 nations met in Copenhagen to address the future of international climate change commitments post-Kyoto.

## Federal Regulation and the Clean Air Act

Previously the EPA had not regulated GHGs under the Clean Air Act because it asserted that the Act did not authorize it to issue mandatory regulations to address global climate change and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. In *Massachusetts v. Environmental Protection Agency et al.* (127 S. Ct. 1438 (2007)), however, the U.S. Supreme Court held that GHGs are pollutants under the Clean Air Act and directed the EPA to decide whether the gases endangered public health or welfare. On December 7, 2009, the U.S. Environmental Protection Agency (EPA) issued an Endangerment Finding under Section 202(a) of the Clean Air Act, opening the door to federal regulation of GHGs. The Endangerment Finding notes that GHGs threaten public health and welfare and are subject to regulation under the Clean Air Act. To date, the EPA has not promulgated major regulations on GHG emissions, but it has begun to develop them.

The EPA had also not moved aggressively to regulate GHGs because it expected Congress to make progress on GHG legislation, primarily from the standpoint of a cap-and-trade system. However, proposals circulated in both the House of Representative and Senate have been controversial and it may be some time before Congress adopts major climate change legislation. The EPA's Endangerment Finding paves the way for federal regulation of GHGs with or without Congress. To date, Congress, under the Consolidated Appropriations Act of 2008 (HR 2764), has established mandatory GHG reporting requirements for some emitters of GHGs. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule. The rule requires annual reporting to the EPA of GHG emissions from large sources and suppliers of GHGs, including facilities that emit 25,000 metric tons or more a year of GHGs.

## State Regulation

### ***Executive Order S-3-05***

Notwithstanding the current lack of Federal regulation of greenhouse gas emissions, Executive Order S-3-05, signed by Governor Arnold Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80-percent reduction in GHG emissions below 1990 levels by 2050 in California. The Secretary of the California Environmental Protection Agency (CalEPA) has been charged with coordination of efforts to meet these targets and formed the Climate Action Team to implement the Order. The Climate Action Team also provided strategies and input to the California Air Resources Board Scoping Plan discussed below.

### ***Assembly Bill 32***

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. In adopting this legislation (commonly known as “AB 32”), the State Legislature declared that “[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California.” Further, the Legislature found that “the potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious disease, asthma, and other human health-related problems.” The Legislature added that “[g]lobal warming will have detrimental effects on some of California’s largest industries” and “increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state.”

AB 32 initiated a long-term program for “the development of [GHG] emissions reduction measures.”<sup>2</sup> It “creates a comprehensive, multi-year program to reduce greenhouse gas (GHG) emissions in California, with the overall goal of restoring emissions to 1990 levels by the year 2020.”<sup>3</sup> AB 32 recognizes that such an ambitious effort requires careful planning and a well thought out set of strategies. Accordingly, AB 32 delegated the authority for its implementation to the CARB and directs CARB to enforce the statewide cap that would begin phasing in by 2012. Among other requirements, AB 32 required CARB to (1) identify the statewide level of greenhouse gas emissions in 1990 to serve as the emissions limit to be achieved by 2020, and (2) develop and implement a Scoping Plan to be implemented by January 1, 2012.

<sup>2</sup> As defined under AB 32, greenhouse gas emissions include the following: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride.

<sup>3</sup> Written on a public notice prepared by the staff of the California Air Resources Board (CARB) in connection with a meeting to consider “early discrete actions” related to AB 32 on October 25, 2007.

In November 2007, CARB completed its estimates of 1990 GHG levels. Net emission 1990 levels were estimated at 427 MMTs (emission sources by sector were: transportation – 35 percent; electricity generation – 26 percent; industrial – 24 percent; residential – 7 percent; agriculture – 5 percent; and commercial – 3 percent)<sup>4</sup>. Accordingly, 427 MMTs of CO<sub>2</sub> equivalent was established as the emissions limit for 2020. For comparison, CARB’s estimate for 2000 baseline GHG emissions was 473 MMT for 2000 and 532 MMT for 2010. “Business as usual” conditions for 2020 were projected to be 596 MMTs. Therefore to comply with AB 32’s mandate, GHG emission would need to be reduced from 596 MMTs (i.e., 2020 “business as usual”) to 427 MMTs (the 1990 level), which is a reduction of 30 percent. This latter forecast did not take any credit for reductions from measures included in the AB 32 Scoping Plan, including the Pavley GHG emissions standards for vehicles<sup>5</sup>, full implementation of the Renewables Portfolio Standard beyond current levels of renewable energy, or the solar measures.

Under AB 32, CARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. CARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are deemed discrete early action measures in that they are regulatory and enforceable by January 1, 2010. CARB estimates that the 44 recommendations will result in reductions of at least 42 MMTs by 2020, representing approximately 25 percent of the 2020 target.

In December 2007, CARB approved a regulation for mandatory reporting and verification of GHG emissions for major sources. This regulation covered major stationary sources such as cement plants, oil refineries, electric generating facilities/providers, and co-generation facilities, which comprise 94 percent of the point source CO<sub>2</sub> emissions in the State.

Pursuant to AB 32, the CARB adopted a *Climate Change Scoping Plan* in December 2008, which was re-approved by CARB on August 24, 2011 (CARB, 2008), outlining measures to meet the 2020 GHG reduction limits. The Scoping Plan’s recommendations for reducing GHG emissions to 1990 levels by 2020 include emission reduction measures, including a cap-and-trade program linked to Western Climate Initiative partner jurisdictions, green building strategies, recycling and waste-related measures, as well as Voluntary Early Actions and Reductions. These measures, shown below in **Table 3.11-2** by sector, also put the state on a path to meet the long-term 2050 goal of reducing California’s GHG emissions to 80 percent below 1990 levels. Implementation of individual measures must begin no later than January 1, 2012, so that the emissions reduction target can be fully achieved by 2020.

---

<sup>4</sup> On a national level, the EPA’s Endangerment Finding stated that electricity generation is the largest emitting sector (34%), followed by transportation (28%), and industry (19%).

<sup>5</sup> In 2007, CARB adopted the Pavley clean-car standards to reduce GHG emission from passenger vehicles.



**TABLE 3.11-2  
LIST OF RECOMMENDED ACTIONS BY SECTOR**

<b>Measure No.</b>	<b>Measure Description</b>	<b>GHG Reductions (Annual Million Metric Tons CO<sub>2</sub>e)</b>
<b>Transportation</b>		
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15
T-3 <sup>1</sup>	Regional Transportation-Related Greenhouse Gas Targets	5
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2
T-6	Goods Movement Efficiency Measures. <ul style="list-style-type: none"> <li>• Ship Electrification at Ports</li> <li>• System-Wide Efficiency Improvements</li> </ul>	3.5
T-7	Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	0.93
T-8	Medium- and Heavy-Duty Vehicle Hybridization	0.5
T-9	High Speed Rail	1
<b>Electricity and Natural Gas</b>		
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) <ul style="list-style-type: none"> <li>• Increased Utility Energy Efficiency Programs</li> <li>• More Stringent Building &amp; Appliance Standards</li> </ul> Additional Efficiency and Conservation Programs	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewables Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) <ul style="list-style-type: none"> <li>• Target of 3000 MW Total Installation by 2020</li> </ul>	2.1
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) <ul style="list-style-type: none"> <li>• Utility Energy Efficiency Programs</li> <li>• Building and Appliance Standards</li> <li>• Additional Efficiency and Conservation Programs</li> </ul>	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
<b>Green Buildings</b>		
GB-1	Green Buildings	26
<b>Water</b>		
W-1	Water Use Efficiency	1.4†
W-2	Water Recycling	0.3†
W-3	Water System Energy Efficiency	2.0†
W-4	Reuse Urban Runoff	0.2†
W-5	Increase Renewable Energy Production	0.9†
W-6	Public Goods Charge (Water)	TBD†
<b>Industry</b>		
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	TBD
I-2	Oil and Gas Extraction GHG Emission Reduction	0.2
I-3	GHG Leak Reduction from Oil and Gas Transmission	0.9
I-4	Refinery Flare Recovery Process Improvements	0.3
I-5	Removal of Methane Exemption from Existing Refinery Regulations	0.01

**TABLE 3.11-2  
 LIST OF RECOMMENDED ACTIONS BY SECTOR**

Measure No.	Measure Description	GHG Reductions (Annual Million Metric Tons CO <sub>2</sub> e)
<b>Recycling and Water Management</b>		
RW-1	Landfill Methane Control (Discrete Early Action)	1
RW-2	Additional Reductions in Landfill Methane <ul style="list-style-type: none"> <li>• Increase the Efficiency of Landfill Methane Capture</li> </ul>	TBD†
RW-3	High Recycling/Zero Waste <ul style="list-style-type: none"> <li>• Commercial Recycling</li> <li>• Increase Production and Markets for Compost</li> <li>• Anaerobic Digestion</li> <li>• Extended Producer Responsibility</li> <li>• Environmentally Preferable Purchasing</li> </ul>	9†
<b>Forests</b>		
F-1	Sustainable Forest Target	5
<b>High Global Warming Potential (GWP) Gases</b>		
H-1	Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Services (Discrete Early Action)	0.26
H-2	SF <sub>6</sub> Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)	0.3
H-3	Reduction of Perfluorocarbons in Semiconductor Manufacturing (Discrete Early Action)	0.15
H-4	Limit High GWP Use in Consumer Products Discrete Early Action (Adopted June 2008)	0.25
H-5	High GWP Reductions from Mobile Sources <ul style="list-style-type: none"> <li>• Low GWP Refrigerants for New Motor Vehicle Air Conditioning Systems</li> <li>• Air Conditioner Refrigerant Leak Test During Vehicle Smog Check</li> <li>• Refrigerant Recovery from Decommissioned Refrigerated Shipping Containers</li> <li>• Enforcement of Federal Ban on Refrigerant Release during Servicing or Dismantling of Motor Vehicle Air Conditioning Systems</li> </ul>	3.3
H-6	High GWP Reductions from Stationary Sources <ul style="list-style-type: none"> <li>• High GWP Stationary Equipment Refrigerant Management Program:                             <ul style="list-style-type: none"> <li>- Refrigerant Tracking/Reporting/Repair Deposit Program</li> <li>- Specifications for Commercial and Industrial Refrigeration Systems</li> </ul> </li> <li>• Foam Recovery and Destruction Program</li> <li>• SF Leak Reduction and Recycling in Electrical Applications</li> <li>• Alternative Suppressants in Fire Protection Systems</li> <li>• Residential Refrigeration Early Retirement Program</li> </ul>	10.9
H-7	Mitigation Fee on High GWP Gases	5
<b>Agriculture</b>		
A-1	Methane Capture at Large Dairies	1.0†

<sup>1</sup> This is not the SB 375 regional target. CARB will establish regional targets for each California's 18 Metropolitan Planning Organization (MPO's) regions following the input of the regional targets advisory committee and a consultation process with MPO's and other stakeholders per SB 375.

† GHG emission reduction estimates are not included in calculating the total reductions needed to meet the 2020 target.

### **Senate Bill 1078 and 107 and Executive Order S-14-08 and S-21-09**

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, then-Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Portfolio Standard to 33 percent renewable power by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the

Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the CARB under its AB 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. The 33 percent by 2020 goal was codified in April 2011 with Senate Bill X1-2, which was signed by Governor Edmund G. Brown, Jr. This new RPS preempts the CARB 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020.

### ***Title 24***

Although not originally intended to reduce, greenhouse gases, California Code of Regulations (CCR) Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. Since then, Title 24 has been amended with a recognition that energy-efficient buildings require less electricity and reduce fuel consumption, which in turn decreases GHG emissions.

### ***SB 1368***

Passed in 2006, Senate Bill (SB) 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 reduces carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as combined cycle natural gas plants. Overall, SB 1368 will dramatically lower GHG emissions associated with California's energy demand as it will effectively prohibit California utilities from purchasing power from out-of-state producers that cannot satisfy the required performance standard.

### ***SB 375***

In September of 2008, the California legislature adopted SB 375, which: (1) relaxes CEQA requirements for some housing projects that meet goals for reducing GHG emissions and (2) requires the regional governing bodies in each of the state's major metropolitan areas to adopt, as part of their regional transportation plan, "sustainable community strategies" that will meet the region's target for reducing GHG emissions. SB 375 creates incentives for implementing the sustainable community strategies by allocating federal transportation funds only to projects that are consistent with the emissions reductions.

SB 375 also directs CARB to develop regional GHG emission reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035. CARB appointed a Regional Targets Advisory Committee (RTAC) on January 23, 2009 to provide recommendations on factors to consider and methodologies to use in this target setting process. The RTAC proposed

draft targets on June 3, 2010 and adopted final targets on September 30, 2010. Local governments would then devise strategies for housing development, road-building and other land uses to shorten travel distances, reduce vehicular travel time and meet the new targets. If regions develop these integrated land use, housing, and transportation plans, residential projects that conform to the sustainable community strategy (and therefore contribute to GHG reduction) can have a more streamlined environmental review process.

Mendocino County Council of Governments (MCOG) is not one of the 18 metropolitan planning organizations covered by this requirement of SB 375. Therefore, local governments in Mendocino County are not yet required to develop strategies to meet the SB 375 targets.

## Local Regulations

### ***Air District Recommendations for Significance Thresholds***

California has 35 Air Pollution Control Districts (APCD) and Air Quality Management Districts (AQMD), many of which are currently addressing climate change issues by developing significance thresholds, performance standards, and mitigation measures.

The Mendocino County AQMD (MCAQMD) has jurisdiction over the Project site for purposes of air quality matters, including GHGs. On June 3, 2010 the MCAQMD issued a new CEQA guidance for the district; the guidance requested that lead agencies use the Bay Area Air Quality Management District (BAAQMD) CEQA thresholds to evaluate new projects (MCAQMD, 2010). Updated BAAQMD *CEQA Air Quality Guidelines* (BAAQMD, 2011) were adopted May 3, 2011, and establish the quantitative and qualitative thresholds of significance for GHGs, as described below.

## 3.11.4 Impacts and Mitigation Measures

### Significance Criteria

According to Appendix G of the CEQA *Guidelines*, a project would have a significant effect on global climate change if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment;
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

### Methodology

The project's construction-related (temporary, short-term) and operation-related (long-term) emissions of GHGs and whether they would result in a cumulatively considerable contribution to global climate change are described below. This EIR does discuss, for consideration by decision makers, estimated GHG emissions of the project, project-related activities that could contribute to the generation of

increased GHG emissions, the project design features that would avoid or minimize those emissions, and the approaches to further reduce those emissions.

Pursuant to CEQA Guidelines Section 15064.7(c), the EIR is employing both quantitative and qualitative thresholds of significance.

The quantitative threshold is used to answer the first GHG criterion of the CEQA Guidelines identified above (i.e., will the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment). For purposes of this EIR, the threshold is based upon BAAQMD's *CEQA Air Quality Guidelines* per the MCAQMD recommendation. Emissions were calculated using California Emissions Estimator Model (CalEEMod) version 2011.1.1. CalEEMod is a computer program that can be used to estimate anticipated emissions associated with land development projects in California. CalEEMod has separate databases for specific counties and air districts. The Mendocino County database was used for the proposed project.

With respect to construction-related GHG impacts, BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, as recommended in BAAQMD's *CEQA Air Quality Guidelines*, this EIR has quantified and disclosed GHG emissions that would occur during construction, and made a determination on the significance of these construction-generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals, as required by the Public Resources Code, Section 21082.2.

With respect to operation-related GHG impacts, in accordance with the BAAQMD *CEQA Air Quality Guidelines*, this project would be considered to have a significant impact if the project would emit GHGs greater than 1,100 metric tons per year CO<sub>2</sub>e from sources other than permitted stationary sources. A project could reduce a potential cumulative contribution to GHG emissions through energy efficiency features, density and locale (e.g., compact development near transit and activity nodes of work or shopping) and by contributing to available mitigation programs, such as reforestation, tree planting, or carbon trading.

The qualitative threshold is used to answer the second GHG criterion of the CEQA Guidelines identified above (i.e., will the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs). Ukiah has not adopted its own GHG reduction plan. However, if a project implements reduction strategies identified in AB 32, the Governor's Executive Order S-3-05, or other strategies to help reduce GHGs to the level proposed by the governor, it could reasonably follow that the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. That said, BAAQMD's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move us towards climate stabilization. Consequently, the quantifiable threshold (in this case, 1,100 metric tons per year CO<sub>2</sub>e) was formulated based on AB 32 reduction strategies. For this reason, if a project exceeds the quantifiable threshold after mitigation, then for purposes of this EIR, the project is assumed to conflict with the second GHG criteria of the CEQA Guidelines; that is, the project is

considered to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

In summary, both quantitative and qualitative thresholds are used in this analysis to determine significance: the significance threshold recommended by BAAQMD requiring a project to generate less than 1,100 metric tons per year CO<sub>2</sub>e from sources other than permitted stationary sources, and a determination of whether the project promotes attainment of California's goals of reducing greenhouse gas emissions as stated in applicable plans, policies or regulations, including AB 32.

It should be noted that there are limitations to the analysis of mobile source GHG emissions, which are an important component of the overall GHG emissions for the Project (see below). It is likely that Project customers currently shopping at Costco (or other discount warehouses) out of the area (such as Rohnert Park and Santa Rosa) would reduce the amount of miles travelled. However, it is also likely that some regional trips may be increased, as shoppers travel from underserved areas to shop at the Project. To the extent that these longer, but infrequent trips, are offset by fewer trips to local providers is also difficult to predict. In order to provide a conservative analysis, therefore, the analysis below treats the Project-related trips as new, and assumes an average trip distance based on accepted rural traffic models. In actuality, the number, length, and nature of the vehicle trips is more complicated. It is possible that regionally, GHG emissions related to regional retail trips may be reduced, even though the trips within the immediate Project vicinity are increased.

## Impact Analysis

### **Impact 3.11.1: The project could generate GHG emissions that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation adopted to reduce GHG emissions.**

The analysis is restricted to GHGs identified by AB 32, which include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. However, certain GHGs defined by AB 32 would not be emitted by the project. Perfluorocarbons, hydrofluorocarbons, and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project.

GHG emissions have been estimated using the CalEEMod software. The emissions have been estimated for project construction (off-road equipment and on-road mobile sources) and project operations (area, energy, mobile, waste, and water sources).

Project GHG worst-case emissions during construction would be approximately 981 metric tons of CO<sub>2</sub>e during the first year of Project construction, as shown in Appendix AQ. Although neither the MCAQMD nor the BAAQMD have developed a significance threshold for construction related GHG emissions, based on the short-term duration of construction and since emissions would not exceed the BAAQMD threshold of 1,100 metric tons of CO<sub>2</sub>e, Project construction GHGs would be less than significant.

As shown in **Table 3.11-3**, total Project operational emissions would be 9,630 metric tons of CO<sub>2</sub>e per year. With the inclusion of mitigation measures, operational emissions would be reduced to 8,493 metric tons of CO<sub>2</sub>e per year. Note that some mobile emissions, the largest category of emissions, would be offset by reduced travel to other regional retailers (particularly Costco shoppers who no longer have to travel to Santa Rosa or Rohnert Park). Approximately one third of all shopping trips would consist of trips redirected to Ukiah that were previously outside of the region.<sup>6</sup>

As discussed above, there are no local or regional plans that apply to the proposed Project. Therefore the Project does not conflict with an applicable plan, policy or regulation adopted to reduce GHG emissions. The project does not interfere with implementation of any of the Recommended Actions from the CARB AB 32 Scoping Plan. However, because it would exceed the BAAQMD adopted GHG significance threshold for projects other than stationary sources (1,100 metric tons/year CO<sub>2</sub>e), operational emissions of GHG from the project would be **potentially significant**.

**TABLE 3.11-3  
 OPERATIONAL EMISSIONS<sup>a</sup>**

<b>Project Data</b>	<b>CO<sub>2</sub>e (metric tons/year)</b>
<b>Unmitigated</b>	
Area Sources	0
Energy Sources	729
Mobile Sources	<b>8,572</b>
Waste Sources	295
Water Sources	34
<b>Total Unmitigated Project GHGs</b>	<b>9,630</b>
<b>Exceed BAAQMD GHG Threshold (1,100 MT/yr)?</b>	<b>Yes</b>
<b>Mitigated<sup>b</sup></b>	
Area Sources	0
Energy Sources	512
Mobile Sources	<b>7,804</b>
Waste Sources	147
Water Sources	30
<b>Total Existing</b>	<b>8,493</b>
<b>Exceed BAAQMD GHG Threshold (1,100 MT/yr)?</b>	<b>Yes</b>

Net values in **bold** are in excess of the applicable MCAQMD significance threshold.

a. Project emissions estimates were made using CalEEMod. See Appendix AQ for additional information.

b. Mitigation incorporated into CalEEMod includes; increase transit accessibility, improve pedestrian network, provide ride sharing program, exceed title 24, install high efficiency lighting, low flow bathroom faucet and toilet, use water efficient irrigation system, and institute recycling and composting services.

<sup>6</sup> See Chapter 3.3, Urban Decay. Approximately \$40 million of the projected \$120 million in sales consist of recaptured “leakage”, which represents shopping trips that were leaving the market region.

### Mitigation Measure

The project shall implement **Mitigation Measures 3.2.2a** through **3.2.2d**. These measures include incorporation of sustainability features in the building and site design in order to reduce energy consumption and exceed the Title 24 building efficiency ratings (Measure 3.2.2a), implementation of a carpool/vanpool program (Measure 3.2.2b), increase transit accessibility (Measure 3.2.2c), and improve the pedestrian network (Measure 3.2.2d).

**Significance after Mitigation:** As shown in 3.11.3, these Mitigation Measures would reduce GHG emissions by more than 1,000 MT/yr for Project operations. However, the majority of the GHG emissions are mobile-source, and feasible reduction measures beyond vehicle fuel efficiency (state and federal requirements), and encouraging alternative transportation, are not available. The GHG emission levels after mitigation would remain **Significant and Unavoidable**.

---

### 3.11.5 References

- Bay Area Air Quality Management District (BAAQMD), 2011. *CEQA Air Quality Guidelines*, adopted May 2011.
- California Air Resources Board (CARB), 2008. *Climate Change Scoping Plan*, adopted December 2008.
- California Energy Commission (CEC), 2006. *Inventory of Greenhouse Gas Emissions and Sinks 1990-2004*, October 2006
- California Environmental Protection Agency (CalEPA), 2006. *Scenarios of Climate Change in California: An Overview*, February 2006
- California Environmental Protection Agency (CalEPA), 2010. *Trends in California Greenhouse Gas Emissions for 2000 to 2008*, May 2010
- Environmental Protection Agency (EPA), *EPA Glossary of Climate Change Terms*, [www.epa.gov/climatechange/glossary.html](http://www.epa.gov/climatechange/glossary.html).
- Intergovernmental Panel on Climate Change (IPCC), 1995. *IPCC Second Assessment Climate Change 1995*.
- Intergovernmental Panel on Climate Change (IPCC), 2001. *IPCC Working Group I Third Assessment Report*.
- Mendocino County Air Quality Management District (MCAQMD), 2010. *New MCAQMD Interim CEQA Criteria and GHG Pollutant Thresholds*, June 3, 2010.
- United Nations Framework Convention on Climate Change, *Annex I GHG Inventories*, 2009.



## 3.12 Biological Resources

### 3.12.1 Introduction

This section describes existing biological resources within the proposed Project footprint and addresses potential impacts to biological resources associated with implementation of the proposed Project. This evaluation includes a review of potentially occurring special-status species; wildlife habitats; waters of the U.S. including wetlands; and tree resources. The results of this evaluation are based on a reconnaissance-level survey of the Project site, literature searches, and database queries.

### 3.12.2 Environmental Setting

#### Regional

The City of Ukiah is located within southern Mendocino County, along the Russian River in the Ukiah Valley. The City lies within the Northern California Coast Ranges Ecological Section and the Central Franciscan Ecological Subsection (Miles & Goodey, 1997). This subsection is influenced somewhat by marine air but lacks summer fog and has a temperate and humid climate. Many rapid to moderately rapid flowing rivers and streams in deeply incised canyons flow westerly into the Pacific Ocean in this Section. This subsection is characterized by mountains with rounded ridges, steep and moderately steep sides, and narrow canyons, with several broad valleys, including the Ukiah Valley, site of the proposed Project. Regional natural plant communities common to this area include oak woodlands, mixed oak and conifer woodlands, grasslands, chaparral, and riparian woodlands.

Agriculture and urban development have modified most of the native habitat in the Ukiah Valley, creating fragmented and isolated habitats along riparian corridors, designated open space, ranches, and parks. The Ukiah Valley was once entirely oak forest. Within approximately one-quarter mile of the Russian River and other waterways, valley oaks grew in a continuous canopy with a dense undergrowth of varied plant species. Farther from the waterways, valley oaks grew in more open woodlands and savanna. Black oaks grew on drier ground, and mixed oak woodlands, including blue oak, interior live oak, Oregon white oak, and canyon live oak, covered the hills. Overall, remaining native habitats in the region surrounding the City of Ukiah are found in riparian areas and floodplains as well as native mixed oak and conifer woodlands in the Coast Ranges east and west of the City. Vegetation communities and wildlife habitats present within Ukiah include urban, ruderal, annual grassland, sporadic stands of oaks, and narrow ribbons of riparian along the larger creeks and the Russian River (City of Ukiah, 1995 and 2004).

#### Local

The Project site is located in the City of Ukiah, California and consists of twelve parcels totaling 15.33 acres (Assessor's Parcel Numbers 180-110-8 through 10, 180-080-57 through 59, and 180-080-62 through 67). The Project site is bounded by commercial uses (north and south), U.S. 101 (east), and Airport Park Boulevard (west). The Project site is within the Airport Industrial Park

(AIP) Planned Development with the Airport Industrial Park bounded by Talmage Road to the north, Ukiah Municipal Airport to the west, U.S. 101 to the east, and a vacant lot with scattered oak trees to the south. Average annual precipitation is 37.3 inches. Mean maximum temperature is approximately 74 degrees Fahrenheit (°F) and mean minimum temperature is approximately 44°F (Western Regional Climate Center, 2012).

During the time of the reconnaissance-level survey in January 2012, the entire Project site was highly disturbed by recent plowing activities and appears to be plowed on a routine basis. The site almost entirely consists of exposed soil and is virtually void of vegetation with the exception of sparse, low growing (unidentifiable) seedlings. Immediately to the south of the Project site and outside of the Project boundaries is a stormwater runoff basin occupied by established riparian vegetation including willows (*Salix* sp.), Himalayan blackberry (*Rubus discolor*), cattails (*Typha* sp.), and California rose (*Rosa californica*). Oregon oaks (*Quercus garryana*) are scattered around the basin and on the east side of the site; all oaks are outside of the Project site boundaries.

## **Wetlands and Other Waters of the U.S.**

No wetlands or other waters of the U.S. occur within the Project site.

## **Special-Status Species**

Special-status species are plants and animals that are legally protected under state and federal Endangered Species Acts or other regulations and species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are in the following categories:

- Plants or animals listed or proposed for listing as threatened or endangered under the federal ESA (50 Code of Federal regulations [CFR] 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [FR] [proposed species]).
- Plants or animals that are candidates for possible future listing as threatened or endangered under the federal ESA (61 FR 40, February 28, 1996);
- Plants or animals listed or proposed for listing by the State of California as threatened or endangered under the California ESA (14 California Code of Regulations [CCR] 670.5);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.);
- Plants that meet the definitions of rare and endangered under CEQA. CEQA Section 15380 provides that a plant or animal species may be treated as “rare or endangered” even if not on one of the official lists (State CEQA Guidelines, Section 15380);
- Plants considered under the California Native Plant Society (CNPS) to be “rare, threatened or endangered in California” (Lists 1A, 1B, and 2 in CNPS 2012);
- Plants listed by CNPS as plants about which more information is needed to determine their status and plants of limited distribution (Lists 3 and 4 in CNPS 2012), which may be included as special-status species on the basis of local significance or recent biological information;
- Animal species of special concern to CDFG; and
- Animals fully protected in California (California Fish and Game Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

A list of special-status plant and animal species that have the potential to occur within the vicinity of the Project site was compiled based on data in California Natural Diversity Database [CNDDDB, (CDFG, 2012)], California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS, 2012), and the USFWS List of Federal Endangered and Threatened Species that may be Affected by Projects in the Ukiah, CA 7.5-minute topographic quadrangle (USFWS, 2012). Conclusions regarding habitat suitability and species occurrence are based on reconnaissance surveys conducted by ESA in 2012 as well as the analysis of existing literature and aforementioned databases.

**Table 3.12-1** lists special-status plants and animals with the potential to occur within the Project site. Additionally, Table 3.12-1 indicates the Project’s potential to impact each species listed. **Figure 3.12-1** identifies the locations of regional CNDDDB occurrences.

The “Potential for Project to Impact” category is defined as follows:

- *Unlikely*: The project site and/or immediate area do not support suitable habitat for a particular species. The project site is outside of the species known range.
- *Low Potential*: The project site and/or immediate area only provide limited habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate project area.
- *Medium Potential*: The project site and/or immediate area provide suitable habitat for a particular species, and habitat for the species may be impacted.
- *High Potential*: The project site and/or immediate area provide ideal habitat conditions for a particular species and/or known populations occur in immediate area or within the potential area of impact.

### 3.12.3 Regulatory Setting

#### Federal

##### ***U.S. Fish and Wildlife Service***

The U.S. Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (FESA) (16 United States Code [USC] 153 et seq.), the Migratory Bird Treaty Act (16 USC 703–711), and the Bald Eagle Protection Act (16 USC 668), among other programs discussed below.

##### **Federal Endangered Species Act**

Under the FESA, the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 USC 1533[c]). Two federal agencies oversee the FESA: the USFWS has jurisdiction over plants, wildlife, and resident fish, and the National Marine Fisheries (NMFS) has jurisdiction over anadromous and marine fish as well as mammals. Section 7 of the FESA mandates that all federal agencies consult with the USFWS and NMFS to ensure that federal agency actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. The FESA prohibits the “take”<sup>1</sup> of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery.

<sup>1</sup> “Take” is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to engage in any such conduct.

**TABLE 3.12-1  
SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA**

Scientific Name Common Name	Listing Status: Federal/State/ CNPS	General Habitat	Potential to Occur in the Study Area
<b>Fish</b>			
<i>Oncorhynchus kisutch</i> Central California coast coho salmon	FE/SE/--	This ESU includes all naturally spawned populations of coho salmon from Punta Gorda in northern California south to and including the San Lorenzo River in central California, as well as populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system.	Unlikely – Study area does not provide suitable habitat.
<i>Oncorhynchus mykiss</i> Central California Coast steelhead	FT/--/--	This DPS is found in coastal streams from the Russian River in Sonoma County south to Aptos in Santa Cruz County, including tributaries to San Francisco and San Pablo bays.	Unlikely – Study area does not provide suitable habitat.
<i>Oncorhynchus mykiss</i> Central Valley steelhead	FT/--/--	Spawns in Sacramento River and tributaries where gravelly substrate and suitable water conditions occur.	Unlikely – Study area does not provide suitable habitat.
<i>Oncorhynchus tshawytscha</i> California coastal Chinook salmon	FT/--/--	This ESU naturally occurs in coastal rivers and streams south of the Klamath River to the Russian River, California.	Unlikely – Study area does not provide suitable habitat.
<b>Amphibians</b>			
<i>Rana boylei</i> Foothill yellow-legged frog	--/CSC/--	Breeds in shaded stream habitats with rocky, cobble substrate, usually below 6,000 feet in elevation. Absent or infrequent when introduced predators are present.	Unlikely – Study area does not provide suitable habitat.
<b>Reptiles</b>			
<i>Emys marmorata</i> Western pond turtle	--/CSC/--	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks.	Unlikely – Study area does not provide suitable habitat.
<b>Birds</b>			
<i>Accipiter gentilis</i> Northern goshawk	--/CSC/--	Within and in vicinity of coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	Unlikely – Study area does not provide suitable habitat.
<i>Agelaius tricolor</i> Tricolored blackbird	--/CSC/--	Prefers freshwater marshes with tall, dense cattails or tules but also in thickets of willow, blackberry, and wild rose. Forages in grasslands and agricultural lands.	Unlikely – Study area does not provide suitable habitat.
<i>Ammodramus avannarum</i> Grasshopper sparrow	--/CSC/--	Prefers areas with significant grass cover and few shrubs for perching. Avoids grazed land and dense shrub cover.	Unlikely – Study area does not provide suitable habitat.
<i>Brachyramphus marmoratus</i> Marbled murrelet	FT/SE/--	Occur in calm, shallow, coastal waters and bays, but breed inland, up to 45 miles from shore, in mature, wet forest	Unlikely – Study area does not provide suitable habitat.
<i>Pandion haliaetus</i> Osprey	--/--/--	Lives near bodies of water such as lakes, rivers, bays, sea coasts, marshes, and mangroves.	Unlikely – Study area does not provide suitable habitat.

**TABLE 3.12-1  
SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA**

Scientific Name Common Name	Listing Status: Federal/State/ CNPS	General Habitat	Potential to Occur in the Study Area
<b>Raptors</b>	<b>Various (nesting)</b>	<b>Generally nest in tall trees with adequate foliage for cover. Foraging habitat varies (aquatic, grassland, agricultural).</b>	<b>Medium – Study area provides suitable foraging habitat. Potential nest trees occur immediately to the south of the site.</b>
<i>Strix occidentalis caurina</i> Northern spotted owl	FT/SC/--	Prefer old growth coniferous forests with multi-layered, multi-species canopy with moderate to high canopy closure	Unlikely – Study area does not provide suitable habitat.
<b>Mammals</b>			
<i>Antrozous pallidus</i> Pallid bat	--/CSC/--	Prefers rocky, outcrop areas in deserts where they commonly roost in rock crevices, caves, and mine tunnels but they also roost in the attics of houses, under the eaves of barns, behind signs, in hollow trees, and in abandoned buildings.	Unlikely – Study area does not provide suitable habitat.
<i>Arborimus pomo</i> Sonoma tree vole	--/CSC/--	Nests and feeds on large conifers in northern CA coastal forests.	Unlikely – Study area does not provide suitable habitat.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	--/CSC/--	Found in rocky areas where abandoned mines and buildings and caves are available.	Unlikely – Study area does not provide suitable habitat.
<i>Martes pennanti (pacifica)</i> Pacific fisher	FC/CSC/--	Inhabits mixed conifer and Douglas-fir forests, and red fir, lodgepole pine, and mixed evergreen/broad leaf forest. Dens in cavities near the tops of large trees, hollow logs, talus, and crevices in rock outcrops.	Unlikely – Study area does not provide suitable habitat.
<b>Plants</b>			
<i>Arctostaphylos canescens</i> ssp. <i>sonomensis</i> Sonoma canescent manzanita	--/--/1B.2	Found in lower montane coniferous forest and chaparral habitat.	Unlikely – Study area does not provide suitable habitat.
<i>Arctostaphylos stanfordiana</i> ssp. <i>Raichei</i> Raiche's manzanita	--/--/1B.1	Found in lower montane coniferous forest and chaparral habitat.	Unlikely – Study area does not provide suitable habitat.
<i>Brasenia schreberi</i> watershield	--/--/2.3	Found in freshwater marshes and swamps.	Unlikely – Study area does not provide suitable habitat.
<i>Carex comosa</i> Bristly sedge	--/--/2.1	Found in coastal prairies, marshes, swamps, and valley and foothill grassland.	Unlikely – Study area does not provide suitable habitat.
<i>Ceanothus confusus</i> Rincon Ridge ceanothus	--/--/1B.1	Found in closed-cone coniferous forests, chaparral and cismontane woodland habitat.	Unlikely – Study area does not provide suitable habitat.
<i>Didymodon norrisii</i> Norris's beard-moss	--/--/2.2	Found on intermittently mesic rock outcrops in cismontane woodland and lower montane coniferous forest.	Unlikely – Study area does not provide suitable habitat.
<i>Entosthodon kochii</i> Koch's cord moss	--/--/1B.3	Found in cismontane woodland habitats.	Unlikely – Study area does not provide suitable habitat.

**TABLE 3.12-1  
SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA**

Scientific Name Common Name	Listing Status: Federal/State/ CNPS	General Habitat	Potential to Occur in the Study Area
<i>Fissidens pauperculus</i> minute pocket moss	--/1B.2	Found in damp soil in northern California coast coniferous forests.	Unlikely – Study area does not provide suitable habitat.
<i>Fritilaria roderickii</i> Roderick's fritillary	--/SE/1B.1	Found in coastal bluff scrub, coastal prairie, and valley and foothill grassland habitats.	Unlikely – Study area does not provide suitable habitat.
<i>Hesperolinon adenophyllum</i> Glandular western flax	--/1B.2	Found in chaparral, cismontane woodland, and valley and foothill grassland habitats.	Unlikely – Study area does not provide suitable habitat.
<i>Horkelia bolanderi</i> Bolander's horkelia	--/1B.2	Found in chaparral, lower montane coniferous forests, meadows and seeps, and valley and foothill grasslands.	Unlikely – Study area does not provide suitable habitat.
<i>Kopsiopsis hookeri</i> Small groundcone	--/2.3	Found in North Coast coniferous forests.	Unlikely – Study area does not provide suitable habitat.
<i>Lasthenia burkei</i> Burke's goldfields	FE/SE/1B.1	Found in meadows, seeps, and vernal pools.	Unlikely – Study area does not provide suitable habitat.
<i>Layia septentrionalis</i> Colusa layia	--/1B.2	Found in chaparral, cismontane woodland, and valley and foothill grasslands.	Unlikely – Study area does not provide suitable habitat.
<i>Limnanthes bakeri</i> Baker's meadowfoam	--/SR/1B.1	Found in meadows, seeps, marshes, swamps, vernal mesic valley and foothill grasslands, and vernal pools.	Unlikely – Study area does not provide suitable habitat.
<i>Malacothamnus hallii</i> Hall's bush-mallow	--/1B.2	Found in chaparral and coastal scrub habitat.	Unlikely – Study area does not provide suitable habitat.
<i>Malacothanus mendocinensis</i> Mendocino bush-mallow	--/1A	Found in cismontane woodland.	Unlikely – Study area does not provide suitable habitat.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	--/1B.1	Found in cismontane woodland, lower elevation montane coniferous forests, meadows, seeps, valley and foothill grasslands, and vernal pools.	Unlikely – Study area does not provide suitable habitat.
<i>Plagiobothrys lithocaryus</i> Mayacamas popcorn flower	--/1A	Found in chaparral, cismontane woodland, and mesic valley and foothill grassland.	Unlikely – Study area does not provide suitable habitat.
<i>Pleuropogon hooverianus</i> North coast semaphore grass	--/ST/1B.1	Found in broadleaf upland forests, meadows, seeps, and open, mesic areas of north coast coniferous forests.	Unlikely – Study area does not provide suitable habitat.
<i>Sanguisorba officinalis</i> great burnet	--/2.2	Found in bogs, fens, wet meadows, seeps and stream edges, often on rocky serpentine areas.	Unlikely – Study area does not provide suitable habitat.
<i>Tracyina rostrata</i> beaked tracyina	--/1B.2	Found in cismontane woodland and valley and foothill grassland habitat.	Unlikely – Study area does not provide suitable habitat.
<i>Usnea longissima</i> long-beard lichen	--/--	Found in old-growth and late-successional conifer stands, hardwood stands, and riparian areas, particularly in coastal climates or on fog-swept mountains where humidity is high	Unlikely – Study area does not provide suitable habitat.
<i>Viburnum ellipticum</i> oval-leaved viburnum	--/2.3	Found in cismontane woodland, chaparral, and lower montane coniferous forests.	Unlikely – Study area does not provide suitable habitat.

**TABLE 3.12-1  
SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN THE STUDY AREA**

Scientific Name Common Name	Listing Status: Federal/State/ CNPS	General Habitat	Potential to Occur in the Study Area
<b>Critical Habitat</b>			
Northern Interior Cypress Forest	--/--/--	An open, fire-maintained, scrubby forest similar to knobcone pine forest.	Unlikely – Community not found in study area.
Serpentine bunchgrass	--/--/--	Grows in serpentine soils.	Unlikely – Community not found in study area.
<i>Oncorhynchus kisutch</i> Central California coast coho salmon	Designated		Unlikely – Critical Habitat does not occur near the study area.
<i>Oncorhynchus mykiss</i> Central California Coast steelhead	Designated		Unlikely – Critical Habitat does not occur near the study area.
<i>Oncorhynchus tshawytscha</i> California coastal Chinook salmon	Designated		Unlikely – Critical Habitat does not occur near the study area.

## KEY:

**Federal: (USFWS)**

FE = Listed as Endangered by the Federal Government  
 FT = Listed as Threatened by the Federal Government  
 FC = Candidate for listing by the Federal Government

**State: (CDFG)**

SE = Listed as Endangered by the State of California  
 ST = Listed as Threatened by the State of California  
 SR = Listed as Rare by the State of California (plants only)  
 CSC = California Species of Concern

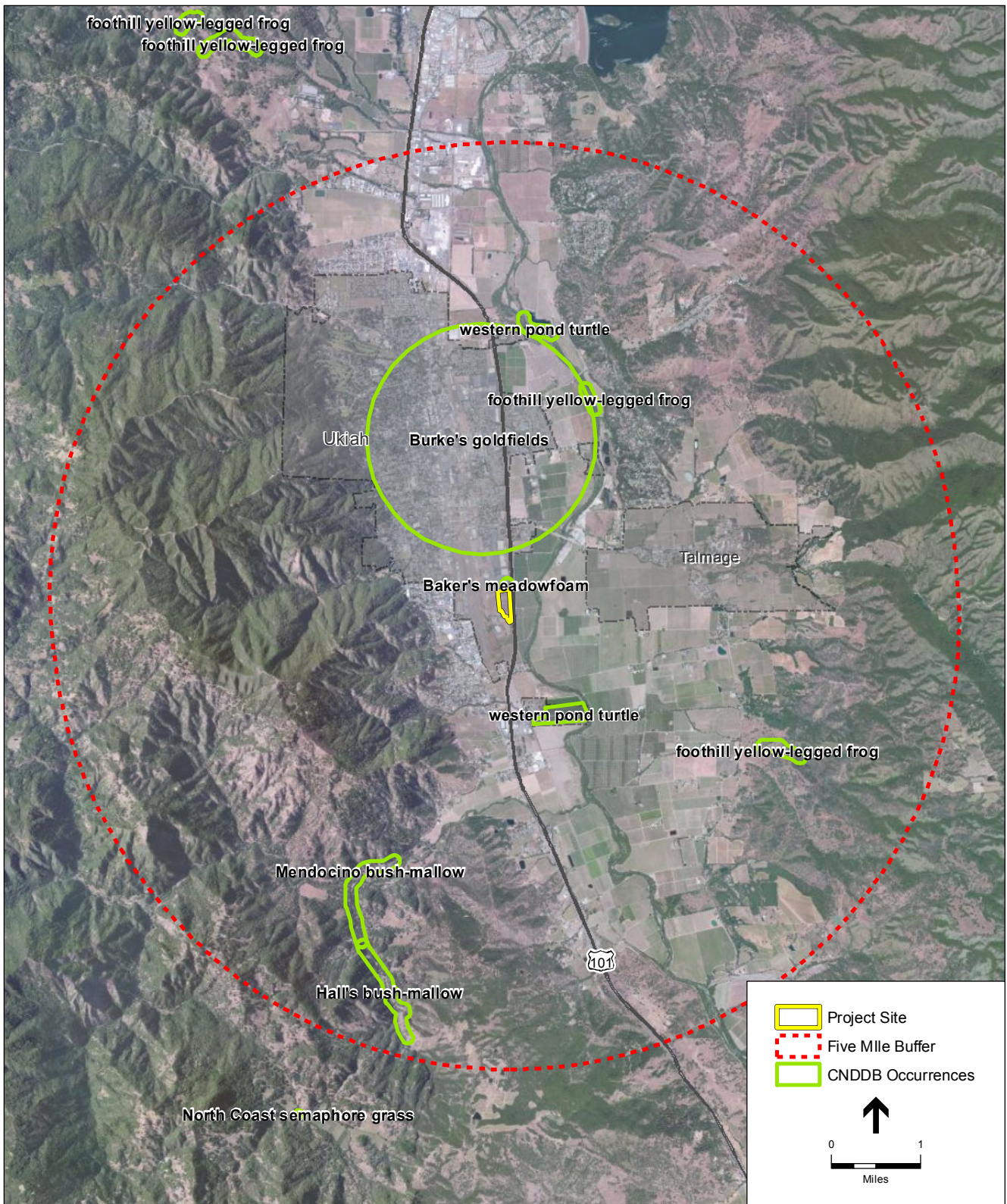
**CNPS: (California Native Plant Society)**

List 1A = Plants presumed extinct in California  
 List 1B = Plants rare, threatened, or endangered in California and elsewhere  
 List 2 = Plants rare, threatened, or endangered in California but more common elsewhere  
 List 3 = Need more information  
     0.1 = Seriously endangered in California  
     0.2 = Fairly endangered in California  
     0.3 = Not very endangered in California

-- = No Listing

SOURCE: USFWS, 2012; CDFG, 2012; CNPS, 2012.





SOURCE: Bing Maps, 2009; CNDDDB, 2012; and ESA, 2012

Ukiah Costco. 211169  
**Figure 3.12-1**  
 CNDDDB Occurrences



Section 10 of the FESA requires the issuance of an incidental take permit before any public or private action may be taken that could harm, harass, injure, kill, capture, collect, or otherwise hurt any individual of an endangered or threatened species. The permit requires preparation and implementation of a habitat conservation plan that provides specific measures to offset project impacts on endangered or threatened species.

The USFWS also publishes a list of candidate species. Species on this list receive “special attention” from federal agencies during environmental review, although they are not protected otherwise under the FESA. The candidate species are those for which the USFWS has sufficient biological information to support a proposal to list as endangered or threatened. Project impacts on such species would be considered significant in this EIR. Species of Concern is an informal term, not defined in the FESA. The Sacramento Office of the United States Fish and Wildlife Service no longer maintains a Federal Species of Concern list.

Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed threatened or endangered species could be present in the project area and whether the project action would have a potentially significant impact on such species. In addition, the agency is required to determine whether the project action is likely to jeopardize the continued existence of any species proposed to be listed under the FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]).

Similarly, the permitting responsibilities of the Army Corps of Engineers include consultation with the USFWS and NMFS when federally listed species (i.e., listed under the FESA) are at risk. At both the state and federal levels, the process requires that a Biological Assessment be prepared to determine the effects on listed species. Under both USFWS and California Department of Fish and Game (CDFG) policy, species of concern are not subject to the same consultation requirements as listed endangered, rare, or threatened species, but the agencies encourage informal consultation for species of concern that may become officially listed before completion of the CEQA process.

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (16 USC 703, Supp. I, 1989) prohibits the killing, possessing, or trading of migratory birds, bird parts, eggs, and nests, except in accordance with regulations prescribed by the Secretary of the Interior.

## **State**

### ***California Department of Fish and Game***

CDFG administers a number of laws and programs, discussed below, designed to protect fish and wildlife resources.

### ***California Endangered Species Act***

The California Endangered Species Act of 1984 (CESA) – Fish and Game Code Section 2050 et seq – regulates the listing and “take” of endangered and threatened species. A “take” of such a

species may be permitted by CDFG through issuance of permits pursuant to Fish and Game Code section 2081, except for designed “fully protected” species (see subsection below).

### **Fully Protected Species**

Prior to enactment of the CESA, the designation of “Fully Protected” was used by CDFG to identify species that had been given special protection by the California Legislature by a series of statutes in the California Fish and Game Code. (See §§ 3503.5, 3505, 3511, 3513, 4700, 4800, 5050, 5515). Many fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations; however, the original statutes have not been repealed, and the legal protection they give the species identified within them remains in place. Fully Protected species may not be taken or possessed at any time; and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Because endangered or threatened species can be “taken” for development purposes with the issuance of a permit by CDFG, “fully protected species” actually enjoy a greater level of legal protection than “listed” species.

### **Protection of Nesting Birds**

Section 3503.5 of the California Fish and Game Code states that it is “unlawful to take, possess, or destroy the nests or eggs of any such bird of prey (i.e., species in the orders Falconiformes and Strigiformes) except otherwise provided by this code or any other regulation adopted hereto.” Active nests of all other birds (except English sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*)) are similarly protected under Section 3503 of the California Fish and Game Code, as well as birds designated in the International Migratory Bird Treaty Action under Section 3513 of the California Fish and Game Code. Disturbance that causes nest abandonment and/or reproductive failure is considered a take by the CDFG. This statute does not provide for the issuance of an incidental take permit.

### **Species of Special Concern**

CDFG also designates Species of Special Concern (CSC) which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species or fully protected species but may be added to official lists in the future. The CSC list is intended by CDFG as a management tool for consideration in future land use decisions. Under CDFG policy, CSC are not subject to the same consultation requirements as listed endangered, rare, or threatened species, but the agency encourages informal consultation for Species of Special Concern that may become officially listed before completion of the CEQA process.

## **Local**

### **City of Ukiah General Plan**

The City of Ukiah values natural resources and open space for their significance to the heritage, identity, and quality of life of the community. The Open Space and Conservation Element of the

City's General Plan focuses on the protection and enhancement of limited natural resources within the city. The following goals, policies, and actions are relevant to the proposed Project:

**Goal OC-23:** Native plant landscaping shall be encouraged.

### 3.12.4 Impacts and Mitigation Measures

#### Significance Criteria

According to CEQA Section 15065 and CEQA Guidelines Appendix G, the proposed project would result in a significant impact to biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

In conducting the following impact analysis, three principal components of the Guidelines outlined above were considered:

- Magnitude of the impact (e.g., substantial/not substantial);
- Uniqueness of the affected resource (i.e., rarity of the resource); and
- Susceptibility of the affected resource to perturbation (i.e., sensitivity of the resource).

The evaluation of the significance of the following impacts considered the interrelationship of these three components. For example, a relatively small magnitude impact to a state or federally listed species would be considered significant because the species is very rare and is believed to be very susceptible to disturbance. Conversely, a plant community such as California annual grassland is not necessarily rare or sensitive to disturbance. Therefore, a much larger magnitude of impact would be required to be classified as significant.

This impact analysis focuses on foreseeable changes to the baseline condition in the context of the significance criteria presented above. Impacts of the project in relation to these issues were assessed.

As described in Section 3.12.2, the site does not contain potential wetlands or riparian habitat, nor does it act as a migratory corridor or nursery site. The Project site is not subject to a habitat conservation plan, as discussed in Chapter 3.7, Land Use, Impact 3.7-3. Therefore, these potential impacts are not discussed further.

## Impact Analysis

### **Impact 3.12.1: Implementation of the proposed Project may adversely impact special-status species. This impact would be potentially significant.**

The Project site does not contain suitable habitat for any special-status plant or wildlife species. However, oak trees located adjacent to and south and east of the site may provide nesting habitat for migratory songbirds and raptors protected under the MBTA and California Fish and Game Code. This federal and State law states that project related activities that may result in nest abandonment or destruction would be considered significant under CEQA. Construction of the Project could cause indirect impacts such as nest abandonment for birds nesting in the vicinity of the Project. Construction activity such as noise, vehicle traffic, foot traffic, etc. within the vicinity of an active nest site can cause adult birds to abandon the nest if they become disturbed. Therefore, the proposed Project could have a **potentially significant** impact on nesting migratory songbirds and raptors.

### Mitigation Measure

**Measure 3.12.1:** The following measures shall be implemented to reduce potential impacts on nesting birds:

1. If construction-related activities are to occur during the nesting bird season (February 15 through August 31), a qualified biologist shall conduct a preconstruction survey of all potential nesting habitats within 30 days prior to the start of activities (grubbing, dirt-moving, mobilization, or other construction-related activities) and within 500 feet of construction activities. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction survey, the site shall be resurveyed. The results of these surveys shall be documented in a technical memorandum that shall be submitted to the California Department of Fish and Game (if nesting birds are documented) and the City of Ukiah.
2. If an active nest is found during the preconstruction survey, a no-work buffer of 500 feet will be established unless otherwise approved by the California Department of Fish and Game (DFG). The qualified biologist will coordinate with DFG to determine the appropriate nest avoidance, monitoring, and protective measures appropriate for the species and site conditions. In addition to establishment of a no-work buffer, these measures may include daily or spot-check monitoring of the nesting activity as deemed appropriate by DFG.
3. If the preconstruction survey indicates that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. Trees

and shrubs that have been determined to be unoccupied by birds or that are located more than 500 feet from active nests may be removed (500 feet is the distance regularly recommended by DFG to prevent impacts to active avian nests).

**Impact Significance after Mitigation:** Implementation of Mitigation Measure 4.12-1 would reduce potential impacts to nesting birds (including songbirds and nesting raptors) to a **less-than-significant** level.

---

**Impact 3.12.2: Implementation of the proposed Project would not conflict with any local policies or ordinances for the protection of biological resources.**

As noted above, Goal OC-23 of the City of Ukiah General Plan encourages the use of native plants in landscaping. A detailed landscaping plan will have to be submitted and approved prior to project construction. Native plants will be utilized where appropriate and feasible in the landscaping plan. Therefore, the Project will not conflict with any local plan, policy or ordinance for the protection of biological resources. This impact is **less than significant**.

**Mitigation:** None required.

---

## **Cumulative Impacts**

**Impact 3.12.3: Implementation of the proposed Project would not contribute to a significant cumulative impact to biological resources.**

Per CEQA, in order for cumulative impacts to be considered significant, there must be at least two or more individual impacts which, when considered together, are substantial or which compound or increase other environmental impacts (identified in **Chapter 4**). The only potential significant impact to biological resources is impacts to birds nesting adjacent to the Project site. There are no nest trees within the Project site. Implementation of Mitigation Measure 3.12.1 would reduce any impacts to nesting birds to a less-than-significant level.

Moreover, when considered in combination with other nearby construction projects which would be required to replace removed trees or plant new ones as part of their landscaping plans, the cumulative effect to nesting birds would be less than significant. Thus, in consideration of the site's characteristics, and implementation of avoidance and mitigation measures, the Project's contribution to any significant impacts, were there any such impacts, would be considered less than cumulatively considerable.

**Mitigation:** None required.

---

### 3.12.5 References

- California Department of Fish and Game (CDFG), 2012. California Natural Diversity Database (CNDDDB) Rarefind 4 computer program. California Department of Fish and Game, Biogeographic Data Branch. Sacramento, CA. Accessed online January 5, 2012.
- California Native Plant Society (CNPS), 2012. *Inventory of Rare and Endangered Plants* (online edition, v8-01a). California Native Plant Society, Sacramento, California. [www.cnps.org/inventory](http://www.cnps.org/inventory), accessed online January 5, 2012.
- City of Ukiah, 1995/2004. *General Plan and Growth Management Plan*, adopted December 5, 1995; revised in 2004.
- Miles, S.R. and C.B. Goudey, 1997. *Ecological Subregions of California: Section and Subsection Descriptions*, USDA Forest Service, Pacific Southwest Region Publication R5-EM-TP-005, San Francisco, CA.
- U.S. Fish and Wildlife Service (USFWS), 2012. Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Ukiah, California 7.5-Minute Topographic Quadrangle. Accessed online January 5, 2012.
- Western Regional Climate Center, 2012. *Period of Record General Climate Summary for Ukiah, California, 1893-2011*, [wrcc.dri.edu](http://wrcc.dri.edu), accessed January 5, 2012.

## 3.13 Population and Housing

This section describes population and housing conditions and trends in the City of Ukiah and evaluates the potential physical effects of the Project related to population and housing. This section relies primarily on information from the U.S. Census Bureau, the California Department of Finance, the Mendocino Council of Governments, and the City of Ukiah General Plan and Growth Management Program.

### 3.13.1 Environmental Setting

#### Population and Housing Conditions

##### *Population*

The Project site is located immediately west of Highway 101 on Airport Park Boulevard in the City of Ukiah, CA. The City of Ukiah’s population was approximately 16,109 in 2011 (DOF, 2011). The City had a population of 16,075 in 2010, having grown by 6.2 percent between 1990 and 2000 and by 3.7 percent between 2000 and 2010. The population increased by 1,476 residents, about 10 percent, over this 20-year period (U.S. Census Bureau, 1990, 2000 and 2011). **Table 3.13-1** summarizes the population and housing information for the City of Ukiah.

##### *Population Characteristics*

The median age of Ukiah residents was 35.9 years in 2010; very similar to the median age for all California residents (35.2 years). Approximately 78 percent of all City residents (12,546 individuals) were over the age of 16 in 2010, about 15 percent were seniors, and 22 percent were under the age of 16. Statewide, in 2010, about 64 percent of residents were between the ages of 18 and 65, 11 percent were seniors, and 25 percent were under the age of 18 (U.S. Census Bureau, 2011).

##### *Housing*

Approximately 333 housing units were added in Ukiah between 1990 and 2010, a 5.7 percent increase. Housing stock in the county increased by 312 housing units, or about 5.4 percent, between 1990 and 2000 and by 21 housing units, or about 0.3 percent, between 2000 and 2010. Overall, housing in Ukiah increased at a slightly slower rate than population between 1990 and 2010 – by about 5.7 percent, compared to a 10 percent increase in population. The housing vacancy rate for Ukiah is approximately 5% (DOF, 2011)

**TABLE 3.13-1  
 UKIAH POPULATION AND HOUSING TRENDS**

	1990	2000	2010	Change 1990-2000	% Change 1990-2000	Change 2000-2010	% Change 2000-2010
Population	14,599	15,497	16,075	898	6.2%	578	3.7%
Housing Units	5,825	6,137	6,158	312	5.4%	21	0.3%

SOURCE: U.S. Census Bureau, 1990; 2000; 2011

## **Population and Housing Growth Projections**

### ***Mendocino Council of Governments (MCOG)***

#### **Population**

The Mendocino Council of Governments (MCOG) is the official regional planning agency of Mendocino County. The political jurisdictions that comprise the region consist of the Mendocino County unincorporated area and the Cities of Ukiah, Fort Bragg, Willits and Point Arena. The Mendocino County Regional Housing Needs Plan was prepared by MCOG in response to statutory requirements, policy direction from the State of California Department of Housing and Community Development (HCD), and mandated deadlines for delivery of housing need allocation numbers to local jurisdictions within Mendocino County. Although MCOG does not typically deal with housing issues, they have been designated by HCD as the appropriate regional agency to coordinate the housing need allocation process. Pertinent Government codes and legislation include Government Code Section 65584 and recent legislation contained in Chapter 85, Statutes of 2001.

The Mendocino County Regional Housing Needs Plan prepared by MCOG predicts regional and local growth in population, employment, and income for the period 2000 to 2020. It is based on regional and county growth assumptions, the availability of land, travel patterns, and local land use regulations and densities. MCOG projects the City's population will increase by 53 percent, from 15,497 to 23,760 persons, between 2000 and 2020 (City of Ukiah, 2004). The County's total population is projected to increase by 38 percent, while the unincorporated areas of the County population is projected to increase by 33 percent during this time period.

#### **Housing**

Beginning in 2007, the market demand for housing has declined sharply nationwide, and Mendocino County was no exception. In previous years, housing prices in Mendocino County had seen dramatic increases. That trend has taken a turn over the past few years; however, prices still remain relatively high. However, compared to housing prices in neighboring Sonoma County and areas further south, prices are still relatively low. While this will continue to make Mendocino County a more affordable option for people employed in those counties, if fuel costs remain at their current high, the longer commute may no longer be a viable option for many.

The distribution of housing within Mendocino County is to some degree influenced by the type and tenure of housing need and is defined regionally. More agricultural areas, such as Anderson Valley, have a higher incidence of farm worker housing need than do areas along the US 101 corridor. Multi-family units make up approximately 27% of the county's housing units, with the largest concentration of those units in the Ukiah area. The City of Ukiah contains approximately 122 acres of vacant and underutilized land, which could accommodate a maximum of 733 dwelling units.



## 3.13.2 Regulatory Setting

### State Regulations

#### ***Senate Bill 375***

Adopted into law in 2008, Senate Bill (SB) 375 links regional transportation and housing planning with State greenhouse gas (GHG) reduction goals.<sup>1</sup> The law requires the California Air Resources Board to establish for each region of the state GHG reduction targets for the automobile and light truck sector, and requires the regional transportation plan (RTP) for each region to include a “Sustainable Communities Strategy” (SCS) to achieve its GHG reduction target. The SCS must identify the general location of uses, residential densities and building intensities in the region and identify areas within the region that will house all the region’s population, including all economic segments of the population taking into account migration into the region and population growth, over the next eight and 25 years. The SCS must forecast a development pattern for the region which, when integrated with the transportation system, achieves the GHG reduction target.

#### ***California Housing Element Requirements***

California law (Government Code Section 65580, et seq.) requires cities and counties to include as part of their General Plans a housing element to address housing conditions and needs in the community. Housing elements are prepared approximately every five years (eight following implementation of SB 375), following timetables set forth in the law. The housing element must identify and analyze existing and projected housing needs and “make adequate provision for the existing and projected needs of all economic segments of the community,” among other requirements.

### Local Regulations

#### ***City of Ukiah General Plan and Growth Management Program***

The City of Ukiah General Plan and Growth Management Program is the City’s long range guide for the conservation and development of the City. The current General Plan was adopted in 1995 (revised 2004). The City’s current Housing Element of the General Plan is for the planning period 2009 to 2014.

## 3.13.3 Impacts and Mitigation Measures

### Significance Criteria

Based on Appendix G of the CEQA *Guidelines*, the project could have a significant impact on population and housing if it would:

---

<sup>1</sup> SB 375 amended California Government Code Sections 65080, 654000, 65583, 65584.01, 65584.02, 65584.04, 65587, and 65588; added Government Code Sections 14522.1, 14522.2, and 65080.01; amended Public Resources Code (PRC) Section 21063; and added PRC Section 21159.28 and Chapter 4.2 (commencing with Section 21155) to Division 13 of the PRC relating to environmental quality.

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

The project is located on an undeveloped site, where no housing currently exists, and neither housing nor people are proposed to be displaced as part of the project. Therefore, the second criterion is not considered further in this EIR.

## Methodology

The analysis of potential Project impacts related to population and housing compares the potential changes to population and housing that could result from the project. Projections are based on the levels of development projected to occur by the regional planning agency (MCOG) and in the City's adopted plans and policy documents. Although some, if not all, of the employees required for the proposed Project may be drawn from the local labor force, the analysis conservatively assumes that the new employees do not already live in the city limits.

## Impacts and Mitigation Measures

### **Impact 3.13.1: The Project would not induce substantial population growth or concentration of population in the area, either directly or indirectly.**

No new housing is proposed. Therefore the Project would not directly induce new population growth in the Project vicinity. The Costco facility would employ approximately 175 to 200 people. As of January 2012, the unemployment rate in the City of Ukiah is 10.2% (EDD, 2012). The City has a labor force of approximately 7,160 people, of which only 6,430 are employed. This means approximately 730 people are currently unemployed within the City (EDD, 2012). The new jobs created by the proposed Project (both construction and operation) can easily be filled by existing city residents without the need for new employees from outside city limits to move into the area.

Conservatively assuming that new employees would come from outside city limits, the Project would induce population growth as a result of the new workers moving to the area to live closer to their jobs, another conservative assumption; any new population growth resulting from the project would be due to individual employees making individual decisions on where to relocate in the general project vicinity. Assuming all 175 to 200 employees moved to the area, this would represent approximately 1 percent of the 2011 population of the City. Considering the small fraction of current population and projected population growth in the City represented by these potential new residents, the population growth induced as a consequence of project employees moving to the area would not be substantial. In addition, with a vacancy rate of 5% (approximately 300 units), the City could easily absorb this potential increase in population without creating a substantial demand for new housing and related services. Because the Project does not include the extension of roads or other major infrastructure needed to support urban growth, it would not

induce growth indirectly by removing a barrier to growth. Therefore, in summary, the Project would not induce substantial population growth and the impact would be **less than significant**.

**Mitigation:** None required.

---

## Cumulative Impacts

**Impact 3.13.2: The Project, in conjunction with past, present and reasonably foreseeable projects, would not contribute to a cumulatively considerable effect related to population, or housing.**

The cumulative geographic context of the proposed Project for the consideration of population, housing, and employment effects is the City of Ukiah because the cumulative effects are considered in relationship to citywide population, employment, and housing data, forecasts, policies, and regulations. The Project, in conjunction with past, present, and reasonably foreseeable projects, could result in a cumulative impact due to induced population growth. However, as discussed above, the Project itself would not have a significant impact related to inducing population growth. The cumulative projects identified in Chapter 4 are generally smaller in size than the proposed Project, and would not require the construction of housing and would not require the construction of infrastructure that cause indirect growth effects. Neither the Project nor cumulative projects would remove existing housing stock. Thus, a cumulative impact would not result.

**Mitigation:** None required

---

## 3.13.4 References

City of Ukiah, 2004. *City of Ukiah General Plan and Growth Management Program*, adopted December 1995, revised 2004.

DOF, 2011. *State of California, Department of Finance, E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2010 and 2011*. Sacramento, California, May 2011.

EDD, 2012. *State of California Employment Development Department, Labor Market Information Division. Labor Force and Unemployment Rate for Cities and Census Designated Places*, [www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133](http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133), accessed January 27, 2012.

MCOG, 2008. *Mendocino Council of Governments, Final Mendocino County Regional Housing Needs Plan*, August 2008.

U.S. Census Bureau, 2011, American FactFinder, Table DP-1 Profiles of General Population and Housing Characteristics: 2010, 2010 Demographic Profile Data, 2010 Census; Table DP-1

for the City of Ukiah, [factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml](http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml), accessed January 26, 2012.

U.S. Census Bureau, 1990. *1990 Census of Population and Housing*, Table 45, Population and Housing Units, 1970 to 1990; Area Measurements and Density: 1990-, which is included in 1990 Population and Housing Unit Counts: United States (CPH-1), [www.census.gov/population/www/censusdata/hiscendata.html](http://www.census.gov/population/www/censusdata/hiscendata.html)

## 3.14 Cultural Resources

### 3.14.1 Introduction

This section identifies and evaluates the changes in conditions related to cultural resource conditions associated with implementation of the proposed Project. Cultural resources are defined as prehistoric and historic sites, structures, and districts, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious or any other reason. For analysis purposes, cultural resources may be categorized into four groups: archaeological resources, historic resources, contemporary Native American resources, and paleontological resources. The analysis addresses potentially significant cultural resources, and recommends mitigation measures, where necessary, to reduce significant or potentially significant environmental impacts.

### 3.14.2 Environmental Setting

#### Prehistoric Setting

An analytic framework for the interpretation of the San Francisco Bay and North Coast Ranges prehistory is provided by Fredrickson (1974), who divided human history in California into three broad periods: the Paleoindian period, the Archaic period, and the Emergent period. This scheme used sociopolitical complexity, trade networks, population, and the introduction and variations of artifact types to differentiate between cultural units. The significance of prehistoric sites rests partly on their ability to help archaeologists explain the reasons for changes in different places and at different times in prehistory. With minor revisions (Fredrickson 1994), the scheme remains the dominant framework for prehistoric archaeological research in this region.

The Paleoindian period (10,000 to 6000 B.C.) is characterized by small, highly mobile groups occupying broad geographic areas. During the Archaic period, which is subdivided into the Lower Archaic period (6000 to 3000 B.C.), Middle Archaic period (3000 to 500 B.C.), and Upper Archaic period (500 B.C. to A.D. 1000), geographic mobility of population groups continued, although some began to establish longer-term base camps in localities where more diverse resources could be exploited. This more sedentary adaptation resulted in the development of numerous small villages and the beginning emergence of a more complex society and economy. The addition of milling tools, obsidian and chert points, and the occurrence of sites in a wider range of environments suggests that the economic base was more diverse. The current project area is within the Russian River Subregion, as identified by Moratto (1984). Geothermal fields, hot springs, large obsidian flow sites, and large freshwater lakes contributed to a diverse human occupation of this area and the development of complex population groups. Seasonal subsistence strategies utilized by these populations included the hunting of large and small game such as deer, elk, and fish, as well as the collection of vegetal resources such as acorns, berries, fresh greens (Moratto, 1984: 480-481). Characteristic archaeological artifacts associated with this pattern include “large lanceolate, concave-base, and side-notched project points and the co-occurrence of bowl mortars and pestles with milling stones and manos” (Moratto, 1984: 521).

## Ethnographic Background

At the time of first European contact, the northwestern coastal region of Northern California contained several diverse linguistic groups (Moratto, 1984: 477; Jones & Klar 2007: 84). The project area is situated within the territory of the Pomo, whose populations were centered on the Russian River (Kroeber 1925: 222). Specifically, the project area is within the area occupied by the Northern Pomo which is believed to have spanned from the Pacific Ocean in an east-southeasterly direction, eventually reaching towards Clear Lake. During the Emergent period (A.D. 1000 to 1800), the tribelet served as the primary socio-political system, consisting of large central villages where a single chief resided and associated satellite villages loosely connected to the central tribal village (Jones & Klar, 2007: 85). Settlement patterns of the Pomo were seasonal, with more sedentary occupation of villages during winter months, times when the population relied heavily upon stored foodstuffs such as acorns and dried berries. The subsistence strategy of the Pomo was that of the hunter-gatherer and during more temperate seasons of the year, a semi-sedentary strategy was utilized with groups moving to temporary campsites as they foraged their territory in preparation for the following winter season (Jones & Klar, 2007: 85). Kroeber states that the distribution of Pomo communities was uneven, perhaps as a result of the “homogeneity of Pomo culture”; he likewise notes that the “majority of the principal villages of the Pomo...lie on the north or east sides of streams” (1925: 234, 235). The Pomo cultural assemblage includes small corner-notched points, mortars and pestles, tule leggings and sandals, and a diversity of beads of haliotis shell and other ornamental objects such as incised ear tubes made of bird bone or wooden rods, as well as a highly developed basketry tradition (Kroeber 1925: 240).

## Historical Context

The first European contact with the area occurred during the later 16<sup>th</sup> century, with the arrival of British, Spanish, and Russian explorers. This “Exploration Stage” dates to between A.D. 1539 and 1769, as identified by Chartkoff and Chartkoff (1984). The Spanish were the dominant European settlers to establish a presence in California, culminating in the formation of several Missions along the California coastline that solidified Spanish control over large portions of California during the “Hispanic Stage (A.D. 1769-1822)”. Eventually the collapse of the Mission system and the establishment of the independence of Mexico ended the Spanish occupation of the California region (Chartkoff & Chartkoff, 1984: 271). The City of Ukiah and the current project area is located within the Yokayo Grant, one of several Mexican land grants within modern-day Mendocino County. By 1848, Mexican control of the California region was eventually replaced by American governance as a result of the Mexican-American War (1846-1848) and the short-lived “Bear Flag Republic” rebellion (1846).

The City of Ukiah was first settled in 1856 by Samuel Lowry. Initially incorporated into Sonoma County, an independent Mendocino County government was established in 1859 with Ukiah as the chosen county seat (City of Ukiah, 2008; Palmer 1880). Logging, cattle, and agricultural ventures contributed to the early settlement and growth of Ukiah throughout the remainder of the 19<sup>th</sup> century and early 20<sup>th</sup> century. 1889 is the date recorded for the first arrival of the train to Ukiah, quickly resulting in increased settlement of the city and its environs (City of Ukiah, 2008). The “Redwood Empire Route” of the Northwestern Pacific Railroad (NWP) was established in 1907 as a result

of the consolidation of multiple railroad companies held by the Santa Fe and the Southern Pacific railroad companies; the establishment of the NWP played a “major role in the growth of Northern California” (Northwestern Pacific Railroad Historical Society, 2000). Since 1929, the Northwestern Pacific Railroad has been owned entirely by Southern Pacific and has continued to operate into the present time.

## **Paleontological Setting**

A specimen search completed through the University of California Museum of Paleontology (UCMP) online database indicates that 184 specimens have been documented within Mendocino County. A query with both the UCMP and the Berkeley Natural History Museums did not indicate the presence of paleontological formations within the area of the current project area. Geology within the project area consists of recent quaternary alluvium (Jennings and Strand, 1960) and soils for the project area predominantly contain Feliz Clay Loam with a gravelly substratum and Russian Loam, both with 0 to 2 percent slopes, Xerofluvents, and Talmage deposits (Beaudette and O’Green, 2005). Quaternary alluvium is generally too young to contain paleontological resources.

### **3.14.3 Regulatory Setting**

#### **Federal**

##### ***Section 106 of the NHPA***

Archaeological resources are protected through the National Historic Preservation Act (NHPA) of 1966, as amended (16 USC 470f), and its implementing regulation, Protection of Historic Properties (36 CFR Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979. Prior to implementing an “undertaking” (e.g., issuing a federal permit), Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places. As indicated in Section 101(d)(6)(A) of the NHPA, properties of traditional religious and cultural importance to a tribe are eligible for inclusion in the National Register. Under the NHPA, a find is considered significant if it meets the National Register listing criteria at 36 CFR 60.4. The National Register criteria are explained in further detail below.

##### ***National Register of Historic Places***

First authorized by the Historic Sites Act of 1935, the National Register of Historic Places (National Register) was established by the NHPA of 1966, as “an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (Code of Federal Regulations [CFR] 36 Section 60.2). The National Register recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria:

- A. Are associated with events that have made a significant contribution to the broad patterns of our history;
- B. Are associated with the lives of persons significant in our past;
- C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Have yielded, or may be likely to yield, information important in prehistory or history.

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for National Register listing (U.S. Department of the Interior 1995).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (U.S. Department of the Interior 1995). The National Register recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

## **State**

California Public Resources Code 5097.9.-5097.998 provides protection to Native American historical and cultural resources and sacred sites, prohibits interfering with Native American religion, and identifies the powers and duties of the Native American Heritage Commission (NAHC). It makes the destruction, looting, or vandalizing of archaeological sites on public land a misdemeanor. It also requires notification of discoveries of Native American human remains to the NAHC and provides for treatment and disposition of human remains and associated grave goods.

The state implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the state’s jurisdictions.

### ***California Register of Historical Resources***

The California Register of Historical Resources (California Register) is “an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected,



to the extent prudent and feasible, from substantial adverse change” (California Public Resources Code § 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (California Public Resources Code § 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register of Historic Places.

To be eligible for the California Register, a prehistoric or historical-period property must be significant at the local, state, and/or federal level under one or more of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register of Historic Places and those formally Determined Eligible for the National Register of Historic Places.
- California Registered Historical Landmarks from No. 770 onward.
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, and/or a local jurisdiction register).
- Individual historical resources.
- Historical resources contributing to historic districts.
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

### **California Environmental Quality Act**

CEQA is the principal statute governing environmental review of projects in the state. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources. CEQA is codified at Public Resources Code sec 21000 et seq. As defined in Section 21083.2 of CEQA, a “unique” archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition, the *State CEQA Guidelines* recognize that certain historical resources may also have significance. The *CEQA Guidelines* recognize that a historical resource includes: (1) a resource in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *State CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *State CEQA Guidelines*, then the site is to be treated in accordance with the provisions of CEQA Section 21083, which is a unique archaeological resource. The *State CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*State CEQA Guidelines* Section 15064.5(c)(4)).

## **Local**

### **Mendocino County General Plan**

The Development Element of the Mendocino County General Plan (Mendocino County, 2009) contains goals and policies that address the preservation of cultural resources.

**Goal DE-6 (Cultural Resources)** Protection and preservation of the county's significant historical, archaeological and cultural resources.

*Policy DE-113:* The County and other public agencies are encouraged to protect, maintain and restore historical, archaeological and cultural resources under their ownership or management.

*Policy DE-114:* Fully evaluate and protect historical, archaeological and cultural resources through the development process, including resources of national, state or local significance.

Note that the Mendocino General Plan has no jurisdiction over the Project site and is presented for informational purposes only.

### ***City of Ukiah General Plan***

The Infrastructure Element of the City of Ukiah General Plan (City of Ukiah, 2004) contains guiding and implementing policies that address the preservation of cultural resources.

**Goal HA-3:** Maintain, protect, and enhance the area's heritage, including and not limited to its cultural, historical, spiritual, social, economic, architectural, agricultural, archaeological, and scenic heritage.

**Goal HA-4:** Conserve the character and architecture of neighborhoods.

*Policy HA-4.1:* Consider the visual character of surrounding developments when reviewing discretionary project approvals.

## **3.14.3 Methodology and Results**

### **Methodology**

#### ***Archival Record Search***

A cultural resources records search was performed by the Northwest Information Center (NWIC) located at the Sonoma State University, Santa Rosa, on January 25, 2012 (NWIC File No. 11-0783). Sources referenced by this record search include site records, previous cultural resource assessment reports, historical maps, as well as the National Register of Historic Places, the California Register of Historical Resources, and the Office of Historic Preservation (OHP) Archaeological Determinations of Eligibility and Directory of Properties in the Historic Property Data file. Among maps consulted for this study were the U.S. General Land Office (GLO) land survey maps and the U.S. Geological Survey (USGS) topographic maps.

#### ***Field Survey***

ESA archaeologist Heidi Koenig conducted an intensive survey of the Project area on March 20, 2012 to identify potential cultural resources. This involved pedestrian inspection within the project area.

#### ***Native American Consultation***

ESA staff contacted the Native American Heritage Commission (NAHC) on January 25, 2012 to request a database search for sacred lands or other cultural properties of significance within or adjacent to the project Area of Potential Effect. The NAHC responded on January 31, 2012 that a search of the sacred lands file indicate the presence of Native American cultural resources within

the larger vicinity of the Project area and requested that ESA contact the Pinoleville Pomo Nation to determine whether the proposed Project will impact the site.

## **Results**

### ***Archival Record Search***

Archival review at the NWIC indicated that 90% of the project area had been previously surveyed in 1991 cultural surveys have been previously conducted within the Project area, and that approximately 50% of the area within a ¼ mile of the Project area has been surveyed. No cultural resources have been previously recorded within the Project area itself. A segment of the North Western Pacific Railroad was recorded ¼ mile west of the Project area.

### ***Field Survey***

Ms. Koenig did not identify any surface evidence of archaeological or cultural resources during the field survey. The minimal ground cover of the project area provided 75% visibility, and fill consisted of light brown and reddish soils. The area has undergone heavy disturbance from previous grading activities.

### ***Native American Consultation***

The NAHC consultation identified thirteen contacts who have expressed an interest in this area. ESA staff sent a letter to each individual or organization on January 31, 2012. One letter was received, from the Redwood Valley Little River Band of Pomo Indians, dated February 27, 2012. The letter requested that the Band be informed during the Project review and approval process. ESA staff followed up with a personal communication to the Band (confirming that the Band be kept informed, but without identifying a particular resource or impact).

## **3.14.4 Impacts and Mitigation Measures**

### **Significance Criteria**

For the purposes of this EIR and consistent with Appendix G of the *CEQA Guidelines*, the proposed project is considered to have a significant impact if it would result in any of the following:

- A substantial adverse change in the significance of a historical resource that is either listed or eligible for listing in the National Register, the California Register, or a local register of historic resources;
- A substantial adverse change in the significance of a unique archaeological resource;
- Disturbance or destruction of a unique paleontological resource or site or unique geologic feature; or
- Disturbance of any human remains, including those interred outside of formal cemeteries.

CEQA provides that a project may cause a significant environmental effect where the project could result in a substantial adverse change in the significance of a historical resource (Public

Resources Code, Section 21084.1). *CEQA Guidelines* Section 15064.5 defines a “substantial adverse change” in the significance of a historical resource to mean physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be “materially impaired” (*CEQA Guidelines*, Section 15064.5[b][1]).

*CEQA Guidelines*, Section 15064.5(b)(2), defines “materially impaired” for purposes of the definition of “substantial adverse change” as follows:

The significance of a historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

In accordance with *CEQA Guidelines* Section 15064.5(b)(3), a project that follows the Secretary of the Interior’s *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* is considered to have mitigated impacts to historic resources to a less-than-significant level.

Historic resources are usually 50 years old or older and must meet at least one of the criteria for listing in the California Register (such as association with historical events, important people, or architectural significance), in addition to maintaining a sufficient level of physical integrity (*CEQA Guidelines* Section 15064.5[a][3]).

## Impact Analysis

### **Impact 3.14.1: Implementation of the proposed project could result in a substantial adverse change to historic resources as defined by CEQA Section 15064.5.**

Archival review completed at the Northwest Information Center (NWIC) of the California Historic Resources Information System determined that indicated that 90% of the Project area had been previously surveyed in 1991, cultural surveys have been previously conducted within the Project area, and that approximately 50% of the area within a ¼ mile of the Project area has been surveyed. No cultural resources have been previously recorded within the Project area itself,

and the Project site is undeveloped with no buildings or structures on the site. Therefore, the proposed Project would have **no impact** on historical resources under CEQA.

**Mitigation:** None required.

---

**Impact 3.14.2: Ground-disturbing activities associated with implementation of the proposed project could result in the substantial adverse change of previously unknown archaeological or paleontological resources as defined by CEQA Section 15064.5.**

Archival review completed at the Northwest Information Center (NWIC) of the California Historic Resources Information System determined that indicated that 90% of the project area had been previously surveyed in 1991, cultural surveys have been previously conducted within the Project area, and that approximately 50% of the area within a ¼ mile of the Project area has been surveyed. No cultural resources have been previously recorded within the Project area itself.

ESA archaeologist Heidi Koenig performed a cultural resources survey of the Project area on March 20, 2012. Ms Koenig did not observe any cultural material more than 50 years old. While no evidence exists to indicate the presence of archaeological resources within the Project area, the Project area is located in an area that may have been attractive to prehistoric inhabitants. The accidental discovery of archaeological materials during ground-disturbing activities cannot be entirely discounted. The possibility of accidental discovery is therefore **potentially significant**.

**Mitigation Measure:**

**Measure 3.14.2:** If cultural resources are encountered, all activity in the vicinity of the find shall cease until it can be evaluated by a qualified archaeologist and a Native American representative. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. If the archaeologist and Native American representative determine that the resources may be significant, they will notify the City of Ukiah. An appropriate treatment plan for the resources should be developed. The archaeologist shall consult with Native American representatives in determining appropriate treatment for prehistoric or Native American cultural resources.

In considering any suggested mitigation proposed by the archaeologist and Native American representative, the City will determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) will be instituted. Work may proceed in other parts of the project area while mitigation for cultural resources is being carried out.

**Significance After Mitigation:** In the unlikely event that archaeological materials are unearthed, with implementation **Mitigation Measure 3.14.2**, Project impacts to archaeological resources would be less-than-significant.

---

**Impact 3.14.3: Ground-disturbing construction associated with implementation of the proposed project could result in damage to previously unidentified human remains.**

There is no indication that the Project area has been used for human burial purposes in the recent or distant past. However, in the unlikely event that human remains are discovered, including those interred outside of formal cemeteries, the human remains could be inadvertently damaged, which would be a **potentially significant** impact.

**Mitigation Measure:**

**Measure 3.14.3:** If human remains are encountered unexpectedly during construction excavation and grading activities, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The NAHC will then identify the person(s) thought to be the Most Likely Descendent, who will help determine what course of action should be taken in dealing with the remains.

**Significance after Mitigation:** The potential impact would be minimized by implementation of **Mitigation Measure 3.14.3**, resulting in a **less-than-significant** impact.

---

## Cumulative Impacts

**Impact 3.14.4: The Project would not make a cumulatively considerable contribution to cumulative effects to cultural resources.**

The geographic scope for cumulative impacts to cultural and paleontological resources includes a one-mile radius from the Project site. Analysis of cumulative impacts takes into consideration the entirety of impacts that the projects discussed in Chapter 4 would have on cultural resources. This geographic scope of analysis is appropriate because the archaeological, historical, and paleontological resources within this radius are expected to be similar to those in the Project site because of their proximity; similar environments, landforms, and hydrology would result in similar land-use—and thus, site types. Similar geology within this vicinity would likely yield fossils of similar sensitivity and quantity.

The region contains an important archaeological and historical record that, in many cases, has not been well documented or recorded. Thus, there is the potential for ongoing and future development projects in the vicinity to disturb landscapes that may contain known or unknown cultural resources.

The potential construction impacts of the proposed project, in combination with other projects in the area, could contribute to a cumulatively significant impact on cultural resources. However, this analysis includes mitigation to reduce potential project impacts to cultural resources during construction of the proposed project. Future projects with potentially significant impacts to cultural resources would be required to comply with federal, state, and local regulations and ordinances protecting cultural resources through implementation of similar mitigation measures during construction. Therefore, with implementation of Mitigation Measure 3.14.2 the proposed project would not have a cumulatively considerable contribution to impacts to archaeological and historical resources.

Excavation activities associated with the proposed project in conjunction with other projects in the area could contribute to the progressive loss of fossil remains, as-yet unrecorded fossil sites, associated geological and geographic data, and fossil bearing strata. However, the proposed project would have a less than significant impact to paleontological resources. Other projects in the area would be required to comply with existing regulations and undergo CEQA review to assure that any impacts are appropriately evaluated and, if necessary, mitigated. Therefore, cumulative impacts to paleontological resources would be less than significant.

**Mitigation:** None required.

---

### 3.14.5 References

- Chartkoff, J.L., and K.K. Chartkoff, 1984. *The Archaeology of California*. Stanford University Press: Stanford, California.
- City of Ukiah, 2004. *City of Ukiah General Plan, General Management Program*, [www.cityofukiah.com/pdf/planning/General-Plan-Table-of-Contents.pdf](http://www.cityofukiah.com/pdf/planning/General-Plan-Table-of-Contents.pdf), accessed on November 24, 2008, adopted by the city council in December 1995, revised 2004.
- , 2008. *Ukiah History*, [www.cityofukiah.com/pageserver/?page=history](http://www.cityofukiah.com/pageserver/?page=history), accessed on November 24, 2008.
- Fredrickson, D.A., 1974. Cultural Diversity in Early Central California: A View from the North Coast Ranges. *Journal of California Anthropology* 1(1):41-53.
- Fredrickson, D.A., 1994. Central California Archaeology: The Concepts of Pattern and Aspect. In *Toward a New Taxonomic Framework for Central California Archaeology: Essays by James A Bennyhoff and David A. Fredrickson*, edited by R.E. Hughes, pp. 75-79. Contributions to the University of California Archaeological Research Facility 52. Berkeley.
- Jones, T. L. and K.A. Klar, 2007. *California Prehistory: Colonization, Culture, and Complexity*. Lanham, Maryland: AltaMira Press.
- Kroeber, A. L., 1925. *Handbook of Indians of California*. Dover Publications, Inc., New York.
- Moratto, M.J., 1984. *California Archaeology*, Smithsonian Press, San Diego, CA, 1984.



Northwestern Pacific Railroad Historical Society, 2000. *NWP Railroad History*, [www.nwprrhs.org](http://www.nwprrhs.org), accessed on November 24, 2008.

Palmer, L.L., 1880. *History of Mendocino County, California*. San Francisco, California: Alley, Bowen & Co., [www.calarchives4u.com/history/mendocino](http://www.calarchives4u.com/history/mendocino), accessed on November 24, 2008.



# CHAPTER 4

---

## Other CEQA Considerations

Consistent with CEQA Guidelines Section 15126.2, this section summarizes the findings with respect to the project's growth-inducing effects, significant irreversible environmental changes, cumulative impacts (when considered with other projects), significant unavoidable environmental, and effects found to be less than significant.

### 4.1 Growth Inducement

The CEQA Guidelines require that an EIR evaluate the growth-inducing impacts of a proposed action (Section 15126.2[d]). A growth-inducing impact is defined by the CEQA *Guidelines* as:

*[T]he ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth.... It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

A project can have direct and/or indirect growth-inducement potential. Direct growth inducement would result if a project involved construction of new housing. A project can have indirect growth-inducement potential if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, under CEQA, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. Increases in population could tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

The Project is the creation of a new commercial retail development. Commercial development may induce growth indirectly if it would attract significant numbers of new employees to the area, creating a demand for additional housing. The Project is not likely to induce substantial indirect population growth within the Ukiah area (see Section 3.13, "Population and Housing" for more detail). As of January 2012, both the City of Ukiah and Mendocino County had an unemployment rate of 10.2 percent<sup>1</sup>. Therefore, additional jobs created during construction and operation of the Project would be filled primarily by area residents and would provide a benefit to

---

<sup>1</sup> California Employment Development Department, Monthly Labor Force Data for Cities and Census Designated Places, January 27, 2012.

the local economy. The Project does not include infrastructure that would remove obstacles to population growth. The Project site is one of the last remaining large commercially zoned lots within the City limits, and is served by existing infrastructure.

## 4.2 Cumulative Analysis

CEQA defines cumulative impacts as two or more individual impacts which, when considered together, are substantial or which compound or increase other environmental impacts. The cumulative analysis is intended to describe the “incremental impact of the project when added to other, closely related past, present, or reasonably foreseeable future projects” that can result from “individually minor but collectively significant projects taking place over a period of time” (CEQA Guidelines Section 15355). The analysis of cumulative impacts is a two phase process that first involves the determination of whether the project, together with existing and reasonably foreseeable projects, would result in a significant impact. If there would be a significant cumulative impact of all such projects, the EIR must determine whether the project’s incremental contribution to the effect is cumulatively considerable, in which case, the project itself is deemed to have a significant cumulative effect (CEQA Guidelines Section 15130).

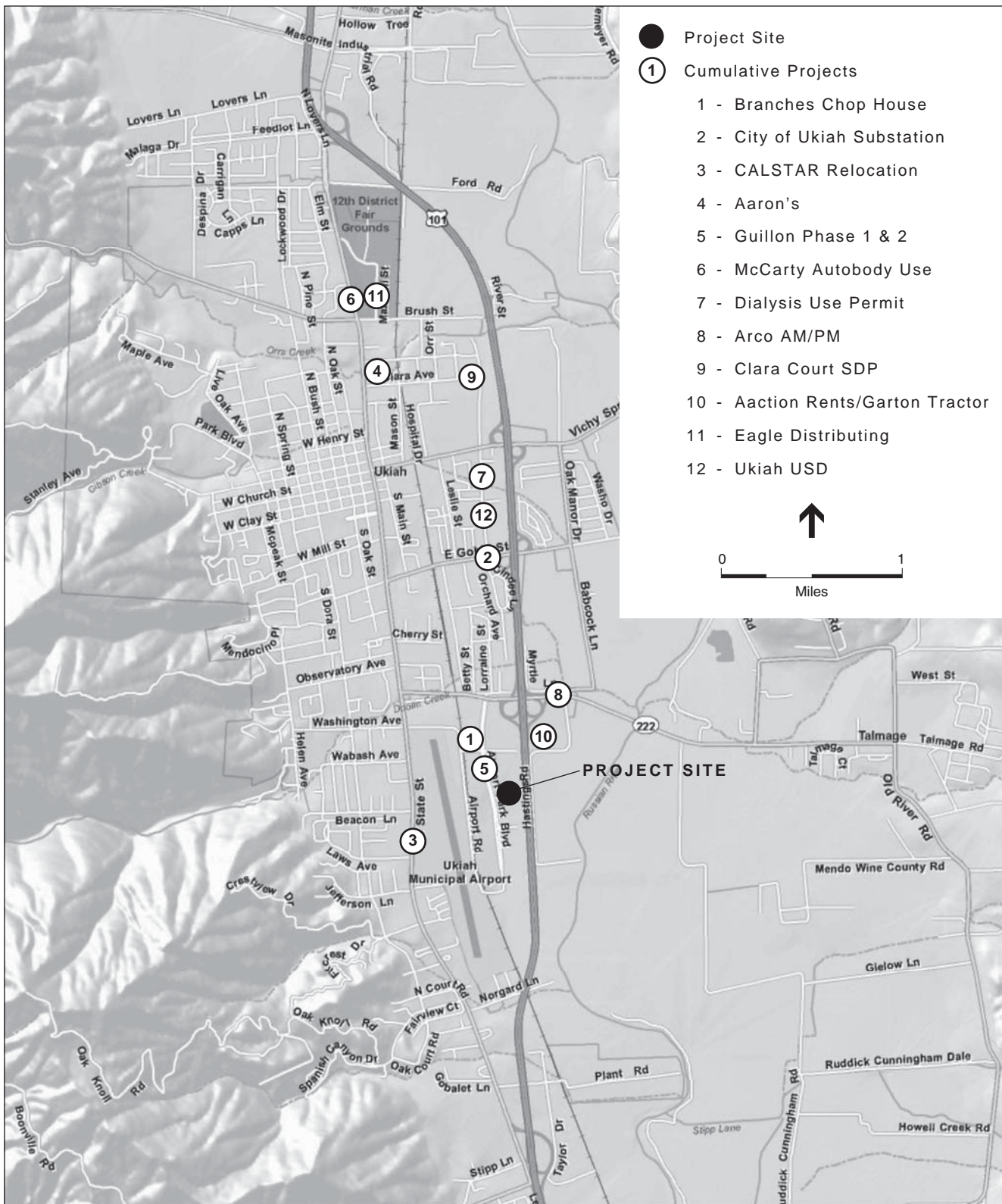
The cumulative impact analyses are based on existing conditions and a growth scenario that incorporates approved, pending and proposed projects within the vicinity of the project. The analysis of each environmental topic included in Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, of this EIR evaluates possible cumulative impacts considering these other projects.

### 4.2.1 Geographic Scope

The potential for project-generated impacts to contribute to a significant cumulative impact would arise if they are located within the same geographic area. This geographic area may vary depending on the resource area discussed. For example, the geographic area associated with construction noise impacts would be limited to areas directly affected by construction noise, whereas the geographic area that could be affected by construction related air emissions may include the larger air basin. The geographic scope of the cumulative impact analysis is described in each chapter for the particular resource at issue.

### 4.2.2 List Approach

CEQA Guidelines section 15130 provides that an EIR may use a “list approach” in evaluating the foreseeable projects that will contribute to cumulative impacts. The list should include past, present, and reasonably probable future projects producing related cumulative impacts. The full list of approved/proposed projects is included, below, in **Table 4-1**, and shown on **Figure 4-1**.



SOURCE: ESRI, 2010; and ESA, 2012

Ukiah Costco Project . 211169

**Figure 4-1**  
Cumulative Projects

**TABLE 4-1  
CUMULATIVE PROJECTS**

No.	Name	Type	Size
1	Branches Chop House	Restaurant with Ancillary Bakery and Meat Counter	12,295 sf
2	City of Ukiah Substation	Public Utility-New Electric Substation	-----
3	CALSTAR Relocation	Trauma Air Transport	5,444 sf
4	Aaron's Furniture	Retail, Commercial	
5	Guillon Use Permit	Retail, Commercial	16,000 sf
6	McCarty Autobody Use	Autobody Repair/Paint	12,000 sf
7	Dialysis Use Permit	Dialysis Clinic	7,348 sf
8	Arco AM/PM	Gas station Convenience Mart	2,400 sf mini-market 600 sf commercial vacant 6 fueling stations
9	Clara Court SDP	Affordable Housing	32 units affordable housing
10	Action Rents Use Permit	Equipment rental	7,000 sf
11	Eagle Distributing Addition	Distribution/Warehousing	5,000 sf
12	Guillon Phase 2	Retail Space for US Cellular	4,500 sf
13	Ukiah Unified School District	Office and meeting space	13,800 sf

1. Notice of Preparation date is November 7, 2011.

2. Since release of the Notice of Preparation the proposed Walmart expansion project has been denied and is no longer included as a cumulative project.

### 4.2.3 Cumulative Impacts

Cumulative impacts are discussed in Chapter 3. Significant and unavoidable cumulative impacts are summarized below in Section 4.3.

## 4.3 Significant Unavoidable Impacts

In accordance with CEQA Section 21083, and with CEQA Guidelines Sections 15064 and 15065, an EIR must also identify impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the implementation of the proposed Project, or by other mitigation measures that could be implemented, as described in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures.

Implementation of the proposed Project would result in the following significant and unavoidable impacts that cannot be mitigated to a less-than-significant level:

- Impact 3.2.2: Operation of the Project would generate significant emissions of criteria air pollutants that could contribute to existing nonattainment conditions and degrade air quality.
- Cumulative Impact 3.2.5: Construction and operation of the Project would result in cumulatively considerable increases of criteria pollutant emissions.
- Impact 3.10.1: Implementation of the Project would increase traffic volumes on area roadways compared to existing conditions. This impact is potentially significant.

- Impact 3.10.3: Implementation of the Project would increase traffic volumes on area roadways under Near-Term conditions. This impact is potentially significant.
- Impact 3.10.4: Implementation of the Project would increase traffic volumes on area roadways under Future (2030) conditions. This is a potentially significant impact.
- Impact 3.10.5: Under Future plus Project conditions, traffic associated with the Project would contribute to inadequate queuing storage at Talmage Road/Airport Park Blvd. and Talmage Road/US 101 Southbound Off-Ramp. This impact is potentially significant.
- Impact 3.11.1: The project could generate GHG emissions that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation adopted to reduce GHG emissions.

## 4.4 Significant Irreversible Environmental Effects

CEQA Guidelines Section 15126.2(c) specifies that the EIR shall discuss the significant irreversible environmental changes associated with a project. The project would create substantial traffic volumes, with associated air quality and GHG impacts. While the increase in traffic may not necessarily be irreversible (for example, the closing of the proposed retail warehouse would alter traffic patterns), the consumption of fossil fuels by those vehicles represents a significant commitment of nonrenewable resources.

## 4.5 Effects Found Not To Be Significant

As required by CEQA, this EIR focuses on expected significant or potentially significant environmental effects (CEQA Guidelines Section 15143). In accordance with Section 15128 of the CEQA Guidelines an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. The environmental effects of the proposed Project are identified and discussed in detail in Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, and summarized in the Executive Summary. The following effects were determined not to be significant and are not discussed in detail in the EIR:

- **Agricultural Resources.** There is no important farmland (as defined by CEQA) on the Project site. Therefore, the Project will not result in the conversion of prime farmland to non-agricultural uses. The Project will not conflict with existing zoning for agricultural uses on-site or off-site, nor will it result in the conversion of farmland to non-agricultural uses.
- **Mineral Resources.** The Project site is not in an area containing any known mineral resources. It is not anticipated that there will be an impact to mineral resources.





# CHAPTER 5

---

## Alternatives

The purpose of this chapter is to describe and evaluate the alternatives to the proposed Project. Project alternatives are developed to reduce or eliminate the significant or potentially significant adverse environmental effects that would result from development of the proposed project, as identified in Chapter 3.

### 5.1 Overview

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) describe and evaluate a reasonable range of alternatives to the proposed project, or to the location of the proposed project, and evaluate the comparative merits of the alternatives. The “range of alternatives” is governed by the “rule of reason” which requires the EIR to set forth only those alternatives necessary to permit informed public participation and an informed and reasoned choice by the decision-making body (CEQA *Guidelines* Section 15126.6[f]).

A reasonable range of alternatives for comparison must include those alternatives that would feasibly attain most of the basic objectives of the project and would avoid or substantially lessen any of the significant effects of the project (CEQA *Guidelines* Section 15126.6). CEQA generally defines “feasible” to mean an alternative that is capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, technological, and legal factors. In addition, the following may be taken into consideration when assessing the feasibility of alternatives: site suitability; economic viability; availability of infrastructure; general plan consistency; other plans or regulatory limitations; jurisdictional boundaries; and, the ability of the proponent to attain site control (Section 15126.6(f)(1)).

The requirement that an EIR evaluate alternatives to the proposed project, or alternatives that address the location of the proposed project, is a broad one; the primary intent of the alternatives analysis is to disclose other ways that the objectives of the project could be attained while reducing the magnitude of, or avoiding, the environmental impacts of the proposed project. The description or evaluation of alternatives does not need to be exhaustive and an EIR need not consider alternatives for which the effects cannot be reasonably determined and for which implementation is remote and speculative. An EIR need not describe or evaluate the environmental effects of alternatives in the same level of detail as the proposed project, but must include enough information to allow meaningful evaluation, analysis, and comparison with the proposed project.

CEQA requires that an environmentally superior alternative be selected among the alternatives. In general, the environmentally superior alternative is defined as that alternative with the least adverse impacts to the project area and its surrounding environment. When the “No-Project” alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA *Guidelines* Section 15126.6(e)(2)).

## 5.2 Factors in the Selection of Alternatives

The CEQA *Guidelines* recommend that an EIR should briefly describe the rationale for selecting the alternatives to be discussed, identify any alternatives that were considered by the lead agency but were rejected as infeasible, and briefly explain the reasons underlying the lead agency’s determination [CEQA *Guidelines*, Section 15126.6(c)]. The following factors were considered in identifying the reasonable range of alternatives to the Project for this EIR:

- The extent to which the alternative would accomplish most of the basic goals and objectives of the project;
- The extent to which the alternative would avoid or lessen the identified significant and unavoidable environmental effects of the project;
- The potential feasibility of the alternative, taking into account site suitability, economic viability, and availability of infrastructure;
- Consistency with the City of Ukiah General Plan and other policy or regulatory considerations;
- The requirement of the CEQA Guidelines to consider a “No-Project” alternative and to identify an “environmentally superior” alternative in addition to the no-project alternative [CEQA *Guidelines*, Section 15126.6(e)].

## 5.3 Alternatives Eliminated From Further Consideration

CEQA *Guidelines* Section 15126.6(c) requires an EIR to identify and briefly discuss any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process. In identifying alternatives, primary consideration was given to alternatives that would reduce significant impacts while still meeting most of the project objectives. Alternatives that would have the same or greater impacts as the proposed project, or that would not meet most of the project objectives, were rejected from further consideration.

### 5.3.1 Alternative Location (N. Orchard Ave.)

This alternative would move the proposed Costco Wholesale warehouse to an undeveloped site on N. Orchard Ave. in the City of Ukiah. This alternative location is located on an approximately 8 acre vacant parcel north of an existing Kohl’s store on N. Orchard Ave. This alternative site is bounded by existing residential land uses located immediately to the west (across N. Orchard Ave.); existing retail uses (Kohl’s, Home Depot, etc.) located immediately south; Highway 101 directly to the east; and an undeveloped parcel to the north. A creek runs through the center of

this site and the land located north of the creek is outside city limits within Mendocino County. On and off ramps at E. Perkins Street provide access to this location from Highway 101.

Unlike the proposed project site, this alternative location is not within the Airport Industrial Park (AIP) Planned Development and is not within a designated Ukiah Municipal Airport Land Use Compatibility zone. Therefore, unlike the proposed project, this location would not be subject to development conditions placed on projects in close proximity to the airport. However, as the currently proposed project site is approximately 15.33 acres, this alternative location is likely not large enough to accommodate the project as proposed. Also, given the close proximity of the residential area to the west, this alternative location would likely have greater construction and operations related noise impacts than the proposed Project. In addition, roadway volumes at E. Perkins Street are equal or greater than those at Talmage Road (according to Caltrans data) and the Ukiah Valley Area Plan indicates that substantial improvements are required at that interchange. Therefore, traffic impacts would likely be equal to or more severe than those of the proposed Project. Also, there would likely be development restrictions on this site because of the creek running through the middle. Furthermore, the northern portion of this location is within Mendocino County and would need to be annexed into the City before the project could move forward. This alternative location would not avoid or substantially lessen any significant impacts resulting from the proposed project and would potentially cause additional impacts. For the reasons listed above, this alternative location is considered infeasible and is rejected from further consideration.

## 5.4 Alternatives Selected for Further Consideration

Throughout this section, a description of each alternative is followed by a discussion of its impacts and how it differs from those of the Project. As permitted by CEQA, the significant effects of the alternatives are discussed in less detail than are the effects of the Project (CEQA *Guidelines*, Section 15126.6[d]). However, the analysis is conducted at a sufficient level of detail to provide Project decision-makers adequate information to fully evaluate the alternatives and to approve any of the alternatives without further environmental review.

The City of Ukiah identified the following reasonable range of Project alternatives to be addressed in this EIR:

1. No Project Alternative (Existing Conditions, No Change)
2. Reduced Project Size Alternative (No Gas Station)
3. Off-site Alternative (West Side Airport Park Blvd.)

### 5.4.1 No Project Alternative

Consideration of a No Project Alternative is required under CEQA. Section 15126.6(e) of the CEQA *Guidelines* states: “The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.”

Under the No Project Alternative, the proposed Project would not be undertaken, and no development would occur on the site. Should the proposed Project be rejected, the No Project Alternative assumes no change in the existing environment, and would result in a continuation of existing conditions on the site. The No Project alternative would eliminate or substantially reduce all project-related impacts.

## **Impacts**

The No Project Alternative would eliminate or substantially reduce most impacts associated with the Project. However, the No Project Alternative would not meet Project objectives regarding the creation of retail commercial goods and services in Ukiah or the creation of new jobs.

### ***Aesthetics***

No construction or changes to the site would occur with the No Project Alternative. Views of and across the site from public viewpoints would be the same as exist today. No construction would occur; therefore, the project site would remain unchanged and no new landscaping or infrastructure would alter the existing views. Under the No Project Alternative the existing vegetation on the site would remain. Therefore, this alternative would have less impact on aesthetics compared to the Project.

### ***Air Quality***

No construction or changes in use at the site would occur with the No Project Alternative; therefore, this alternative would avoid both construction and operational air emissions. Therefore, this alternative would have substantially less impact on air quality compared to the Project.

### ***Biological Resources***

No construction activities would occur with the No Project Alternative. The impact to nesting/breeding habitats and special status species that would occur due to Project construction activities would not occur with this alternative. Therefore, this alternative would have less impact on biological resources compared to the Project.

### ***Climate Change***

No construction or changes to the site would occur with the No Project Alternative. No additional sources of GHG would be generated. Therefore, this alternative would have less impact on climate change compared to the Project.

### ***Economics/Urban Decay***

No construction or changes to the site would occur with the No Project Alternative. Potential urban decay attributable to the creation of a Costco Wholesale Warehouse would not occur. Therefore, this alternative would have less impact on economics/urban decay compared to the Project.

### ***Geology and Soils***

No building development or changes to the site or its uses would occur with the No Project Alternative. The Project's impact regarding earthquake hazards would be eliminated due to no people accessing the site. Therefore, this alternative would have less impact on geology and soils compared to the Project.

### ***Hazards and Hazardous Materials***

No construction or changes to the site would occur with the No Project Alternative. Project impacts regarding hazardous materials encountered during project construction and operation would not occur. Changes in land use within airport CLUP would not occur. Therefore this alternative would have less hazards and hazardous material impacts compared to the Project.

### ***Hydrology and Water Quality***

The No Project Alternative would not require construction activities that would be associated with the proposed Project; therefore, water quality issues related to runoff during construction would not occur. The amount of pervious surface would remain greater than the proposed Project. Existing drainage conditions on the Project site would continue with this alternative. Therefore, this alternative would have less impact on hydrology and water quality compared to the Project.

### ***Land Use and Planning***

The No Project Alternative assumes no change would occur on the site. The alternative would have no impacts related to land use, plans, and policies. Therefore, this alternative would have less impact on land use and planning compared to the Project.

### ***Noise***

No construction or changes to the site would occur with the No Project Alternative. Therefore, the noise environment would exist as it does today, and impacts related to construction and operation noise would be avoided. Therefore, this alternative would have less impact on noise compared to the Project.

### ***Public Services and Utilities***

No construction or changes to the site would occur. Impacts to fire and police protection, water, wastewater, recreation, and schools would be avoided. Therefore, this alternative would have less impact on public services and utilities compared to the Project.

### ***Transportation and Traffic***

No construction or changes to the site would occur with the No Project Alternative. All of the study intersections currently operate at acceptable levels of service (LOS) during both peak hours (LOS D or better). Freeway segments north and south of Talmage Road would also operate at acceptable LOS during both peak hours. However, the U.S. 101 Southbound Off-Ramp at Talmage Road currently has a maximum queue that extends beyond the available storage. Future

traffic conditions will also worsen in the No Project scenario at the intersections of U.S. 101/Talmage and Talmage/Airport Park Blvd. Therefore, this alternative would have less impact on transportation and traffic compared to the Project.

## **5.4.2 Reduced Project Size Alternative (No Gas Station)**

The Reduced Project Size Alternative would remove the proposed 16 pump fueling station (expandable to 20 pumps) from the proposed Project. This alternative would reduce expected vehicle trips to and from the project site thereby reducing several potentially significant impacts related to traffic, air quality, and greenhouse gas emissions. Under this alternative, all of the new square footage would be dedicated to general merchandise and food sales.

### **Impacts**

#### ***Aesthetics***

The aesthetic impacts under the Reduced Project Size Alternative would be similar in nature to, but somewhat diminished in degree from, those of the proposed Project. This alternative would have less standing building mass, making the views into and across the sight less obtrusive than the proposed Project. Project light/glare impacts would still occur under this Alternative, although they would be mitigated through lighting design. Therefore, this alternative would have similar (slightly reduced) impacts to aesthetics compared to the Project.

#### ***Air Quality***

Construction activities under this alternative would be similar to the proposed Project.

Removal of the pumps would reduce emissions from mobile and area sources. The number of vehicles would be reduced, and the need for fueling trucks would be eliminated. The overall reduction in criteria pollutant emissions would be 25 - 30% compared to the Project.

This alternative would reduce air quality impacts, compared to the Project, but those impacts would not be reduced to less than significant.

#### ***Biological Resources***

Although the overall size of the project would be reduced, the potential construction impacts to special status birds (raptors) would be approximately the same.

#### ***Climate Change***

The Reduced Project Alternative would reduce the amount of greenhouse gases emitted as compared to the proposed Project since a smaller footprint means less electricity. Also, less vehicle trips would be generated by the alternative compared to the Project. Mobile GHG emissions would be reduced by approximately 25 - 30% compared to the Project.

This alternative would reduce GHG impacts, compared to the Project, but those impacts would not be reduced to less than significant.

### ***Economics/Urban Decay***

The Reduced Project Alternative would result in fewer sales relative to the proposed Project due to the elimination of gas sales. Therefore, this alternative would result in similar, but slightly reduced, impacts compared to the proposed Project (less than significant).

### ***Geology and Soils***

This alternative would have similar impacts to the proposed Project as earthwork activities (i.e., grading, excavation, and fill) would be similar in nature (although the overall square footage of structures would be slightly reduced).

### ***Hazards and Hazardous Materials***

The Reduced Project Size Alternative would result in similar construction activities as the proposed Project. As this alternative would not include a fueling station, this alternative would result in fewer operational hazards through the routine transport, use, or disposal of hazardous materials. Therefore, hazards and hazardous materials impacts would be similar, or slightly reduced, compared to the proposed Project.

### ***Hydrology and Water Quality***

This alternative would result in a slight reduction in impervious surface area on the site. Development of the Reduced Project Size Alternative would incorporate existing regulatory standards, requirements, and best management practices (during construction and operations) aimed at reducing untreated runoff, soil erosion, and potential flooding in particular. Standard conditions identified to reduce the impacts to less than significant would apply to this alternative. Overall, the smaller Project footprint would result in slightly less hydrology and water quality impacts than those identified for the proposed Project.

### ***Land Use and Planning***

The reduced size would be consistent with applicable plans and regulations of the City of Ukiah. It would also be consistent with surrounding land uses and would not divide an established community. This alternative would have similar land use impacts as compared to the proposed project.

### ***Noise***

Construction activities under this alternative would be similar to the proposed Project and, therefore, would have the potential to expose nearby sensitive receptors to excessive noise levels. Operational noise impacts due to maintenance activities would also be similar to those by the proposed Project. As with the proposed Project, traffic noise would be less than significant. However, fewer vehicle trips generated by the Reduced Project Size Alternative would result in a

corresponding decrease in vehicular noise as compared to the proposed project. Therefore, this alternative would have similar or slightly lower noise impacts compared to the Project.

### ***Public Services and Utilities***

Due to the lack of a fueling station and reduced number of customers accessing the site, the public services and utilities impacts associated with the proposed Project may be reduced under this alternative, but would likely remain similar to the proposed Project.

### ***Transportation and Traffic***

The elimination of the fueling station would eliminate approximately 3000 vehicle trips for the peak hour. This reduction, while sizable, would not reduce the cumulative traffic impacts to a less than significant level.

## **5.4.3 Off-site Alternative (West Side Airport Park Blvd.)**

This alternative location consists of three vacant parcels on the west side of Airport Park Blvd. (across from the currently proposed location). These three parcels total approximately 14.69 acres (Assessor's Parcel Numbers 180-080-28 (4.59 acres), 180-080-29 (4.6 acres), and 180-080-76 (5.5 acres). As the currently proposed project site is approximately 15.33 acres, this alternative location is slightly smaller, but large enough to accommodate a similar store. This location is bounded by commercial uses (north); Airport Park Boulevard and Ken Fowler Subaru (east); Airport Road and the Ukiah Municipal Airport (west); and the Mendocino Brewing Company to the south. Like the proposed project site, this alternative location is within the Airport Industrial Park (AIP) Planned Development. The Airport Industrial Park is bounded by Talmage Road to the north, Ukiah Municipal Airport to the west, and U.S. 101 to the east and south. This alternative location has the potential to substantially lessen visual impacts to motorists traveling along Highway 101 as the project would no longer be immediately adjacent to the Highway.

## **Impacts**

### ***Aesthetics***

Developing the project on this site would result in a visually similar project with similar building mass. While views of the project site from Highway 101 would likely be reduced with this alternative, they would not be eliminated. Also, views of and across the site from public viewpoints would be similar to that of the proposed project because this alternative location is directly across Airport Park Blvd. from the proposed site. Therefore, this alternative would have similar impacts on aesthetics compared to the Project for visual change and light/glare.

### ***Air Quality***

Construction activities under this alternative would be similar to the proposed Project. Emissions from mobile sources would be similar to that of the proposed Project. The distance to sensitive receptors would be reduced, but would not be close enough to create additional impacts (such as



exposure to TACs). Therefore, this alternative would have similar impacts on air quality compared to the Project.

### ***Biological Resources***

The potential impact to nesting raptors would also occur under this alternative. Therefore, biological resources impacts under the Reduced Project Size Alternative would be similar to the proposed Project.

### ***Climate Change***

Construction activities under this alternative would be similar to the proposed Project, therefore, GHG emissions associated with construction would be similar. The Project at this location would be of a similar size and scale and would therefore have a similar energy demand. The increase in GHG emissions would be similar as the Project.

### ***Economics/Urban Decay***

This alternative would result in a Costco Wholesale warehouse of a similar size and scale as the proposed Project. The total volume of sales under this alternative would be similar as the proposed Project. Sales impacts from this alternative and other potential cumulative developments may be substantial enough to result in store closures in the market area. However, as with the proposed Project, potential vacancies are likely to be backfilled or redeveloped within a reasonable timeframe. As a result, this alternative would not likely cause urban decay. Therefore, this alternative would have similar impacts on economics/urban decay compared to the Project.

### ***Geology and Soils***

This alternative would have similar construction impacts to the proposed Project as earthwork activities (i.e., grading, excavation, and fill) would be similar in nature. The amount of impervious surfaces that could result in erosion impacts would also be similar. Therefore, this alternative would have similar on geology and soils compared to the Project.

### ***Hazards and Hazardous Materials***

Construction activities under this alternative would be similar to the proposed Project. The potential for accidental discovery of unknown soil or groundwater contamination would be similar to the proposed Project (due to its similar location compared to other previously identified sources of contamination).

Like the proposed Project, this alternative location is adjacent to the Ukiah Municipal Airport. As identified in the *Mendocino County Airport Comprehensive Land Use Plan (CLUP)*, this alternative site is located within Land Use Compatibility Zone B1. Zone B1 is more restrictive than Zone C (where the proposed project site is located). The Costco Wholesale warehouse would be considered an “intensive retail” use, which is considered a “Not Normally Acceptable Use” in Zone B1. Development conditions within Zone B1 require structures to be located at maximum distance from the extended runway centerline and the dedication of an aviation easement. Consequently,

any development on this location would be subject to these development conditions related to the Ukiah Municipal Airport. While the Project may be allowed if it were found to be consistent with commercial uses allowed in that zone, it may exceed the allowed development intensity (depending on the site design). The impacts would therefore be equal or greater compared to the proposed Project.

### ***Hydrology and Water Quality***

Project construction and operation at this alternative location would change project related drainage patterns. The alternative location would ultimately use the same drainages as the Project and faces the same limitations, requiring on-site detention to reduce downstream impacts.

### ***Land Use and Planning***

This alternative would be required to be consistent with applicable plans and regulations of the City of Ukiah. It would also be consistent with surrounding land uses and would not divide an established community. See “Hazards” above regarding consistency with the CLUP for the Ukiah Municipal Airport. This alternative would have similar land use impacts as compared to the proposed Project.

### ***Noise***

Construction activities under this alternative would be similar to the proposed Project and, therefore, would have the potential to expose nearby sensitive receptors to excessive noise levels. Operational noise impacts due to maintenance activities would also be similar to those by the proposed Project. As with the proposed Project, traffic noise would be less than significant. Therefore, this alternative would have similar noise impacts compared to the Project.

### ***Public Services and Utilities***

Construction and operational activities under this alternative would be similar to the proposed Project. Project impacts to fire and police protection, water, wastewater, recreation, and schools would be the same under this alternative. Therefore, this alternative would have the same impacts on public services and utilities compared to the Project.

### ***Transportation and Traffic***

Construction and operational activities under this alternative would be similar to the proposed Project and would therefore generate a similar number of vehicle trips as the proposed Project. Because this alternative is located directly across Airport Park Blvd. from the proposed Project site, it would use the same roadway network, and have similar transportation and traffic related impact as the proposed Project.

## 5.5 Environmentally Superior Alternative

The environmental effects of each alternative in comparison to the proposed Project are summarized in **Table 5-1**. The potentially significant (PS) and less-than-significant (LTS) impacts are shown, prior to mitigation, and an indicator (+/-) of whether the alternative impact is comparatively greater or lesser than that of the Project.

**TABLE 5-13  
SUMMARY OF ALTERNATIVES**

<b>Environmental Topic</b>	<b>Proposed Project</b>	<b>No Project Alternative</b>	<b>Reduced Project Size Alternative</b>	<b>Alternate Site Alternative</b>
Aesthetics (Light/Glare)	PS	LTS-	PS-	PS-
Air Quality	SU	LTS-	SU-	SU
Economics/Urban Decay	LTS	LTS-	LTS-	LTS
Geology and Soils	PS	LTS-	PS	PS
Hazards and Hazardous Materials	PS	LTS-	PS-	PS+
Hydrology and Water Quality	PS	LTS-	PS	PS
Land Use	LTS	LTS-	LTS	PS+
Noise	PS	LTS-	PS	PS+
Public Services and Utilities	LTS	LTS-	LTS	LTS
Transportation and Traffic	SU	LTS-	SU-	SU
Climate Change	SU	LTS-	SU-	SU
Biological Resources	PS	LTS-	PS	PS

The No Project Alternative would avoid all potentially significant Project impacts to all resources areas, including aesthetics, air quality, biological resources, hazards, hydrology, noise, and traffic. Queues that extend beyond available storage at the U.S. 101 Southbound Off-Ramp at Talmage Road would remain under the No Project Alternative.

Therefore, the No Project Alternative would be the environmentally superior alternative. However, the No Project Alternative does not meet any of the objectives and goals of the project. CEQA requires that a second alternative be identified when the “No Project” alternative emerges as the Environmentally Superior Alternative (CEQA Guidelines, Section 15126.6(e)).

Alternative 2, Reduced Project (No Fuel Station) would reduce, although not avoid, several impacts. Alternative 3, Alternative Location, would not reduce significant impacts, and is potentially in conflict with the CLUP. Therefore, the Reduced Project Alternative is the Environmentally Superior Alternative.



# CHAPTER 6

---

## Report Preparers

### 6.1 Report Authors

#### 6.1.1 Lead Agency

##### ***City of Ukiah***

Charley Stump, Director, Planning and Community Development Department

Kim Jordan, Senior Planner, Planning and Community Development Department

#### 6.1.2 Consultants

##### ***Environmental Science Associates***

Ray Weiss	Project Director
Brian Grattidge	Project Manager
Aaron Hecock, AICP	Deputy Project Manager; Aesthetics; Geology, Soils, and Seismicity; Hazards and Hazardous Materials; Land Use; Population and Housing
Kathy Anderson	Cultural Resources
Heidi Koenig	Cultural Resources
Chariss Tweedy	Biological Resources
Jon Carey, AICP	Public Services and Utilities
Robert Eckard	Hydrology and Water Quality
Donnie Ambroziak	Noise
Jack Hutchison	Transportation and Traffic
Matt Morales	Air Quality, Global Climate Change
Tom Wyatt	Graphics
Logan Sakai	Report Production

##### ***W-Trans (Traffic and Transportation Analysis)***

Steve Weinberger, PE, PTOE

Chris Helmer

##### ***ALH | ECON (Urban Decay Analysis)***

Amy Herman, AICP

##### ***Remy, Moose and Manley, LLP (Legal Review)***

Whitman F. Manley, Partner

Jennifer Holman, Attorney



# CHAPTER 7

## List of Acronyms

---

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACI	American Concrete Institute
ACM	asbestos containing material
ADA	Americans with Disabilities Act
ADWF	average dry weather flow
AF	acre feet
AFY	acre-feet per year
AGL	above ground level
AHERA	Asbestos Hazard Emergency Response Act
AIP	Airport Industrial Park
AISC	American Institute of Steel Construction
ALUC	airport land use commission
APCD	Air Pollution Control District
APE	Area of Potential Effect
ARB	[California] Air Resources Board
ASCE	American Society of Civil Engineers
AST	Aboveground storage tank
AWT	advanced water treatment
BAAQMD	Bay Area Air Quality Management District
bgs	below ground surface
BMP	best management practice
BOE	California Board of Equalization
C&D	Construction and Demolition
CARB	California Air Resources Board
CalEPA	California Environmental Protection Agency
CalFire	California Department of Forestry and Fire Protection

Cal/OES	California Office of Emergency Services
CalOSHA	California Department of Industrial Relations, Division of Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CASQA	California Stormwater Quality Association
CBC	California Building Code
CCAA	California Clean Air Act
CDF	California Department of Forestry and Fire Protection
CDFG	California Department of Fish and Game
CCR	California Code of Regulations
CEC	California Energy Commission
CEG	California licensed engineering geologist
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information Systems
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH <sub>4</sub>	methane
CGS	California Geological Survey
CHP	California Highway Patrol
CLUP	Comprehensive Land Use Plan
CNDDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
CSC	California species of special concern
CUPA	Certified Unified Program Agency



---

CWA	Clean Water Act
dB	decibel
dba	A-weighted decibel
DFG	Department of Fish and Game
DHS	Department of Health Services
DNL	also termed Ldn, the DNL is the 24-hour day and night
DOE	U.S. Department of Energy
DOF	California Department of Finance
DOT	U.S. Department of Transportation
DPM	diesel particulate matter
DOT	U.S. Department of Transportation
DSOD	Division of Safety of Dams
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EER	Energy Efficiency Ratio
EFH	essential fish habitat
EIR	Enironmental Impact Report
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
ESA	Environmental Species Act
FAA	Federal Aviation Administration
FAR	floor area ratio
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FICON	Federal Interagency Commission on Noise
FIP	Federal Implementation Plan
FRAP	Fire and Resource Assessment Program
FRP	Fiber Reinforced Plastic
FTA	Federal Transit Administration
g	gravity (unit of measurement)
GHG	greenhouse gas
gpd	gallons per day

gpf	gallons per flush
gpm	gallons per minute
GWP	global warming potential
HAP	Hazardous Air Pollutants
HBM	hazardous building materials
HCM	Highway Capacity Manual
HFC	hydrofluorocarbons
HMBP	Hazardous Materials Business Plan
HMMP	Hazardous Materials Management Plan
HR	House Resolution
HVAC	heating ventilation and air conditioning
HWMP	Hazardous Waste Management Plan
Hz	hertz
IBC	International Building Code
ICS	California Incident Command System
ICSC	International Council of Shopping Centers
IESNA	Illuminating Engineering Society of North America
IPCC	Intergovernmental Panel on Climate Change
ISA	International Society of Arborists
ITE	Institute of Transportation Engineers
kW	kilowatt
kWh	kilowatt hours
LED	light emitting diode
LEED	Leadership in Energy and Environmental Design
Leq	equivalent sound level over a specified period of time
LID	low impact development
Lmax	Instantaneous maximum noise level for a specified period of time
LOS	level of service
LUST	leaking underground storage tank
M	Modified Richter scale
MCAQMD	Mendocino County Air Quality Management District
MCEHD	Mendocino County Environmental Health Division
MCOG	Mendocino Council of Governments

---

MEI	maximally-exposed individual
MEP	maximum extent practicable
MFZ	Maacama Fault Zone
mgd	million gallons per day
MM	modified Mercalli scale
MMRP	mitigation monitoring and reporting plan
MMT	million metric tons
MMTCO <sub>2</sub> E	million metric tons of carbon dioxide equivalents
MS4	small municipal separate storm sewer system
MSCO	Mendocino County Sheriff's Office
MTA	Mendocino Transit Agency
MTBE	methy-tert butyl ether
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCAB	North Coast Air Basin
NCPA	Northern California Power Agency
NEPA	National Environmental Policy Act
NEHRP	National Earthquake Hazards Reduction Program
NEHRPA	National Earthquake Hazards Reduction Program Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NIMS	National Incident Management System
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO <sub>2</sub>	nitrous oxide
NOA	Notice of Availability
NOI	Notice of Intent
NOP	Notice of Preparation
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRP	non-reinforced thermoplastic panel
NWP	North Western Pacific
OAL	Office of Administrative Law

OEHHA	Office of Environmental Health Hazards Assessment
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
pc/h/ln	passenger cars per hour per lane
PCBs	polychlorinated biphenyl
PD	Planned Development
PFCs	perfluorocarbons
PG&E	Pacific Gas and Electric Company
PGA	peak ground acceleration
PM	particulate matter
PM10	particulate matter of less than 10 microns in size
PM2.5	particulate matter of less than 2.5 microns
ppd	pounds per day
PPD	pounds per person per day
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PRD	permit registration documents
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
REL	reference exposure level
RMS	root mean square
ROG	reactive organic gases
RPS	Renewable Portfolio Standard
RTAC	Regional Targets Advisory Committee
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SDC	Seismic Design Category
SDWA	Safe Drinking Water Act
SEMS	California Standardized Emergency Management System

---

SF <sub>6</sub>	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	state implementation plan
SO <sub>2</sub>	sulfur dioxide
sq. ft.	square feet
SR	State Route
SWMP	stormwater management plan
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TLE	Tire Lube Express
TMDL	total maximum daily load
TPH	total petroleum hydrocarbons
TPO	thermoplastic olefin [roof membrane]
TRU	transportation refrigeration unit
UCMP	University of California Museum of Paleontology
UCR	uniform crime reporting
µg/m <sup>3</sup>	micrograms per cubic meter
UFD	Ukiah Fire Department
ULI	Urban Land Institute
UVAP	Ukiah Valley Area Plan
UVFD	Ukiah Valley Fire District
UVSD	Ukiah Valley Sanitation District
UPD	Ukiah Police Department
URBEMIS	Urban Emissions Model
USEPA	U.S. Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USC	United States Code
USGS	United States Geographic Survey
UST	underground storage tank
UUSD	Ukiah Unified School District
UWMP	urban water management plan
V/C	volume to capacity
VdB	decibel notation

VOC	volatile organic compound
WSA	water supply assessment
WTP	water treatment plant
WWTP	wastewater treatment plant