APPENDIX D

EXTERIOR NOISE ANALYSIS REPORT

EXTERIOR NOISE ANALYSIS REPORT

PACIFIC STREET APARTMENTS
Rocklin, CA

April 25, 2024 DRAFT

Prepared for:

Community HousingWorks
3111 Camino Del Rio North, Suite 800
San Diego, CA 92108

Prepared by:

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3129 Tiger Run Court, Suite 202
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619-609-0712

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1.0 INTRODUCTION AND SUMMARY

This report estimates the exterior noise environment at the proposed Pacific Street Apartments project in the City of Rocklin, CA (Figure 1). The project site is bounded by Pacific Street, Railroad Avenue, Pine Street, and Oak Street. The project would entail the construction of 110 multifamily residences in four three-story buildings, and one leasing / amenity building. The primary noise sources in the project vicinity are roadway traffic on Pacific Street and operations on the Union Pacific Railroad line.

Future exterior composite (roadway + rail) noise levels at the project outdoor use area (tot lot) would be below 60 dBA CNEL, and would comply with the maximum allowable transportation noise exposure requirement in City of Rocklin Noise Element Policy N-9.

Future exterior composite noise levels at project building façades would range up to approximately 68 dBA CNEL. Because exterior noise levels would exceed 60 dBA CNEL at some façades, interior noise levels in habitable rooms could exceed the City of Rocklin General Plan Noise Element Policy N-9 and CBC Section 1206.4 requirement of 45 dBA CNEL in residences without design elements.

So that interior noise levels do not exceed City and State limits of 45 dBA CNEL, upgraded windows and/or doors with STC ratings of 30 or higher would be installed on the east side of Buildings B1 and B2. Standard construction with STC ratings of 27 or higher is sufficient in all other areas. So that the windows and/or doors can be closed, the building design would include mechanical ventilation that meets CBC requirements.

Interior noise levels would be 45 dBA CNEL or below in residences, and the project would comply with the City of Rocklin Policy N-9 and CBC Section 1206.4 requirement.

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FIGURE 1
Vicinity Map

1.1 NOISE BACKGROUND

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and that interferes with or disrupts normal activities. The human environment is characterized by a certain consistent noise level that varies by location and is termed ambient noise. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, perceived importance of the noise and its appropriateness in the setting, time of day and type of activity during which the noise occurs, and sensitivity of the individual.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and intensity. Frequency describes the sound's pitch and is measured in cycles per second, or hertz (Hz), whereas intensity describes the sound's loudness and is measured in decibels (dB). Decibels are measured using a logarithmic scale. A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB. Sound levels above about 120 dB begin to be felt inside the human ear as discomfort and eventually as pain at still higher levels. The minimum change in the sound level of individual events that an average human ear can detect is about 3 dB. The average person perceives a change in sound level of about 10 dB as a doubling (or halving) of the sound's loudness; this relation holds true for sounds of any loudness. Sound levels of typical noise sources and environments are provided in Table 1.

Because of the logarithmic nature of the decibel unit, sound levels cannot be added or subtracted directly and are somewhat cumbersome to handle mathematically. A simple rule is useful, however, in dealing with sound levels. If a sound's intensity is doubled, the sound level increases by 3 dB, regardless of the initial sound level. Thus, for example, 60 dB + 60 dB = 63 dB, and 80 dB + 80 dB = 83 dB.

The normal human ear can detect sounds that range in frequency from about 20 Hz to 20,000 Hz. However, all sounds in this wide range of frequencies are not heard equally well by the human ear, which is most sensitive to frequencies in the range of 1,000 Hz to 4,000 Hz. This frequency dependence can be taken into account by applying a correction to each frequency range to approximate the human ear's sensitivity within each range. This is called A-weighting and is commonly used in measurements of community environmental noise. The A-weighted sound pressure level (abbreviated as dBA) is the sound level with the "A-weighting" frequency correction. In practice, the level of a noise source is conveniently measured using a sound level meter that includes a filter corresponding to the dBA curve.

Table 1. Sound Levels of Typical Noise Sources and Noise Environments

Noise Source (at Given Distance)	Noise Environment	A-Weighted Sound Level	Human Judgment of Noise Loudness (Relative to Reference Loudness of 70 Decibels*)
Military Jet Takeoff with Afterburner (50 ft)	Carrier Flight Deck	140 Decibels	128 times as loud
Civil Defense Siren (100 ft)		130	64 times as loud
Commercial Jet Take-off (200 ft)		120	32 times as loud **Threshold of Pain**
Pile Driver (50 ft)	Rock Music Concert Inside Subway Station (New York)	110	16 times as loud
Ambulance Siren (100 ft) Newspaper Press (5 ft) Gas Lawn Mower (3 ft)		100	8 times as loud **Very Loud**
Food Blender (3 ft) Propeller Plane Flyover (1,000 ft) Diesel Truck (150 ft)	Boiler Room Printing Press Plant	90	4 times as loud
Garbage Disposal (3 ft)	Noisy Urban Daytime	80	2 times as loud
Passenger Car, 65 mph (25 ft) Living Room Stereo (15 ft) Vacuum Cleaner (10 ft)	Commercial Areas	70	Reference Loudness **Moderately Loud**
Normal Speech (5 ft) Air Conditioning Unit (100 ft)	Data Processing Center Department Store	60	1/2 as loud
Light Traffic (100 ft)	Large Business Office Quiet Urban Daytime	50	1/4 as loud
Bird Calls (distant)	Quiet Urban Nighttime	40	1/8 as loud **Quiet**
Soft Whisper (5 ft)	Library and Bedroom at Night Quiet Rural Nighttime	30	1/16 as loud
	Broadcast and Recording Studio	20	1/32 as loud **Just Audible**
		0	1/64 as loud **Threshold of Hearing**

Source: Compiled by dBF Associates, Inc.

Because community noise fluctuates over time, a single measure called the Equivalent Sound Level (Leq) is often used to describe the time-varying character of community noise. The Leq is the energy-averaged A-weighted sound level during a measured time interval, and is equal to the level of a continuous steady sound containing the same total acoustical energy over the averaging time period as the actual time-varying sound. Additionally, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the Lmax and Lmin indicators, which represent the root-mean-square maximum and minimum noise levels obtained during the measurement interval. The Lmin value obtained for a particular monitoring location is often called the "acoustic floor" for that location.

To describe the time-varying character of environmental noise, the statistical noise descriptors L10, L50, and L90 are commonly used. They are the noise levels equaled or exceeded during 10, 50, and 90 percent of a stated time, respectively. Sound levels associated with L10 typically describe transient or short-term events, whereas levels associated with L90 describe the steady-state (or most prevalent) noise conditions.

The Community Noise Equivalent Level (CNEL) is an adjusted average A-weighted sound level for a 24-hour day. It is calculated by adding a 5-dB adjustment to sound levels during evening hours (7:00 p.m. to 10:00 p.m.) and a 10-dB adjustment to sound levels during nighttime hours (10:00 p.m. to 7:00 a.m.). These adjustments compensate for the increased sensitivity to noise during the typically quieter evening and nighttime hours. CNEL is used by the State of California and City of Rocklin to evaluate land-use compatibility with regard to noise.

Sound Transmission Class (STC) is a single-number rating of the effectiveness of a material or construction assembly to impede the transmission of airborne sound.

The sound power level is a distance-independent measure of a noise source's energy.

2.0 APPLICABLE NOISE STANDARDS

2.1 CITY OF ROCKLIN

The City of Rocklin requires new projects to meet noise level standards as established in the Noise Element of its General Plan [City of Rocklin 2012].

At outdoor activity areas of Residential land uses, the maximum allowable transportation noise exposure is 60 dBA CNEL. At interior spaces of Residential land uses, the limit is 45 dBA CNEL.

2.2 STATE OF CALIFORNIA

California Building Code (CBC), Chapter 12: Interior Environment, Section 1206: Sound Transmission regulates noise levels in buildings with multiple habitable units [State of California 2019]. Relevant portions are reproduced below.

> 1206.4 Allowable interior noise levels. Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

3.0 ENVIRONMENTAL SETTING AND EXISTING CONDITIONS

The vacant project site is bounded by Pacific Street on the east, Railroad Avenue on the west, Pine Street to the north, and Oak Street to the south. The primary existing noise sources in the vicinity of the project are vehicular traffic on Pacific Street and operations on the Union Pacific Railroad beyond Railroad Avenue to the west.

3.1 ROADWAY

Pacific Street is adjacent to the project site on the east. In the project vicinity, Pacific Street is a four-lane two-way Arterial roadway with an existing (year 2012) average daily traffic (ADT) volume of 15,000 vehicles between Rocklin Road and Grove Street [City of Rocklin 2012]. The posted speed limit on Pacific Street in the project vicinity is 40 miles per hour (mph). In the project area, Pacific Street is approximately flat.

3.1.1 Sound Level Measurement

A roadway sound level measurement was conducted to estimate the existing acoustical environment at the project site. A RION Model NL-31 National Standards Institute (ANSI) Type 2 Integrating Sound Level Meter (SLM) was used as the data-collection device. The meter was mounted on a tripod roughly 5 feet above ground to simulate the average height of the human ear. The microphone was fitted with a windscreen. The sound level meter was calibrated before the measurement period. Simultaneous traffic counts were conducted during the measurement period. The measurement results are summarized in Table 2 and correspond to the locations depicted on Figure 2. Rail operations were occasionally audible, but roadway traffic was the primary noise source during the measurements.

Table 2. Sound Level Measurements (dBA)

Measurement Location		Date / Time	Leq	Lmin	Lmax	L10	L50	L90	Traffic *
ST	West side of Pacific Street 50' from centerline	2023-09-13 08:15 – 08:30	67.0	48.8	73.5	70.6	65.9	55.5	NB: 100 / 6 / 0 SB: 146 / 4 / 2

* Traffic reported in cars / medium trucks / heavy trucks.

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FIGURE 2
Sound Level Measurement Locations

3.2 RAIL

The project site is adjacent to the Union Pacific Railroad line on the west. There is an at-grade crossing with Rocklin Road approximately 500 feet south of the project site. In the project area, the rail line is a "quiet zone" – sounding of train horns is not necessary. The tracks are approximately 195 / 215 feet from the closest proposed building façade, and 305 / 325 feet from the proposed outdoor use area (tot lot). The tot lot would be partially shielded from the rail line by the project buildings.

On the rail line, in a 24-hour period, there would be approximately 25 freight trains, equally distributed over a 24-hour period [Union Pacific Railroad 2023]. The Amtrak California Zephyr route also uses this rail line, generating one train per day in each direction. The train noise level would be approximately 71 dBA CNEL at 50 feet from the centerline of the tracks [City of Rocklin 2012]. This volume and noise level was corroborated by a 24-hour sound level measurement conducted along the west side of the project site; the noise level was roughly 68 dBA CNEL at approximately 95 feet from the centerline of the tracks, which corresponds to approximately 71 dBA CNEL at 50 feet using line source propagation characteristics.

Existing rail noise levels would range from below 60 dBA CNEL at the eastern building façades to approximately 65 dBA CNEL at the western building façades. At the tot lot, the unshielded noise level would be 63 dBA CNEL; however, the acoustical shielding provided by the project buildings would reduce the noise level by more than 3 dBA. As such, the existing noise level at the tot lot would be below 60 dBA CNEL.

4.0 FUTURE NOISE ENVIRONMENT

The future noise environment would primarily be a result of vehicular traffic on Pacific Street and operations on the rail line to the west.

4.1 ROADWAY

Pacific Street adjacent to the project site is projected to carry an existing plus project p.m. peak hour volume of 1,273 vehicles [Fehr & Peers 2023]. It was assumed that traffic volumes would increase over the next 20 years at a rate of 1% per year, for a year 2043 traffic volume of 1,553 vehicles. The existing traffic mix observed during the project site visit was assumed to remain constant in the future.

The Federal Highway Administration (FHWA) Traffic Noise Model (TNM) version 2.5 was used to calculate traffic noise levels. The modeling effort included the roadway alignments, estimated average vehicle speeds, peak-hour traffic volume, estimated vehicle mix, project grading, and the locations of the project building. Agencies such as the U.S. Department of Housing and Urban Development (HUD) consider the peak-hour Leq to be reasonably equivalent to the CNEL for vehicular traffic. The model was calibrated using actual traffic counts and sound level measurements; modeled sound levels were within 1 dBA of measured sound levels. A default ground type of "hard soil" was used in the model. Future vehicular traffic calculations are summarized in Appendix A.

Future exterior roadway noise levels at the proposed buildings would range from below 60 dBA CNEL at the west façades to approximately 68 dBA CNEL at the east façades.

4.2 RAIL

There are no projections available for either freight or passenger rail. It was assumed that the existing rail noise levels, which range from below 60 dBA CNEL at the eastern building façades to approximately 65 dBA CNEL at the western building façades, would continue into the future.

4.3 COMPOSITE

The project outdoor use area is the ground-floor tot lot on the "inside" of the site. Future exterior composite (roadway + rail) noise levels at the tot lot would be below 60 dBA CNEL. Noise levels would comply with the maximum allowable transportation noise exposure requirement in City of Rocklin Noise Element Policy N-9.

Future exterior composite noise levels at the project building façades would range up to approximately 68 dBA CNEL. Refer to Figure 3 for details.

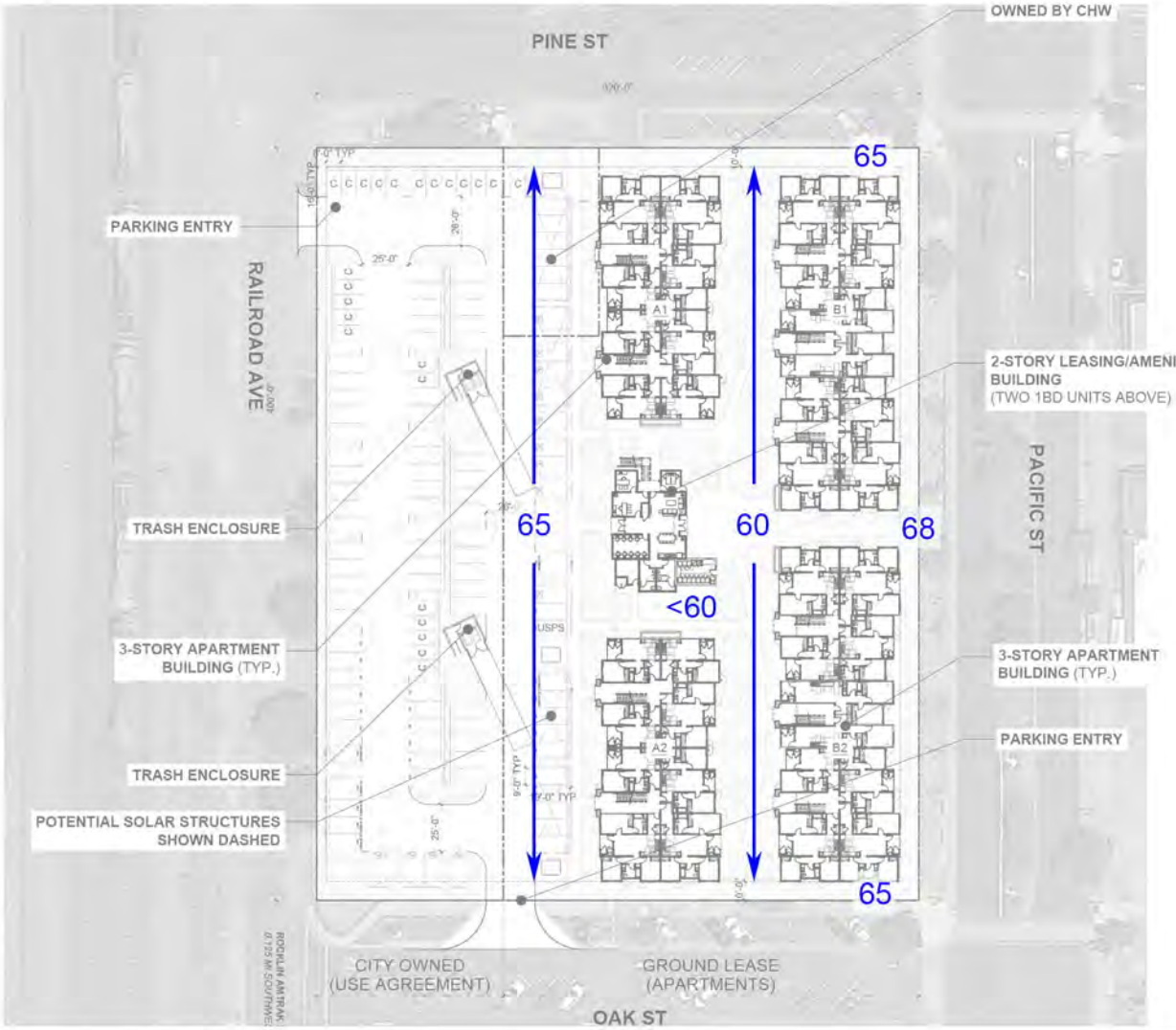

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FIGURE 3
Future Exterior Composite Noise Levels (CNEL)

4.3.1 Interior Noise

Because exterior noise levels would exceed 60 dBA CNEL at some façades, interior noise levels in habitable rooms could exceed the City of Rocklin General Plan Noise Element Policy N-9 and CBC Section 1206.4 requirement of 45 dBA CNEL in residences without design elements.

So that interior noise levels do not exceed City and State limits of 45 dBA CNEL, upgraded windows and/or doors with STC ratings of 30 or higher would be installed on the east side of Buildings B1 and B2. Standard construction with STC ratings of 27 or higher is sufficient in all other areas. So that the windows and/or doors can be closed, the building design would include mechanical ventilation that meets CBC requirements.

Interior noise levels would be 45 dBA CNEL or below in residences, and the project would comply with the City of Rocklin Policy N-9 and CBC Section 1206.4 requirement.

6.0 REFERENCES

American Society for Testing and Materials. 1990. Annual Book of ASTM Standards: Volume 04.06, Thermal Insulation; Environmental Acoustics.

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State of California. 2019. California Code of Regulations, Title 24, Part 2: California Building Standards Code. July.

7.0 LIST OF PREPARERS

Steven Fiedler, INCE
Principal

APPENDICES

APPENDIX A
ROADWAY NOISE CALCULATIONS

dBF Associates, Inc.					**8 December 2023**						
SPF					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**Pacific Street Apartments**						**a State highway agency substantiates the use**				
RUN:	**Measured**						**of a different type with the approval of FHWA**				
Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Pacific Street NB1	30.0	point1	1	-500.0	-15.0	0.00				Average	
		point2	2	500.0	-15.0	0.00					
Pacific Street NB2	12.0	point3	3	-500.0	-26.0	0.00				Average	
		point4	4	500.0	-26.0	0.00					
Pacific Street SB1	30.0	point5	5	500.0	15.0	0.00				Average	
		point6	6	-500.0	15.0	0.00					
Pacific Street SB2	12.0	point7	7	500.0	26.0	0.00				Average	
		point8	8	-500.0	26.0	0.00					

dBF Associates, Inc. 8 December 2023
SPF TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: Pacific Street Apartments
RUN: Measured

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Pacific Street NB1	point1	1	200	40	12	40	0	0	0	0	0	0
	point2	2										
Pacific Street NB2	point3	3	200	40	12	40	0	0	0	0	0	0
	point4	4										
Pacific Street SB1	point5	5	0	0	0	0	0	0	0	0	0	0
	point6	6										
Pacific Street SB2	point7	7	584	35	16	35	8	35	0	0	0	0
	point8	8										

dBF Associates, Inc.						**8 December 2023**					
SPF						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**Pacific Street Apartments**										
RUN:	**Measured**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receiver1	1	1	0.0	50.0	0.00	5.00	67.00	66	10.0	8.0	Y

dBF Associates, Inc. 8 December 2023
SPF TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Pacific Street Apartments
RUN: Measured
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h		Increase over existing		Type Impact	With Barrier LAeq1h	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc		Calculated	Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	67.0	67.4	66	0.4	10	Snd Lvl	67.4	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

dBF Associates, Inc. **8 December 2023**

SPF **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes

PROJECT/CONTRACT: **Pacific Street Apartments**

RUN: **Future**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Pacific Street NB1	point1	1	369	40	15	40	4	40	0	0	0	0
	point2	2										
Pacific Street NB2	point3	3	369	40	15	40	4	40	0	0	0	0
	point4	4										
Pacific Street SB1	point5	5	369	40	15	40	4	40	0	0	0	0
	point6	6										
Pacific Street SB2	point7	7	369	40	15	40	4	40	0	0	0	0
	point8	8										

dBF Associates, Inc.						**8 December 2023**					
SPF						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**Pacific Street Apartments**										
RUN:	**Future**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
East facades	1	1	0.0	60.0	0.00	5.00	0.00	66	10.0	8.0	Y

dBF Associates, Inc. 8 December 2023
SPF TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Pacific Street Apartments
RUN: Future
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h		Increase over existing		Type Impact	With Barrier			
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc		Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
East facades	1	1	0.0	68.2	66	68.2	10	Snd Lvl	68.2	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

APPENDIX E

GEOTECHNICAL ENGINEERING REPORT

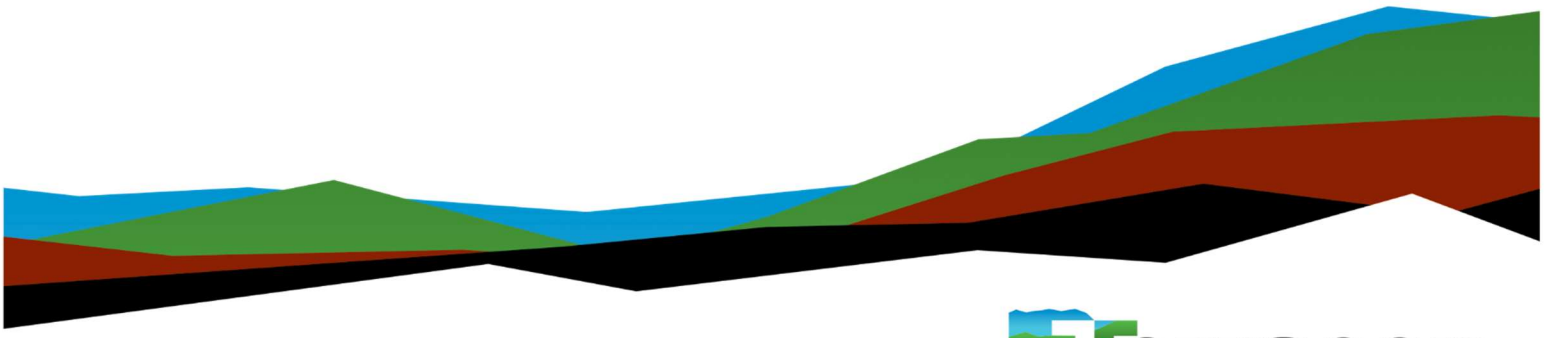
Oak & Pine St Housing

Geotechnical Engineering Report

December 22, 2022 | Terracon Project No. NB225053

Prepared for:

Community Housing Works
3111 Camino Del Rio North, Suite 800
San Diego, California 92108



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December 22, 2022

Community Housing Works
3111 Camino Del Rio North, Suite 800
San Diego, California 92108

Attn: Anna Slaby – Vice President of Development
P: (619) 858-9031
E: aslaby@chworks.org

Re: Geotechnical Engineering Report
Oak & Pine St Housing
5020 Pacific Street
Rocklin, California 95677
Terracon Project No. NB225053

Dear Mrs. Slaby:

We have completed the scope of Geotechnical Engineering services for the above referenced project in general accordance with Terracon Proposal No. PNB225053 dated August 12, 2022. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs and pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon

For:

Staysha P. Delgado, E.I.T.
Senior Staff Engineer

Garret S. H. Hubbart, P.E., G.E.
Senior Principal

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Attachments

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Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the terracon logo will bring you back to this page. For more interactive features, please view your project online at **client.terracon.com**.

Refer to each individual Attachment for a listing of contents.

Report Summary

Topic [1]	Overview Statement [2]
Project Description	The project consists of the construction of a new housing development with four (4) three-story walk-up apartment buildings with approximate building footprints ranging from 6,700 to 11,300 square feet each. Estimated maximum loads: columns 50 to 80 kips, wall loads: 2 to 4 kips/ft, slabs 150 psf Up to 5 feet of cut/fill to achieve final grade Minor excavation other than foundation construction and utility installation Expected traffic for pavement areas: ■ Class I traffic for asphalt pavements (parking lots for autos and trucks) ■ Category E traffic (fire lanes and trash lanes) for Portland cement concrete pavements

Geotechnical Characterization	Subgrade soil conditions encountered in our borings generally consisted of loose to very dense poorly graded sand with silt or medium dense to very dense silty clayey sand underlain by very dense silty sand followed by shallow bedrock. Subsurface soils were also weakly to moderately cemented in places. Auger refusal upon shallow bedrock was encountered at depths ranging from 6 feet to 12 feet bgs. Groundwater not observed during our exploration.
Earthwork	Cuts and fills on the order of 5 feet or less are anticipated to develop final grades. Existing on-site soils can be used as structural fill.
Shallow Foundations	Shallow foundations are recommended for building support. Allowable bearing pressure = 3,500 psf Expected settlements: < 1-inch total, < ½-inch differential
Pavements	Pavement sections are provided for both rigid and flexible pavements, with subgrade prepared as noted in **Earthwork**.
Below-Grade Structures	Below ground treatment systems located in the drive aisles.
General Comments	This section contains important information about the limitations of this geotechnical engineering report.

1. If the reader is reviewing this report as a pdf, the topics above can be used to access the appropriate section of the report by simply clicking on the topic itself.
2. This summary is for convenience only. It should be used in conjunction with the entire report for design purposes.

Introduction

This report presents the results of our subsurface exploration and Geotechnical Engineering services performed for the proposed housing development to be located at 5020 Pacific Street in Rocklin, California 95677. The purpose of these services was to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Seismic site classification per the 2019 California Building Code (CBC)
- Site preparation and earthwork
- Foundation design and construction
- Floor slab design and construction

- Lateral earth pressure
- Pavement design and construction
- Stormwater detention considerations

The geotechnical engineering Scope of Services for this project included the advancement of nine (9) test borings, percolation testing, laboratory testing, engineering analysis, and preparation of this report.

Drawings showing the site and boring locations are shown on the **Site Location** and **Exploration Plan**, respectively. The results of the laboratory testing performed on soil samples obtained from the site during our field exploration are included on the boring logs and/or as separate graphs in the **Exploration Results** section.

Project Description

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

- We were provided an updated conceptual design site plan: KTGY Architecture and Planning, "Pacific Street Townhomes - Conceptual Design", Sheet A1.0, dated August 11, 2022.
- Elevator shafts are no longer planned for this proposed development.
- Percolation testing was requested for below ground treatment systems located in the drive aisles.

Item	Description
Information Provided	■ Email from Stephen Swiecicki of CHW sent on May 18, 2022, providing a project description and preliminary site plan. ■ Refined project concept site plan provided by Stephen Swiecicki on August 11, 2022.
Project Description	The project will consist of the construction of a new housing development. The project is anticipated to have associated developments including asphalt and concrete pavements, flatwork, below ground treatment system and landscaped areas.

Item	Description
Proposed Structure	■ Two (2) three-story walk-up apartment buildings (Phase 1) with approximate building footprints ranging from 6,700 to 7,100 square feet each. ■ Two (2) three-story walk-up apartment buildings (Phase 2) with approximate building footprints ranging from 10,300 to 11,300 square feet each.
Building Construction	Proposed buildings are anticipated to be wood-framed founded on shallow spread footing foundations with concrete slab-on-grade floors. No elevator shafts.
Finished Floor Elevation	Within ±5 feet of existing grades.
Maximum Loads (assumed)	■ Columns: 50 to 80 kips ■ Walls: 2 to 4 kips per linear foot (klf) ■ Slabs: 150 pounds per square foot (psf)
Grading/Slopes	General grading at the site is anticipated to include cuts and fills on the order of ±5 feet.
Free-Standing Retaining Walls	None anticipated.
Pavements	Paved drives and parking will be constructed as part of the development. Both rigid (concrete) and flexible (asphalt) pavement sections are being considered. Anticipated Traffic Indices (TIs) are as follows: ■ Autos/light trucks parking: TI = 4.5 ■ Autos/light trucks driving: TI = 5.5 ■ Tractor-trailer/garbage trucks: TI = 6.5 Average Daily Auto and Truck Traffic for rigid pavements: ■ Car Parking & Driving Lanes: ADTT = 1 (Category A) ■ Truck Parking: ADTT = 25 (Category B) ■ Dumpster Pads per (Category C) The pavement design period is 20 years.
Stormwater Features	Below ground treatment systems located in the drive aisles.

Terracon should be notified if any of the above information is inconsistent with the planned construction, especially the grading limits, as modifications to our recommendations may be necessary.

Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	■ The project is located at 5020 Pacific Street in Rocklin, California 95677 ■ Assessor Parcel Numbers (APNs): • 010-121-001-000 • 010-121-002-000 • 010-121-004-000 • 010-121-005-000 • 010-121-006-000 • 010-040-039-000 ■ The site is approximately 2.8 acres in area. ■ Latitude and Longitude (approximate): 38.7928° N 121.2353° W ■ See **Site Location**
Existing Improvements	The site is currently undeveloped. However, historical imagery indicates that a residential house was previously located on the northwest corner of the site and demolished sometime before 2013. The site is bordered to the north by parking stalls along Pine Street, to the south by parking stalls along Oak Street, to the east by Pacific Street and to the west by Railroad Avenue. There appears to be an overhead power line and gravel paved path running through the center of the site from Oak Street to Pine Street.
Current Ground Cover	Earthen with light vegetation consisting of short grasses, gravel surfacing and randomly distributed trees.
Existing Topography	The northwest corner of the site where the previous development was located has approximately 3 feet of topographic relief and is at an elevation approximately 7 feet lower than the remainder of the site. The remainder of the site is relatively flat with approximately 4 feet of topographic relief.

Geotechnical Characterization

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting, and our

understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of the site. Conditions observed at each exploration point are indicated on the individual logs. The individual logs can be found in the **Exploration Results** and the GeoModel can be found in the **Figures** attachment of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	Poorly Graded Sand with Silt	Loose to very dense poorly graded sand with silt with variable cementation.
2	Silty Clayey Sand	Medium dense to very dense silty clayey sand with variable cementation.
3	Silty Sand	Very dense silty sand with variable cementation.
4	Clayey Sand	Dense to very dense clayey sand with variable cementation.

Practical auger refusal was encountered in Borings B-1 through B-5 at depths varying from 6 to 12 feet bgs. Refusal is defined as the depth below the ground surface at which a boring can no longer be advanced with the soil drilling technique being used. Refusal is subjective and is based upon the type of drilling equipment used, the types of augers used, and the effort exerted by the driller. Refusal can occur on the upper surface of discontinuous bedrock, boulder, slabs of unweathered rock suspended in the residual soil matrix or "floaters", in widened joints that may extend well below the surrounding bedrock surface, on rock "pinnacles" rising above the surrounding bedrock surface, or on the upper surface of continuous bedrock.

Additional borings, auger probes, test pits, or geophysical testing could be performed to obtain more specific subgrade information. If desired, we can perform seismic refraction testing at the site to determine the primary velocity of the bedrock so the grading contractor can determine what type of equipment will be needed for ripping.

Groundwater Conditions

The boreholes were observed while drilling and after completion for the presence and level of groundwater. Groundwater was not encountered in our test borings while drilling, or for the short duration the borings could remain open. Groundwater data obtained from the State of

California's Department of Water Resources SGMA Data Viewer[1] indicates the depth to high groundwater at approximately 44 feet bgs according to groundwater measurements taken from a well located approximately 2 miles southwest of the site (State Well No. 387755N1212753W002). However, perched water trapped above the bedrock is known to occur in the area.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. Therefore, groundwater levels during construction or at other times in the life of the structure may be higher or lower than anticipated. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

Geologic Hazards

Geologic maps[2] indicate subsurface conditions at the site consist of Upper Jurassic or Lower Cretaceous (approximately 206 Ma to 70 Ma) Rocklin pluton (Trondhjemite). The Rocklin pluton is a Lower Cretaceous quartz diorite that is intrusive into Upper Jurassic plutonic (Penryn pluton) and metamorphic rocks. Most of the Rocklin pluton consists of light gray hypidiomorphic granular trondhjemite (silicic quartz diorite). The subsurface conditions encountered in our investigation were generally consistent with the mapped geology.

Faulting and Estimated Ground Motions

The site is located in the northern area of California, which is a relatively moderate seismicity region. The type and magnitude of seismic hazards affecting the site are dependent on the distance to causative faults, the intensity, and the magnitude of the seismic event. A Mean Earthquake Magnitude of 6.62 may be considered for this site.

Based on the ASCE 7-16 Standard, the peak ground acceleration (PGA_M) at the subject site is approximately 0.224g. Based on the USGS 2014 interactive deaggregations, the PGA at the subject site for a 2% probability of exceedance in 50 years (return period of

[1] https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels

[2] Olmsted, F.H., Pre-Cenozoic geology of the south half of the Auburn 15-minute quadrangle, California; U.S. Geological Survey, Bulletin 1341, 1971, 1:48,000.

2475 years) is expected to be about 0.227g. The site is not located within an Alquist-Priolo Earthquake Fault Zone based on our review of the State Fault Hazard Maps.[1]

Liquefaction

Liquefaction is a mode of ground failure that results from the generation of high pore water pressures during earthquake ground shaking, causing loss of shear strength. Liquefaction is typically a hazard where loose sandy soils or low plasticity fine grained soils exist below groundwater. The California Geological Survey (CGS) has designated certain areas within California as potential liquefaction hazard zones. These are areas considered at a risk of liquefaction-related ground failure during a seismic event, based upon mapped surficial deposits and the presence of a relatively shallow water table. The project site has not been evaluated by CGS for liquefaction hazards. A liquefaction evaluation was not performed to estimate the potential for liquefaction induced settlement based upon mapped surficial deposits.

A liquefaction analysis for the site was not requested nor performed given the age and stiffness of the geology as well as the depth to groundwater of at least 50 feet bgs.

Seismic Considerations

The 2019 California Building Code (CBC) Seismic Design Parameters have been generated using the SEAOC/OSHPD Seismic Design Maps Tool. This web-based software application calculates seismic design parameters in accordance with ASCE 7, and 2019 CBC.

Description	Value
2019 California Building Code (CBC) Site Classification[1]	C[2]
Risk Category	II
Site Latitude[3]	38.7926º
Site Longitude[3]	-121.2350º

[1] California Geological Survey (CGS), *"California Earthquakes Hazards Zone Application (EQ Zapp)", September 23, 2021, https://maps.conservation.ca.gov/cgs/EQZApp/app/.*

Description	Value
S_S, Spectral Acceleration for a Short Period[4]	0.431
S_1, Spectral Acceleration for a 1-Second Period[4]	0.218
Fa, Site Coefficient	1.3
Fv, Site Coefficient (1-Second Period)	1.5
S_{DS}, Spectral Acceleration for a Short Period	0.373
S_{D1}, Spectral Acceleration for a 1-Second Period	0.218

1. Seismic site soil classification in general accordance with the *2019 California Building Code*, which refers to ASCE 7. Site Classification is required to determine the Seismic Design Category for a structure.
2. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the CBC. Subsurface explorations at this site were extended to a maximum depth of approximately 12 feet bgs. The site properties below the maximum exploration depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper exploration or geophysical testing may be performed to confirm the conditions below the current maximum depth of exploration.
3. Provided coordinates represent a point located at the general center of the site.
4. These values were obtained using online seismic design maps and tools provided by SEAOC and OSHPD (**https://seismicmaps.org/**).

Typically, a site-specific ground motion study may reduce construction costs. We recommend consulting with a structural engineer to evaluate the need for such a study and its potential impact on construction costs. Terracon should be contacted if a site-specific ground motion study is desired.

Percolation/Infiltration

We performed two (2) percolation tests within the proposed site development for use by the project civil engineer in the design of the storm water retention system. The percolation tests were performed using borings B-6 and B-9 drilled to a depth of about 5 feet bgs. The approximate locations of the test holes are shown on the **Exploration Plan**.

After drilling the test holes, we placed approximately 2 inches of gravel in the bottom of each hole, then placed a slotted PVC pipe in each hole, and filled the annular space

around the pipe with gravel. The test holes were filled with water and left to saturate for a minimum 24 hours. We then filled the shallow holes with water and measured the drop-in water surface over a period varying from approximately 2 to 3 hours depending on the hole, refilling the holes as necessary to maintain the desired head.

The measured percolation and infiltration rates are summarized in the following table.

Perc. Test Location	Depth (feet)	Soil Classification	Avg. Head (inch)	Perc. Rate (inch/hr)	Infiltration Rate (inch/hr)
B-6	5	Silty Clayey Sand	43	2.88	0.10
B-9	5	Poorly Graded Sand with Silt	50	0.72	0.02

Since we used test borings to perform percolation testing, we have used the Porchet formula (aka Inverse Borehole Formula) to calculate the test infiltration rate which takes into account sidewall area of the bore hole. Since our tests were performed using clean water, the storm water runoff may likely contain materials such as silt, leaves, oil residues, and other matter that may reduce the percolation characteristics of the soil. We therefore recommend that a filtration system be implemented into the design and installed. An appropriate safety factor should be applied to the measured infiltration rates by the designer for use in design and be based on the amount of filtration designed into the system, at a minimum a Safety Factor of 2 shall be utilized. The values above are clear water rates and do not have a safety factor applied. In addition, we recommend a regular maintenance program be implemented to monitor the storm drainage/filtration system prior to the beginning of each wet weather season.

We have provided the following considerations for the design and construction of the retention/detention facilities. Planned retention/detention facilities should be located no closer than 10 feet to structural site improvements.

The long-term infiltration rates will depend on many factors, and can vary or be reduced if the following conditions are present:

- Fill placement,
- Variability of site soils,
- Fine layering of soils, or
- Maintenance and pre-treatment (filtration) of the influent are not performed regularly

Fill Placement: We anticipate earthwork required to develop the site may consist of cuts and fills of 5 foot or less. It is unknown whether final grades will consist of native

material or imported fill. As a result, the percolation tests performed may not be representative of the final soil conditions depending on the blend of soils utilized as structural fill and native soils exposed where cuts and fills are made. Additional percolation testing may be warranted following rough grading to confirm the values utilized in design are appropriate.

Subsurface Soil Variation: Variations in subsurface soil conditions and the presence of fine layering can affect the infiltration rate of the receptor soils. Due to variation in thickness of the upper surface fine grained soils, infiltration rates may vary across the site.

Construction Considerations: The infiltration rate of the receptor soils will be reduced in the event that fine sediment, organic materials, and/or oil residue are allowed to accumulate in the retention facilities. The use of a filtration system is highly recommended as well as a maintenance program.

Operation of heavy equipment during construction may densify the receptor soils below the infiltration facility. The soils exposed in the bottom of the infiltration facility should not be compacted and should remain in their native condition. This may require scarification of the soils prior to construction.

Maintenance of Facilities: Satisfactory long-term performance of an infiltration facility will require some degree of maintenance. Accumulations of sediment, organic materials, or other material that serve to reduce their permeability of the receptor soils should be removed from the filtration system on a regular basis so as not to enter the retention system. The filtration system shall have a rigorous maintenance program, debris from the filtration maintenance should be disposed of at an approved facility in accordance with applicable regulation.

Corrosivity

The table below lists the results of laboratory soluble sulfate, soluble chloride, electrical resistivity, and pH testing. The values may be used to estimate potential corrosive characteristics of the on-site soils with respect to contact with the various underground materials which will be used for project construction.

Corrosivity Test Results Summary

Boring	Sample Depth (feet)	Soil Description	Soluble Sulfate (%)	Soluble Chloride (%)	Electrical Resistivity (Ω-cm)	pH
B-3	1.0	Poorly Graded Sand with Silt	<0.01	0.04	6,402	3.5

Results of soluble sulfate testing can be classified in accordance with ACI 318 – Building Code Requirements for Structural Concrete. Numerous sources are available to characterize corrosion potential to buried metals using the parameters above. ANSI/AWWA is commonly used for ductile iron, while threshold values for evaluating the effect on steel can be specific to the buried feature (e.g., piling, culverts, welded wire reinforcement, etc.) or agency for which the work is performed. Imported fill materials may have significantly different properties than the site materials noted above and should be evaluated if expected to be in contact with metals used for construction. Consultation with a NACE certified corrosion professional is recommended for buried metals on the site.

Mapping by the NRCS includes qualitative severity of corrosion to concrete and steel. Based on this source, the near-surface materials are rated "Low" for corrosion to concrete and "Moderate" for corrosion of steel.

Geotechnical Overview

The site appears suitable for the proposed construction based upon geotechnical conditions encountered in the test borings, provided that the recommendations provided in this report are implemented in the design and construction phases of this project.

The recommendations contained in this report are based upon the results of field and laboratory testing (presented in the **Exploration Results**), engineering analyses, and our current understanding of the proposed project. The **General Comments** section provides an understanding of the report limitations.

Earthwork

We anticipate grading may consist of cuts and fills on the order of 5 feet or less and that site grades will remain at the same elevation as existing. Specific site grading information was unavailable at the time this report was prepared. If elevation and site grading differ from our stated assumptions, Terracon should be contacted to determine if

additional earthwork recommendations are warranted, particularly with regard to potential ground settlement.

Earthwork is anticipated to include demolition, clearing and grubbing, excavations, and engineered fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria, as necessary, to render the site in the state considered in our geotechnical engineering evaluation for foundations, floor slabs, and pavements.

Site Preparation

Prior to placing fill, existing vegetation, topsoil, and root mats should be removed. Complete stripping of the topsoil should be performed in the proposed building and parking/driveway areas. Stripping should extend laterally a minimum of 5 feet beyond the limits of proposed improvements.

Mature trees are located within or near the footprint of some of the proposed buildings, which will require removal at the onset of construction. Tree root systems can remove substantial moisture from surrounding soils. Where trees are removed, the full root ball and all associated dry and desiccated soils should be removed. The soil materials which contain less than 3 percent organics can be reused as engineered fill provided the material is moisture conditioned and properly compacted.

Although no evidence of fill or underground facilities (such as septic tanks, cesspools, basements, and utilities) was observed during the exploration and site reconnaissance, such features could be encountered during construction. If unexpected fills or underground facilities are encountered, such features should be removed, and the excavation thoroughly cleaned prior to backfill placement and/or construction.

Subgrade Preparation

After clearing, any required cuts and over-excavation should be made.

Foundations may bear on undisturbed native soil or 12 inches of engineered fill. Structural fill placed beneath the entire footprint of the foundations should extend horizontally a minimum distance of 5 feet beyond the outside edge of footings. On-site soils are considered suitable to be used as structural fill materials.

Once cuts and over-excavation operations are complete, the resulting subgrade should be proofrolled with an adequately loaded vehicle such as a fully-loaded tandem-axle dump truck. The proofrolling should be performed under the observation of the Geotechnical Engineer or their representative. Areas excessively deflecting under the proofroll should be delineated and subsequently addressed by the Geotechnical Engineer. Such areas should either be removed or modified by stabilizing as noted in the

following section ***Soil Stabilization***. Excessively wet or dry material should either be removed, or moisture conditioned and recompacted.

Excavated material may be stockpiled for use as fill provided it is cleaned of organic material, debris, and any other deleterious material and meets the criteria for general or structural fill specified in the ***Fill Material Types*** section of this report.

Once proof rolling has been performed, all exposed areas which will receive fill, once properly cleared and benched where necessary, should be scarified, moisture conditioned as necessary, and compacted per the compaction requirements in this report. The depth of scarification of subgrade soils and moisture conditioning of the subgrade is highly dependent upon the time of year of construction and the site conditions that exist immediately prior to construction. If construction occurs during the winter or spring, when the subgrade soils are typically already in a moist condition, scarification and compaction may only be 8 inches. If construction occurs during the summer or fall when the subgrade soils have been allowed to dry out deeper, the depth of scarification and moisture conditioning may be as much as 18 inches or more. A representative from Terracon should be present to observe the exposed subgrade and confirm the depth of scarification and moisture conditioning required.

Following scarification, moisture conditioning, and compaction of the subgrade soils, compacted structural fill soils should then be placed to the proposed design grade and the moisture content and compaction of subgrade soils should be maintained until foundation or pavement construction.

Loose soil conditions could be encountered in the bottom of excavations. These soils may be unworkable. The contractor may utilize dry crushed rock or clean granular fill material placed over a geotextile such as Tensar TX7 or equivalent to stabilize wet subgrade materials in the bottom of the excavations prior to backfill. If further soil stabilization is needed or another method is preferred or desired, Terracon should be consulted to evaluate the situation as needed.

Based upon the subsurface conditions determined from the geotechnical exploration, subgrade soils exposed during construction are anticipated to be relatively workable; however, the workability of the subgrade may be affected by precipitation, repetitive construction traffic or other factors. If unworkable conditions develop, workability may be improved by scarifying and drying.

Excavation

We anticipate that excavations of the top 2½ feet of soil below grade for the proposed construction can be accomplished with conventional earthmoving equipment. The bottom of excavations should be thoroughly cleaned of loose soils and disturbed materials prior to backfill placement and/or construction.

Based on the encountered subsurface conditions past 2½ feet bgs, we believe heavy-duty construction equipment, such as a hoe ram, a heavy dozer equipped with a ripper, or jack hammer with rock trenching equipment, is likely suitable for grading, shallow excavations, and utility trench excavations within this zone. A grading contractor experienced with the geology in the area should plan their work accordingly. As indicated, we can perform seismic refraction testing at the site to determine the primary velocity of the bedrock so the grading contractor can determine what type of equipment will be needed for ripping.

Groundwater seepage from possible perched groundwater conditions should be anticipated for excavations approaching and penetrating the level of bedrock. This is especially relevant if construction is performed during the rainy season (typically November through April). Pumping from sumps may be utilized to control water within the excavations. Well points may be required for significant groundwater flow, or where excavations penetrate groundwater to a significant depth.

Required excavation techniques will vary based on weathering of the materials to be excavated, and the fracturing, jointing and overall stratigraphy of the feature. Actual field conditions usually display a gradual weathering progression with poorly defined and uneven boundaries between layers of different materials. We recommend that the general guidance definitions for rock in earthwork excavation be included in bid documents. If a more detailed evaluation of the bedrock rippability is desired, we can provide seismic refraction testing to measure the in-situ primary wave velocity of the bedrock and cemented soils:

Excavation Type	Definition
Mass Excavation	Any material occupying an original volume of more than 1 cubic yard which cannot be excavated with a single-toothed ripper drawn by a crawler tractor having a minimum draw bar pull rating of not less than 80,000 pounds usable pull (Caterpillar D-8 or larger).
Trench Excavation	Any material occupying an original volume of more than 1/2 cubic yard which cannot be excavated with a backhoe having a bucket curling rate of not less than 40,000 pounds, using a rock bucket and rock teeth (a John Deere 790 or larger).

The bottom of excavations should be thoroughly cleaned of loose soils and disturbed materials prior to backfill placement and/or construction. Onsite soils may consist of cohesionless sandy soils. Such soils have the tendency to cave and slough during excavations. Therefore, formwork may be needed for foundation excavations.

Individual contractors are responsible for designing and constructing stable, temporary excavations. Excavations should be sloped or shored in the interest of safety following local, and federal regulations, including current OSHA excavation and trench safety standards.

Soil Stabilization

Depending on the time of year, precipitation may create excessively moist soils which may require improving the subgrade prior to constructing the proposed development. Methods of subgrade improvement, as described below, could include scarification, moisture conditioning and recompaction, removal of unstable materials and replacement with granular fill. The appropriate method of improvement, if required, would be dependent on factors such as schedule, weather, the size of area to be stabilized, and the nature of the instability. More detailed recommendations can be provided during construction as the need for subgrade stabilization occurs. Performing site grading operations during warm seasons and dry periods would help reduce the amount of subgrade stabilization required.

If the exposed subgrade is unstable during proofrolling operations, it could be stabilized using one of the methods outlined below.

- **Scarification and Recompaction** - It may be feasible to scarify, dry, and recompact the exposed soils. The success of this procedure would depend primarily upon favorable weather and sufficient time to dry the soils. Stable subgrades likely would not be achievable if the thickness of the unstable soil is greater than about 1 foot, if the unstable soil is at or near groundwater levels, or if construction is performed during a period of wet or cool weather when drying is difficult.
- **Aggregate Base** - The use of Caltrans Class II aggregate base is a common procedure to improve subgrade stability. Typical undercut depths would be expected to range from about 12 to 18 inches below finished subgrade elevation. The use of high modulus geosynthetics (i.e., engineering fabric or geogrid) could also be considered after underground work such as utility construction is completed. Prior to placing the fabric or geogrid, we recommend that all below grade construction, such as utility line installation, be completed to avoid damaging the fabric or geogrid. Equipment should not be operated above the fabric or geogrid until one full lift of aggregate base is placed above it. The maximum particle size of granular material placed over geotextile fabric or geogrid should meet the manufacturer's specifications.

Further evaluation of the need and recommendations for subgrade stabilization can be provided during construction as the geotechnical conditions are exposed.

Fill Material Types

Fill required to achieve design grade should be classified as structural fill and general fill. Structural fill is material used below, or within 10 feet of structures, or within 5 feet of pavements. General fill is material used to achieve grade outside of these areas.

Reuse of On-Site Soil: Excavated on-site soil may be selectively reused as fill. Portions of the on-site soil have an elevated fines content and will be sensitive to moisture conditions (particularly during seasonally wet periods) and may not be suitable for reuse when above optimum moisture content.

Material property requirements for on-site soil for use as general fill and structural fill are noted in the table below:

Property	General Fill	Structural Fill
Composition	Free of deleterious material	Free of deleterious material
Maximum particle size	6 inches (or 2/3 of the lift thickness)	3 inches
Fines content	Not limited	Less than 50% Passing No. 200 sieve
Plasticity	Not limited	Maximum plasticity index of 12 Maximum liquid limit of 35
GeoModel Layer Expected to be Suitable[1]	1, 2, 3, 4	1, 2, 3, 4

1. Based on subsurface exploration. Actual material suitability should be determined in the field at time of construction.

Imported Fill Materials: Imported fill materials should meet the following material property requirements. Regardless of its source, compacted fill should consist of approved materials that are free of organic matter and debris. For all import material, the contractor shall submit current verified reports from a recognized analytical laboratory indicating that the import has a "not applicable" (Class S0) potential for sulfate attack based upon current ACI criteria and is "mildly corrosive" to ferrous metal and copper. The reports shall be accompanied by a written statement from the contractor that the laboratory test results are representative of all import material that will be brought to the project.

Soil Type [1]	USCS Classification	Acceptable Parameters (for Structural Fill)
Low Plasticity Cohesive	CL, CL-ML ML, SM, SC	Plasticity index less than 12 Liquid Limit less than 35 Less than 50% retained on No. 200 sieve
Granular[2]	GW, GP, GM, GC, SW, SP, SM, SC	Less than 50% passing No. 200 sieve

1. Structural and general fill should consist of approved materials free of organic matter and debris and should contain no material larger than 3 inches in greatest dimension. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation at least two weeks prior to use on this site. Additional geotechnical consultation should be provided prior to use of uniformly graded gravel on the site.
2. Caltrans Class II aggregate base may be used for this material. Recycled aggregate base should not be used without prior approval by the Geotechnical Engineer.

Fill Placement and Compaction Requirements

Compacted native soil and structural and general fill should meet the following compaction requirements.

Item	Structural Fill	General Fill
Maximum Lift Thickness	8 inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used	Same as structural fill
Minimum Compaction Requirements [1,2]	95% of max. for structural fill below foundations and slabs, within 1 foot of finished pavement subgrade, for aggregate base, and for fills thicker than 5 feet 90% of max. for all other locations	90% of max.
Water Content Range [1]	Low plasticity cohesive: +1% to +3% above optimum Medium plasticity cohesive: +2% to +4% above optimum Granular: -2% to +2% of optimum	As required to achieve min. compaction requirements

Item	Structural Fill	General Fill

1. Maximum density and optimum water content as determined by the Modified Proctor test (ASTM D 1557).
2. If the granular material is a coarse sand or gravel, or of a uniform size, or has a low fines content, compaction comparison to relative density may be more appropriate. In this case, granular materials should be compacted to at least 70% relative density (ASTM D 4253 and D 4254). Materials not amenable to density testing should be placed and compacted to a stable condition observed full time by the Geotechnical Engineer or representative.

Utility Trench Backfill

Any soft or unsuitable materials encountered at the bottom of utility trench excavations should be removed and replaced with structural fill or bedding material in accordance with public works specifications for the utility be supported. This recommendation is particularly applicable to utility work requiring grade control and/or in areas where subsequent grade raising could cause settlement in the subgrade supporting the utility. Trench excavation should not be conducted below a downward 1:1 projection from existing foundations without engineering review of shoring requirements and geotechnical observation during construction.

On-site materials are considered suitable for backfill of utility and pipe trenches from 1 foot above the top of the pipe to the final ground surface, provided the material is free of organic matter and deleterious substances.

Trench backfill should be mechanically placed and compacted as discussed earlier in this report. Compaction of initial lifts should be accomplished with hand-operated tampers or other lightweight compactors. Where trenches are placed beneath slabs or footings, the backfill should satisfy the gradation and Atterberg limit requirements of structural engineered fill discussed in this report. Flooding or jetting for placement and compaction of backfill is not recommended.

All trench excavations should be made with sufficient working space to permit construction including backfill placement and compaction. If utility trenches are backfilled with relatively clean granular material, they should be capped with at least 18 inches of cementitious flowable fill or cohesive fill in non-pavement areas to reduce the infiltration and conveyance of surface water through the trench backfill. Attempts should also be made to limit the amount of fines migration into the clean granular material. Fines migration into clean granular fill may result in unanticipated localized settlements over a period of time. To help limit the amount of fines migration, Terracon recommends the use of a geotextile fabric that is designed to prevent fines migration in areas of contact between clean granular material and fine-grained soils. Terracon also recommends that clean granular fill be tracked or tamped in place where possible in

order to limit the amount of future densification which may cause localized settlements over time.

Grading and Drainage

All grades must provide effective drainage away from the building during and after construction and should be maintained throughout the life of the structure. Water retained next to the building can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab and/or foundation movements, cracked slabs and walls, and roof leaks. The roof should have gutters/drains with downspouts that discharge onto splash blocks a distance of at least 10 feet from the building, onto pavements, or are tied to tight lines that discharge into a storm drain system.

Exposed ground should be sloped and maintained at a minimum 5 percent away from the building for at least 10 feet beyond the perimeter of the building. If a minimum 5 percent slope cannot be achieved due to site grades, a minimum 2½ percent slope could be used provided pavement or hardscape surrounds and extends to the building, or a subdrain could be installed around the perimeter of the foundations that carries water away from the building. Locally, flatter grades may be necessary to transition ADA access requirements for flatwork. After building construction and landscaping have been completed, final grades should be verified to document effective drainage has been achieved. Grades around the structure should also be periodically inspected and adjusted, as necessary, as part of the structure's maintenance program. Where paving or flatwork abuts the structure, a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

Any planters and bio-swales located within 10 feet of the building should be self-contained or lined with an impermeable membrane to prevent water from accessing subgrade soils below the building. Sprinkler mains and spray heads should be located a minimum of 5 feet away from the foundation lines.

No vegetation over six feet in height shall be planted within 20 feet of the building perimeter unless a root barrier is provided between the structure and tree to limit roots within 10 feet of building. Roots can draw additional moisture from the soils and cause excessive volume changes in the soil resulting in building movement.

Implementation of adequate drainage for this project can affect the surrounding developments. Consequently, in addition to designing and constructing drainage for this project, the effects of site drainage should be taken into consideration for the planned structures on this property, the undeveloped portions of this property, and surrounding sites. Extra care should be taken to ensure irrigation and drainage from adjacent areas do not drain onto the project site or saturate the construction area.

Earthwork Construction Considerations

Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of grade-supported improvements such as floor slabs, exterior hardscape, and pavements. Construction traffic over the completed subgrades should be avoided to the extent practical. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade should become desiccated, saturated, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted prior to construction.

Groundwater seepage should be anticipated for excavations approaching and penetrating the level of bedrock. A temporary dewatering system consisting of sumps with pumps may be necessary to achieve the recommended depth of excavation depending on groundwater conditions at the time of construction. **Dewatering should be considered and planned for in proposed excavations if the excavations will extend near the groundwater levels encountered during our field exploration. The depth of dewatering below the bottom of excavations should be determined by the contractor and/or designer.**

We recommend that the earthwork portion of this project be completed during extended periods of dry weather if possible. If earthwork is completed during the wet season (typically November through April) it may be necessary to take extra precautionary measures to protect subgrade soils. Wet season earthwork operations may require additional mitigation measures beyond that which would be expected during the drier summer and fall months. This could include ground stabilization utilizing chemical treatment of the subgrade, diversion of surface runoff around exposed soils, and draining of ponded water on the site. Once subgrades are established, it may be necessary to protect the exposed subgrade soils from construction traffic.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local and/or state regulations. Stockpiles of soil, construction materials, and construction equipment should not be placed near trenches or excavations. ***The Contractor is responsible for maintaining the stability of adjacent structures during construction.***

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety or the contractor's activities; such responsibility shall neither be implied nor inferred.

Excavations or other activities resulting in ground disturbance have the potential to affect adjoining properties and structures. Our scope of services does not include review of available final grading information or consider potential temporary grading performed by the contractor for potential effects such as ground movement beyond the project limits. A preconstruction/ precondition survey should be conducted to document nearby property/infrastructure prior to any site development activity. Excavation or ground disturbance activities adjacent or near property lines should be monitored or instrumented for potential ground movements that could negatively affect adjoining property and/or structures.

Construction Observation and Testing

The earthwork efforts should be observed by the Geotechnical Engineer (or others under their direction). Observation should include documentation of adequate removal of surficial materials (vegetation, topsoil, debris, and pavements), evaluation and remediation of existing fill materials, as well as proofrolling and mitigation of unsuitable areas delineated by the proofroll.

Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, as recommended by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 2,500 square feet of compacted fill in the building areas and 5,000 square feet in pavement areas. Where not specified by local ordinance, one density and water content test should be performed for every 100 linear feet of compacted utility trench backfill and a minimum of one test performed for every 12 vertical inches of compacted backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated by the Geotechnical Engineer. If unanticipated conditions are observed, the Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

Shallow Foundations

The proposed building may be supported by spread footings. If the site has been prepared in accordance with the requirements noted in **Earthwork**, the following design parameters are applicable for shallow foundations.

Design Parameters – Compressive Loads

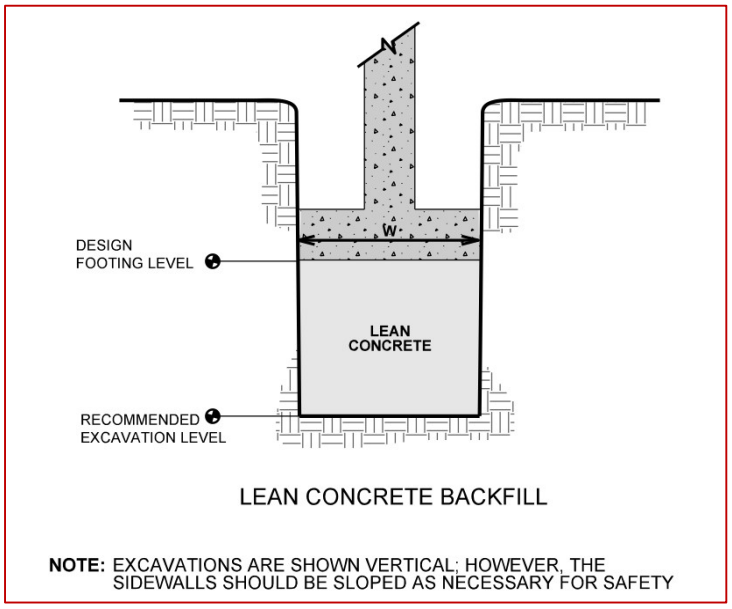
Item	Description
Maximum Net Allowable Bearing Pressure [1, 2]	3,500 psf
Required Bearing Stratum [3]	12 inches of engineered fill or undisturbed native soils
Minimum Foundation Dimensions	Per CBC 1809.7
Passive Resistance [4, 8] **(equivalent fluid pressures)**	390 pcf
Sliding Resistance [5, 8]	0.35 allowable coefficient of friction
Minimum Embedment below Finished Grade [6]	12 inches
Estimated Total Settlement from Structural Loads [2]	Less than about 1 inch
Estimated Differential Settlement [2, 7]	About ½ of total settlement

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. This bearing pressure can be increased by 1/3 for transient loads unless those loads have been factored to account for transient conditions. Values assume that exterior grades are no steeper than 20% within 10 feet of structure.
2. **Values provided are for maximum loads noted in** Project Description. Additional geotechnical consultation will be necessary if higher loads are anticipated.
3. Unsuitable or soft soils should be overexcavated and replaced per the recommendations presented in **Earthwork**.
4. Use of passive earth pressures require the sides of the excavation for the spread footing foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the footing forms be removed and compacted structural fill be placed against the vertical footing face. Assumes no hydrostatic pressure.
5. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Frictional resistance for granular materials is dependent on the bearing pressure which may vary due to load combinations. For fine-grained materials, lateral resistance using cohesion should not exceed ½ the dead load.
6. Embedment necessary to minimize the effects of seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
7. Differential settlements are noted for equivalent-loaded foundations and bearing elevation as measured over a span of 50 feet.
8. Passive Resistance and Sliding Resistance may be combined to resist sliding provided the Passive Resistance is reduced by 50 percent.

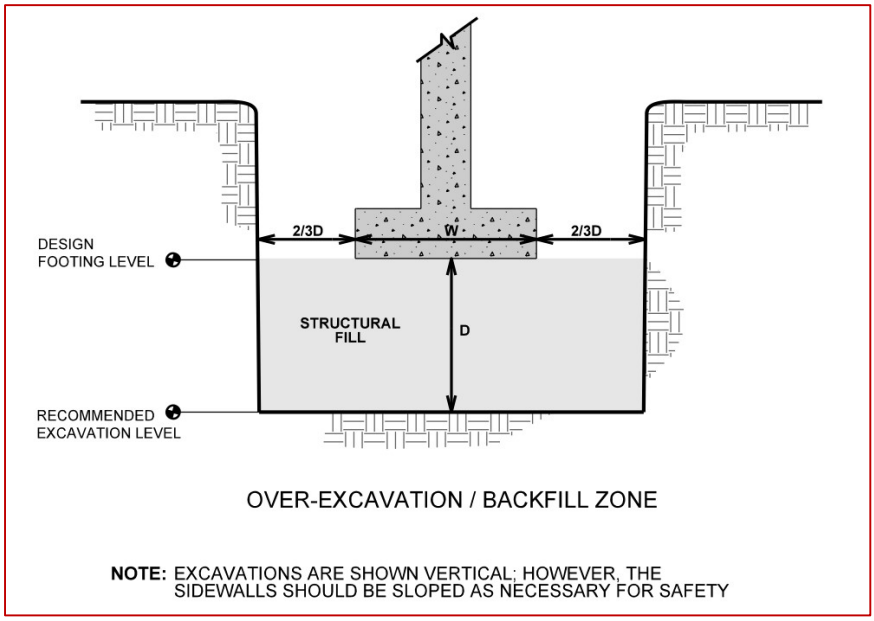
Foundation Construction Considerations

As noted in **Earthwork**, the footing excavations should be evaluated under the observation of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

If unsuitable bearing soils are observed at the base of the planned footing excavation, the excavation should be extended deeper to suitable soils, and the footings could bear directly on these soils at the lower level or on lean concrete backfill placed in the excavations. The lean concrete replacement zone is illustrated on the following sketch.



Overexcavation for structural fill placement below footings should be conducted as shown in the following sketch. The overexcavation should be backfilled up to the footing base elevation, with structural fill placed, as recommended in the **Earthwork** section.



To ensure foundations have adequate support, special care should be taken when footings are located adjacent to trenches. The bottom of such footings should be at least 1 foot below an imaginary plane with an inclination of 1.5 horizontal to 1.0 vertical extending upward from the nearest edge of the adjacent trench.

Floor Slabs

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed. Specific attention should be given to positive drainage away from the structure and positive drainage of the aggregate base beneath the floor slab.

Depending upon the finished floor elevation, unsuitable and/or weak soils may be observed at the floor slab subgrade level. These soils should be replaced with structural fill so the floor slab is supported on at least 2 feet of compacted suitable natural soils or structural fill.

Floor Slab Design Parameters

Item	Description
Floor Slab Support[1]	Use 4 inches of ¾ inch free draining crushed rock[3]. Overlying 12 inches scarified and recompacted native soils or new low volume change engineered fill. Subgrade compacted to recommendations in **Earthwork**

Item	Description
Estimated Modulus of Subgrade Reaction [2]	150 pounds per square inch per inch (psi/in) for point loads

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in **Earthwork**, and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.
3. Free-draining granular material should have less than 5% fines (material passing the No. 200 sieve). Other design considerations such as cold temperatures and condensation development could warrant more extensive design provisions.

The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, when the project includes humidity-controlled areas, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut contraction joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations, refer to the ACI Design Manual. Joints or cracks should be sealed with a waterproof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing, or other means.

Floor Slab Construction Considerations

Finished subgrade, within and for at least 10 feet beyond the floor slab, should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed, and structural fill should be added to replace the resulting excavation. Final conditioning

of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should observe the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

Exterior Hardscape

Exterior hardscape, exterior architectural features, and utilities may experience some movement due to the volume change of the subgrade soils. To reduce the potential for damage caused by movement, we recommend:

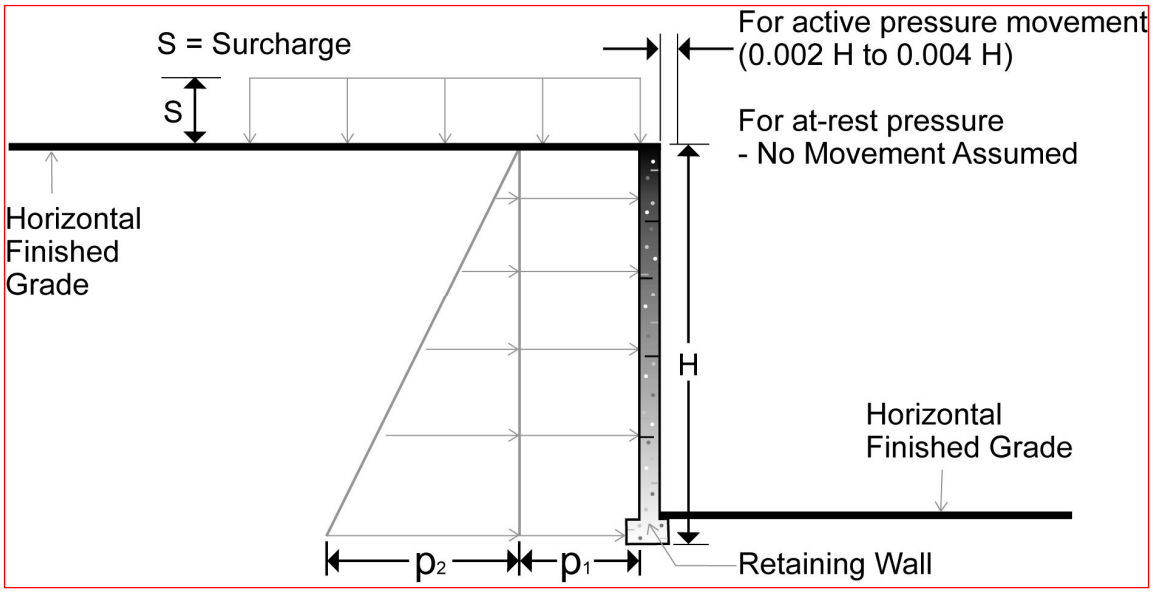
- Slabs should be underlain by a minimum of 12 inches of compacted LVC structural fill or undisturbed native soils. However, at the contractor's discretion, gravel may be placed between the slab and LVC to assist with constructability.
- Minimizing moisture increases in the subgrade soils and backfill;
- Controlling moisture-density during placement of fill;
- Using designs which allow vertical movement between the exterior features and adjoining structural elements;
- Placing effective control joints on relatively close centers.
- Ensure clay subgrade soils are in a moist condition prior to slab construction.
- Reinforce exterior slabs and flatwork with a minimum No. 4 bars at 18 inches on center.

Lateral Earth Pressures

Design Parameters

Below-grade construction is expected to be limited to below ground stormwater treatment systems and utility vaults. We have assumed the systems/vaults will be 5 feet deep or less. Structures with unbalanced backfill levels on opposite sides should be designed for earth pressures at least equal to values indicated in the following table. Earth pressures will be influenced by structural design of the walls, conditions of wall restraint, methods of construction, and/or compaction and the strength of the materials being restrained. Two wall restraint conditions are shown in the diagram below. Active earth pressure is commonly used for design of free-standing cantilever retaining walls and assumes wall movement. The "at-rest" condition assumes no wall movement and is commonly used for basement walls, loading dock walls, or other walls restrained at the

top. The recommended design lateral earth pressures do not include a factor of safety and do not provide for possible hydrostatic pressure on the walls (unless stated).



Lateral Earth Pressure Design Parameters

Earth Pressure Condition [1]	Coefficient for Backfill Type [2]	Surcharge Pressure [3] p_1 (psf)	Equivalent Fluid Pressures (psf) [2,4]	
			Unsaturated [5]	Submerged [5]
Active (Ka)	Structural - 0.31	(0.31)S	(40)H	(80)H
At-Rest (Ko)	Structural - 0.47	(0.47)S	(55)H	(90)H

1. For active earth pressure, wall must rotate about base, with top lateral movements 0.002 H to 0.004 H, where H is wall height. For passive earth pressure, wall must move horizontally to mobilize resistance. Fat clay or other expansive soils should not be used as backfill behind the wall.
2. Uniform, horizontal backfill, with a maximum unit weight of 120 pcf.
3. Uniform surcharge, where S is surcharge pressure.
4. Loading from heavy compaction equipment is not included.
5. To achieve "Unsaturated" conditions, follow guidelines in the following **Subsurface Drainage for Below-Grade Walls** or **Retaining Wall Drainage** section of this report. "Submerged" conditions are recommended when drainage behind walls is not incorporated into the design.
6. Values in the above table are for flat backfill only.

Backfill placed against structures should consist of granular soils or low plasticity cohesive soils. For the granular values to be valid, the granular backfill must extend out and up from the base of the wall at an angle of at least 45 to 60 degrees from vertical for the active case.

Total lateral earth pressure acting on retaining or below grade walls during a seismic event will likely include the active or at-rest static force and a dynamic increment. The dynamic increment should be applied to the wall as resultant force acting at 0.33H height from the base of the wall. Such increments should be added to the static earth pressures. A dynamic lateral earth resultant force of $5H^2$ (in units of pounds per linear foot (plf), where H (in units of feet) is the height of the soil behind the wall[1] should be used in design.

Heavy equipment should not operate within a distance closer than the exposed height of retaining walls to prevent lateral pressures more than those provided. Compaction of each lift adjacent to wall should be accomplished with hand-operated tampers for other lightweight compactors. Over-compaction may cause excessive lateral earth pressures which could result in wall movement.

Footings, floor slabs or other loads bearing on backfill behind walls may have a significant influence on the lateral earth pressure. Placing footings within wall backfill and in the zone of active soil influence on the wall should be avoided unless structural analyses indicate the wall can safely withstand the increased pressure.

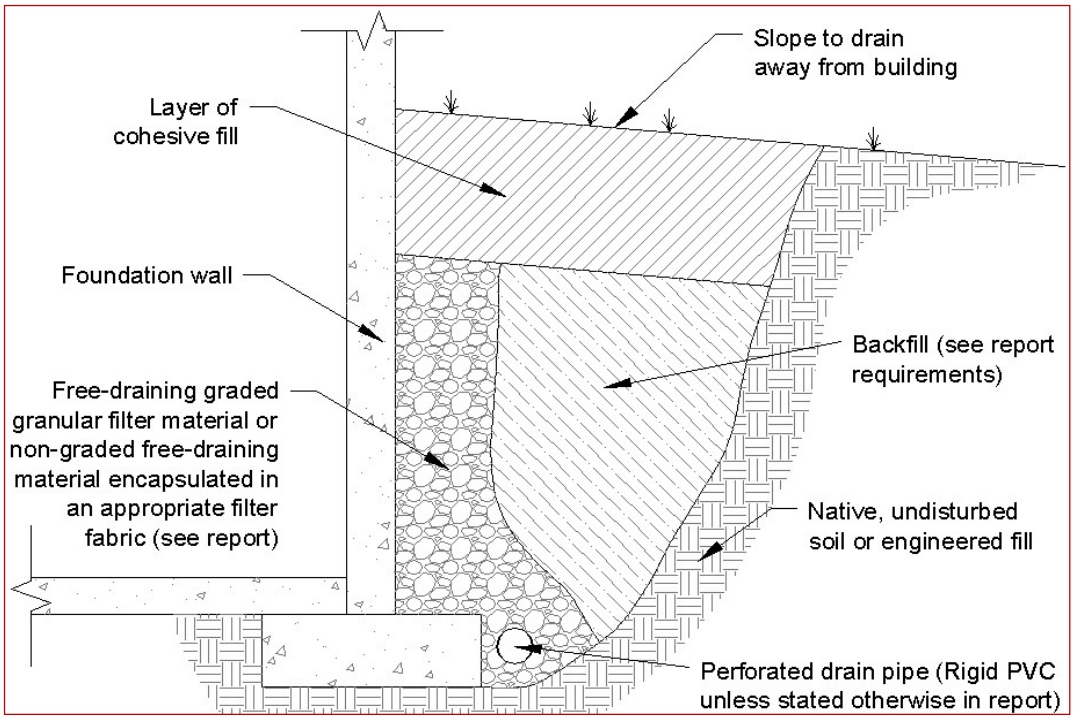
The lateral earth pressure recommendations given in this section are applicable to the design of rigid retaining walls subject to slight rotation, such as cantilever, or gravity type concrete walls. These recommendations are not applicable to the design of modular block - geogrid reinforced backfill walls (also termed MSE walls). Recommendations covering these types of wall systems are beyond the scope of services for this assignment. However, we would be pleased to develop a proposal for evaluation and design of such wall systems upon request.

Subsurface Drainage for Below-Grade Walls

A perforated rigid plastic drain line installed behind the base of walls and extends below adjacent grade is recommended to prevent hydrostatic loading on the walls. The invert of a drain line around a below-grade building area or exterior retaining wall should be placed near foundation bearing level. The drain line should be sloped to provide positive gravity drainage to daylight or to a sump pit and pump. The drain line should be surrounded by clean, free-draining granular material having less than 5% passing the No. 200 sieve, such as No. 57 aggregate. The free-draining aggregate should be encapsulated in a filter fabric. The granular fill should extend to within 2 feet of final

[1] *Seed & Whitman (1970)*

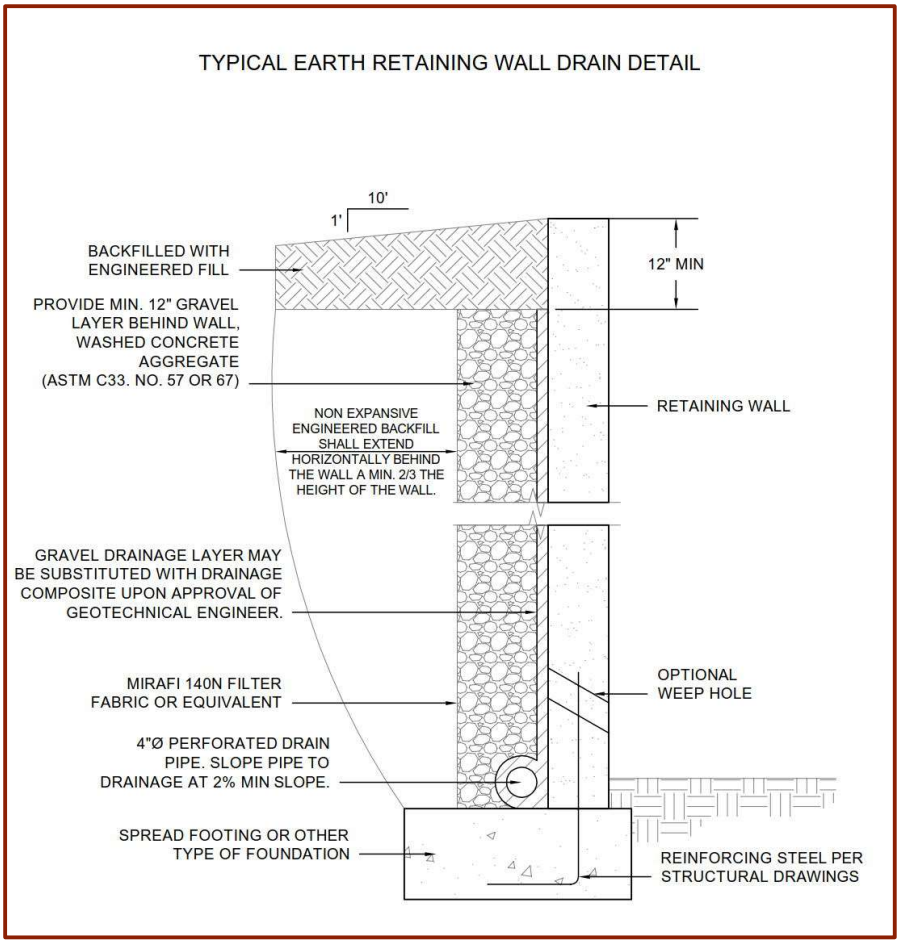
grade, where it should be capped with compacted cohesive fill to reduce infiltration of surface water into the drain system.



As an alternative to free-draining granular fill, a prefabricated drainage composite may be used. A prefabricated drainage composite is a plastic drainage core or mesh which is covered with filter fabric to prevent soil intrusion and is fastened to the wall prior to placing backfill.

Retaining Wall Drainage

To control hydrostatic pressure behind the wall we recommend that a drain be installed at the bottom of the wall with a collection pipe leading to a reliable discharge. The drainage should consist of either a prefabricated drainage composite or a 12-inch-thick free draining gravel blanket. Free draining gravel should consist of Caltrans Class II permeable material or ¾ inch clean gravel wrapped in Mirafi 140N filter fabric or equivalent. The drainage should extend from the bottom of the wall to within 12 inches of the top of the wall. The drainage should be capped with 12 inches of compacted cohesive soil. The collection pipe should be designed by the Civil Engineer but should be a minimum 4-inch diameter perforated Schedule 40 PVC or ABS drain pipe and should slope to an existing drainage system or to a positive gravity outlet. A typical earth retaining wall drain detail is illustrated on the following sketch.



Pavements

General Pavement Comments

Pavement designs are provided for the traffic conditions and pavement life conditions as noted in **Project Description** and in the following sections of this report. A critical aspect of pavement performance is site preparation. Pavement designs noted in this section must be applied to the site which has been prepared as recommended in the **Earthwork** section.

On most project sites, the site grading is accomplished relatively early in the construction phase. Fills are placed and compacted in a uniform manner. However, as construction proceeds, excavations are made into these areas, rainfall and surface water saturates some areas, heavy traffic from concrete trucks and other delivery vehicles disturbs the subgrade and many surface irregularities are filled in with loose soils to improve trafficability temporarily. As a result, the pavement subgrades, initially prepared early in the project, should be carefully evaluated as the time for pavement construction approaches.

We recommend the moisture content and density of the top 12 inches of the subgrade be evaluated and the pavement subgrades be proofrolled within two days prior to commencement of actual paving operations. Areas not in compliance with the required ranges of moisture or density should be moisture conditioned and recompacted. Particular attention should be paid to high traffic areas that were rutted and disturbed earlier and to areas where backfilled trenches are located. Areas where unsuitable conditions are located should be repaired by removing and replacing the materials with properly compacted fills.

If a significant precipitation event occurs after the evaluation or if the surface becomes disturbed, the subgrade should be reviewed by qualified personnel immediately prior to paving. The subgrade should be in its finished form at the time of the final review.

Pavement Design Parameters

Design of Asphaltic Concrete (AC) pavement sections were calculated using the Caltrans Highway Design Manual, latest edition, and a 20-year design life. Design of Portland Cement Concrete (PCC) pavement sections were designed using ACI 330R-21, "Guide for the Design and Construction of Concrete Parking Lots."

Bulk samples of the near surface native soils were collected to perform Hveem Stabilometer (R-Value) testing. A representative bulk sample from Boring B-8 was selected for testing. The testing resulted in an R-Value of 9. Subsequently, an R-Value of 9 was used for the subgrade for the asphaltic concrete (AC) pavement designs. Additional R-Value testing may be performed following rough grading of the site on the subgrade soils that will ultimately support proposed pavements in order to determine if a more favorable R-Value result may be used in design reducing planning pavement sections. A modulus of subgrade reaction of 50 pci was used for the Portland cement concrete (PCC) pavement designs. The value was empirically derived based upon our experience with the sandy subgrade soils and our expectation of the quality of the subgrade as prescribed by the **Site Preparation** conditions as outlined in **Earthwork**. A modulus of rupture of 550 psi was used in design for the concrete (based on correlations with a minimum 28-day compressive strength of 4,500 psi).

As more specific traffic information becomes available for the project specific and project traffic indexes are determined, we should be contacted to reevaluate the pavement calculations.

Recommendations for conventional pavement sections are presented next. The recommendations are based on the subgrade being in a firm and unyielding condition.

Pavement Section Thicknesses

The following table provides our opinion of minimum thickness for AC sections:

Asphaltic Concrete Design

Layer	Thickness (inches)		
	Auto/Light Truck Parking Areas (TI=4.5)[1]	Auto/Light Truck Driving Areas (TI=5.5)[1]	Truck Parking Areas (TI=6.5)[1]
AC [2, 3]	2.5	3.0	4.0
Aggregate Base[2]	9.0	12.0	13.0

1. See **Project Description** for more specifics regarding traffic assumptions.
2. All materials should meet the current Caltrans Highway Design Manual specifications.
   - Base – Caltrans Class 2 aggregate base
3. A minimum 1.5-inch surface course should be used on ACC pavements.

The following table provides our estimated minimum thickness of PCC pavements.

Portland Cement Concrete Design

Layer	Thickness (inches)		
	Traffic Category A [1]	Traffic Category B [1]	Traffic Category C [1]
PCC [2]	5.0	6.5	7.5
Aggregate Base	4.0	4.0	4.0

1. See **Project Description** for more specifics regarding traffic classifications.
2. All materials should meet the current Caltrans Highway Design Manual specifications.

Areas for parking of heavy vehicles, concentrated turn areas, and start/stop maneuvers could require thicker pavement sections. Edge restraints (i.e. concrete curbs or aggregate shoulders) should be planned along curves and areas of maneuvering vehicles.

Although not required for structural support, a minimum 4-inch-thick base course layer is recommended to help reduce potential for slab curl, shrinkage cracking, and subgrade

pumping through joints. Proper joint spacing will also be required to prevent excessive slab curling and shrinkage cracking. Joints should be sealed to prevent entry of foreign material and doweled where necessary for load transfer. PCC pavement details for joint spacing, joint reinforcement, and joint sealing should be prepared in accordance with ACI 330 and ACI 325.

Where practical, we recommend early-entry cutting of crack-control joints in PCC pavements. Cutting of the concrete in its "green" state typically reduces the potential for micro-cracking of the pavements prior to the crack control joints being formed, compared to cutting the joints after the concrete has fully set. Micro-cracking of pavements may lead to crack formation in locations other than the sawed joints, and/or reduction of fatigue life of the pavement.

Openings in pavements, such as decorative landscaped areas, are sources for water infiltration into surrounding pavement systems. Water can collect in the islands and migrate into the surrounding subgrade soils thereby degrading support of the pavement. Islands with raised concrete curbs, irrigated foliage, and low permeability near-surface soils are particular areas of concern. The civil design for the pavements with these conditions should include features to restrict or collect and discharge excess water from the islands. Examples of features are edge drains connected to the stormwater collection system, longitudinal subdrains, or other suitable outlets and impermeable barriers preventing lateral migration of water such as a cutoff wall installed to a depth below the pavement structure.

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section. Appropriate sub-drainage or connection to a suitable daylight outlet should be provided to remove water from the granular subbase.

The pavement surfacing, and adjacent sidewalks should be sloped to provide rapid drainage of surface water. Water should not be allowed to pond on or adjacent to these grade-supported slabs, since this could saturate the subgrade and contribute to premature pavement or slab deterioration. In areas where pavement sections abut bioswales, curb should extend below the planned AB section to intercept water infiltration below the pavement section. Water migration in and out of the pavement sections may result in repeated shrinkage and swelling and increasing pavement section fatigue.

Based on the possibility of shallow and/or perched groundwater, we recommend installing a pavement subdrain system to control groundwater, improve stability, and improve long-term pavement performance.

Due to the possibility of perched groundwater, consideration should be given to installing a pavement subdrain system to control subgrade moisture, improve stability, and improve long-term pavement performance.

We recommend at least 6 inches of free-draining granular material be placed beneath the pavements. We recommend pavement subgrades be crowned at least 2% to promote the flow of water towards the subdrains, and to reduce the potential for ponding of water on the subgrade. The design recommendations for the subdrains are provided in the following table:

Subdrain Design Recommendations

Item	Value
Free Draining Granular Base Thickness below Pavement	6 inches of material meeting No. 57 aggregate specifications
Minimum Drainpipe Diameter	4 inches
Drain Trench Width	16 inches or greater to provide minimum 6-inch annulus of drainage aggregate around drainpipe.
Invert Depth below Subgrade Elevation	3½ feet
Maximum Drainpipe Spacing	50 feet
Subdrain Trench Backfill Material	No. 57 aggregate or ¾-inch aggregate

The subdrains should be hydraulically connected to the free-draining granular base layer. Subdrains should be sloped to provide positive gravity drainage to reliable discharge points such as the below ground treatment systems located in the drive aisles. Periodic maintenance of subdrains is required for long-term proper performance.

Pavement Maintenance

The pavement sections represent minimum recommended thicknesses and, as such, periodic upkeep should be anticipated. Preventive maintenance should be planned and provided for through an on-going pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Pavement care consists of both localized (e.g., crack, and joint sealing and patching) and global maintenance (e.g., surface sealing). Additional engineering consultation is recommended to determine the type and extent of a cost-

effective program. Even with periodic maintenance, some movements and related cracking may still occur, and repairs may be required.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Final grade adjacent to paved areas should slope down from the edges at a minimum 2%.
- Subgrade and pavement surfaces should have a minimum 2% slope to promote proper surface drainage.
- Install pavement drainage systems surrounding areas anticipated for frequent wetting.
- Install joint sealant and seal cracks immediately.
- Seal all landscaped areas in or adjacent to pavements to reduce moisture migration to subgrade soils.
- Place compacted, low permeability backfill against the exterior side of curb and gutter.
- Place curb, gutter and/or sidewalk directly on clay subgrade soils rather than on unbound granular base course materials.

General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials, or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in

accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly affect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing. This report should not be used after 3 years without written authorization from Terracon.

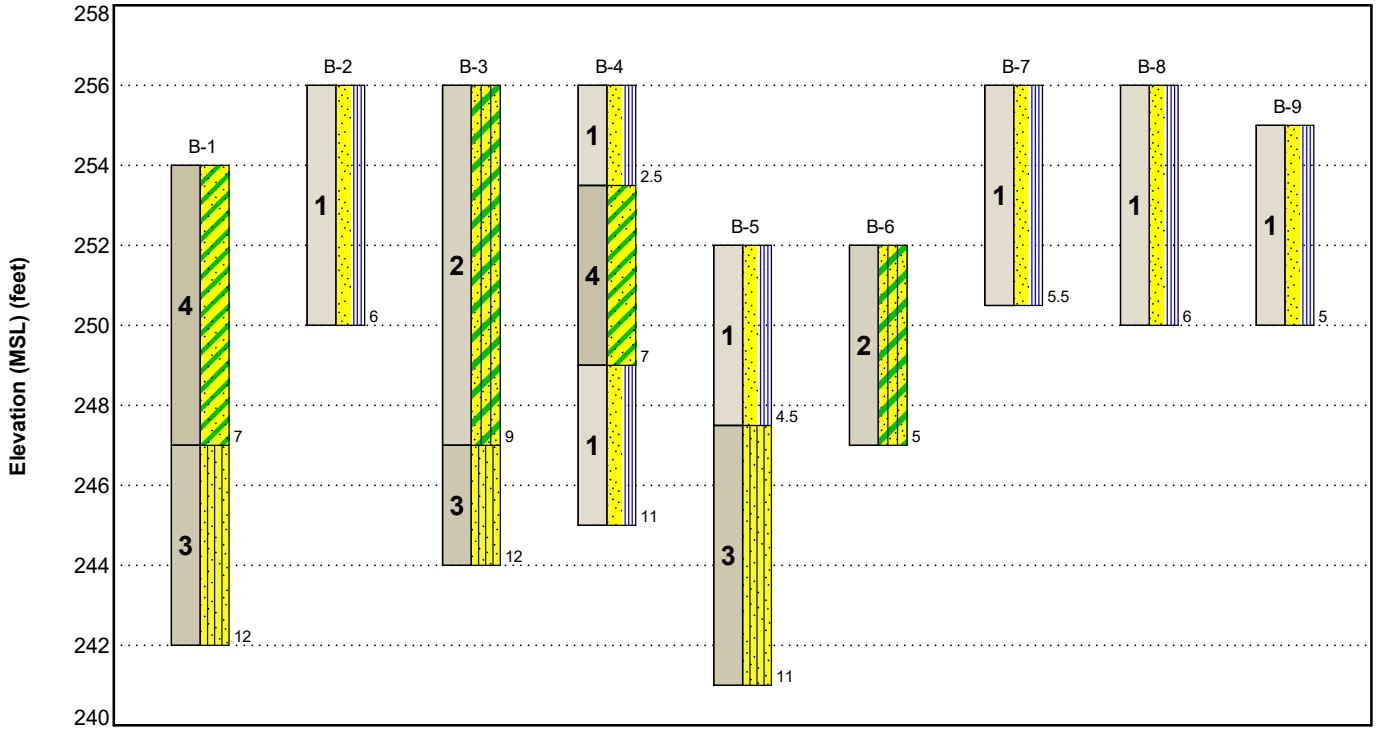
Figures

Contents:

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Geomodel



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	**Poorly Graded Sand with Silt**	Loose to very dense poorly graded sand with silt with variable cementation.
2	**Silty Clayey Sand**	Medium dense to very dense silty clayey sand with variable cementation.
3	**Silty Sand**	Very dense silty sand with variable cementation.
4	**Clayey Sand**	Dense to very dense clayey sand with variable cementation.

LEGEND

Clayey Sand
Silty Clayey Sand
Silty Sand
Poorly-graded Sand with Silt

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

Attachments

Exploration and Testing Procedures

Field Exploration

Number of Borings	Approximate Boring Depth (feet)	Location
5	6 to 12	Building area
4	5 to 6	Parking/driveway area

Boring Layout and Elevations: Terracon personnel provided the boring layout using handheld GPS equipment (estimated horizontal accuracy of about ±10 feet) and referencing existing site features. Approximate ground surface elevations were obtained by interpolation from Google Earth. If elevations and a more precise boring layout are desired, we recommend the exploration locations be surveyed.

Subsurface Exploration Procedures: We advanced the borings with a truck-mounted rotary drill rig using continuous hollow stem flight augers. Four samples were obtained in the upper 10 feet of each boring and at intervals of 5 feet or less thereafter. In the thin-walled tube sampling procedure, a thin-walled, seamless steel tube with a sharp cutting edge was pushed hydraulically into the soil to obtain a relatively undisturbed sample. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. A 2.5-inch O.D. split-barrel sampling spoon with 2.0-inch I.D. ring lined sampler was also used for sampling. Ring-lined, split-barrel sampling procedures are similar to standard split spoon sampling procedure; however, blow counts are typically recorded for 6-inch intervals for a total of 12 inches of penetration. For safety purposes, all borings were backfilled with neat cement-grout after their completion.

We also observed the boreholes while drilling and at the completion of drilling for the presence of groundwater. Groundwater was not observed at these times in the boreholes.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials observed during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were

prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests. The laboratory testing program included the following types of tests:

- ASTM D2216 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
- ASTM 7263 Standard Test Methods for Laboratory Determination of Density and Unit Weight of Soil Specimens
- ASTM D1140 Standard Test Method for Determining the Amount of Material Finer than No. 200 Sieve by Soil Washing
- ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- ASTM D422 Standard Test Method for Particle-Size Analysis of Soils
- ASTM D2844 Standard Test Method for Resistance Value R-Value and Expansion Pressure of Compacted Soils
- Corrosivity Testing including pH, chlorides, sulfates, sulfides, RedOx potential, and electrical lab resistivity

The laboratory testing program often included examination of soil samples by an engineer. Based on the results of our field and laboratory programs, we described and classified the soil samples in accordance with the Unified Soil Classification System.

Site Location and Exploration Plans

Contents:

Note: All attachments are one page unless noted above.

Site Location

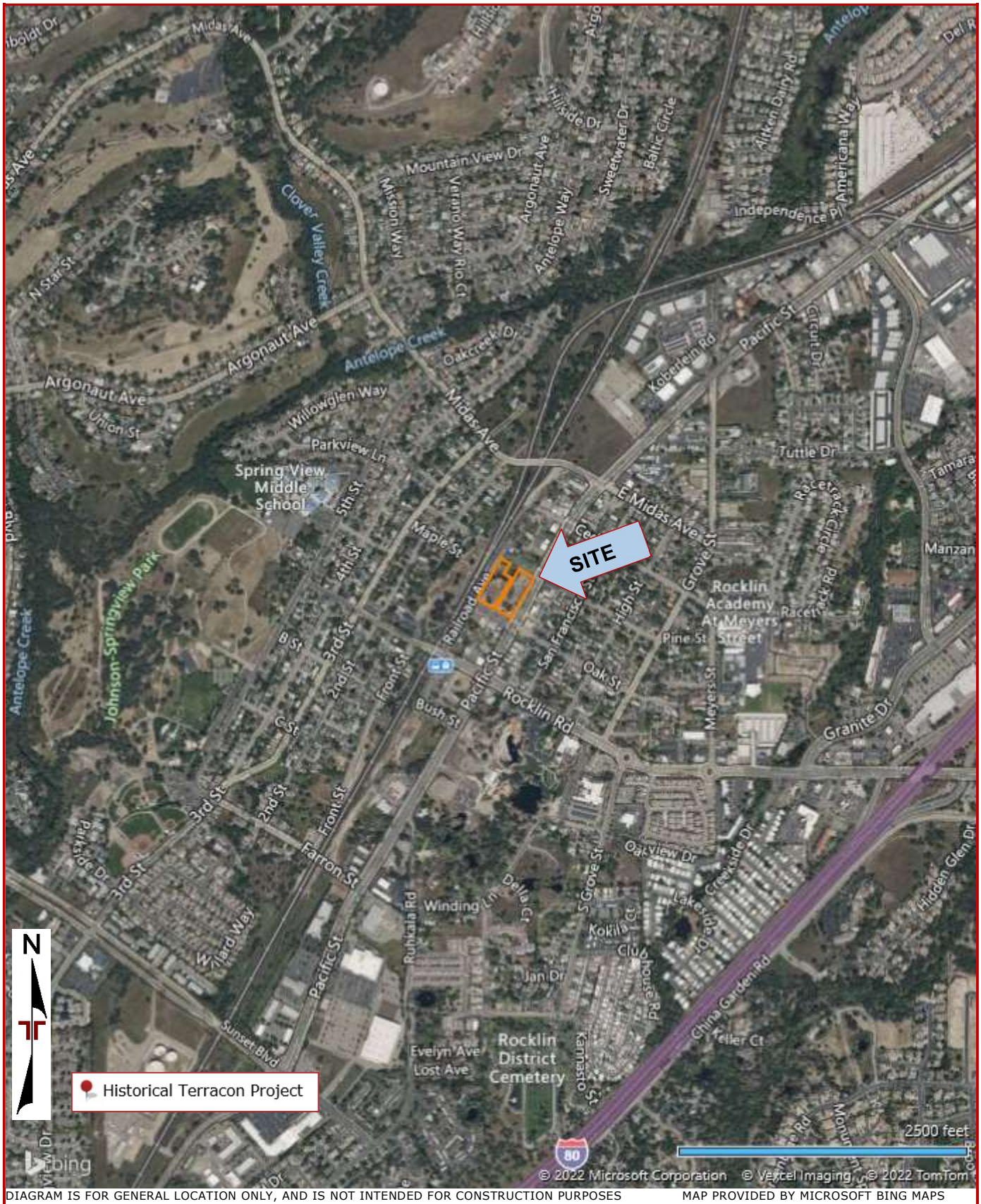


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES MAP PROVIDED BY MICROSOFT BING MAPS

Exploration Plan

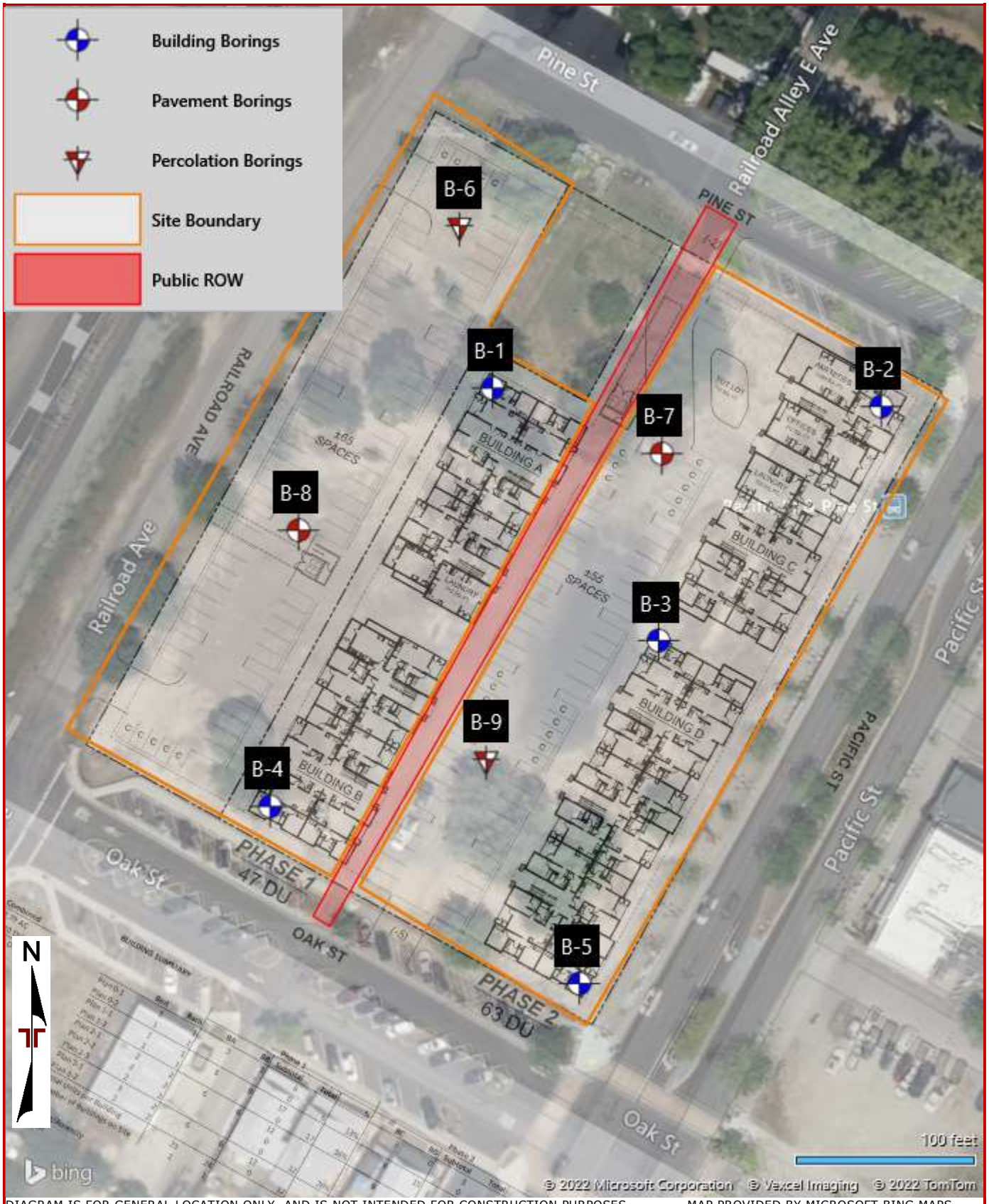


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES MAP PROVIDED BY MICROSOFT BING MAPS

Exploration and Laboratory Results

Contents:

Note: All attachments are one page unless noted above.

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Boring Log No. B-1

Location: See Exploration Plan

Latitude: 38.7931° Longitude: -121.2354°

Depth (Ft.) | Elevation: 254 (Ft.) +/-

Model Layer	Graphic Log	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
4		0							
					12-14-28	8.2	111		25
					22-50/3"	11.2	100		
		5			23-50/2"	8.4			
		7.0							
					50/2"	3.9		NP	21
3		10			50/1"	3.0			
		12.0							

CLAYEY SAND (SC), fine to coarse grained, orange brown to gray brown, dense, moderate cementation in places

very dense

247

SILTY SAND (SM), fine grained, gray brown with white, very dense, moderate cementation in places

242

auger refusal encountered on bedrock

Auger Refusal at 12 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations estimated from Google Earth Pro

Advancement Method
6" Hollow Stem Auger

Abandonment Method
Boring backfilled with neat cement grout
Surface capped with auger cuttings

Drill Rig
D-90 Truck

Hammer Type
Automatic

Driller
Terracon Lodi

Logged by
Justin McNabb

Boring Started
11-11-2022

Boring Completed
11-11-2022

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Boring Log No. B-2

Location: See Exploration Plan

Latitude: 38.7931° Longitude: -121.2346°

Depth (Ft.) Elevation: 256 (Ft.) +/-

Model Layer	Graphic Log	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
1		0							
					4-5-5	10.7	101		15
					8-19-27	7.2	124		
					13-50/3"	7.6	85		
		5							
					50/1"	7.8			
		6.0							

POORLY GRADED SAND WITH SILT (SP-SM), fine to medium grained, orange brown to gray brown, loose, weak cementation in places

dense

very dense

auger refusal encountered on bedrock

Auger Refusal at 6 Feet

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations estimated from Google Earth Pro

Advancement Method
6" Hollow Stem Auger

Abandonment Method
Boring backfilled with neat cement grout
Surface capped with auger cuttings

Drill Rig
D-90 Truck

Hammer Type
Automatic

Driller
Terracon Lodi

Logged by
Justin McNabb

Boring Started
11-11-2022

Boring Completed
11-11-2022

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Boring Log No. B-3

Location: See Exploration Plan

Latitude: 38.7927° Longitude: -121.2350°

Depth (Ft.) | Elevation: 256 (Ft.) +/-

Model Layer	Graphic Log	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
2		**SILTY CLAYEY SAND (SC-SM)**, fine to medium grained, orange brown to gray brown, dense, moderate cementation in places			3-8-38	6.1	113		
		very dense			50/3"	7.5	96		
					38-50/1"	3.7			
					50/1"	2.3			20
3		9.0 247 **SILTY SAND (SM)**, fine grained, gray brown, very dense			50/1"	0.9			
						1.7			
		12.0 244 auger refusal encountered on bedrock							
		Auger Refusal at 12 Feet							

5
10

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations estimated from Google Earth Pro

Advancement Method
6" Hollow Stem Auger

Abandonment Method
Boring backfilled with neat cement grout
Surface capped with auger cuttings

Drill Rig
D-90 Truck

Hammer Type
Automatic

Driller
Terracon Lodi

Logged by
Justin McNabb

Boring Started
11-11-2022

Boring Completed
11-11-2022

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Boring Log No. B-4

Location: See Exploration Plan

Latitude: 38.7925° Longitude: -121.2358°

Depth (Ft.) | Elevation: 256 (Ft.) +/-

Model Layer	Graphic Log	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
1		**POORLY GRADED SAND WITH SILT (SP-SM)**, fine grained, gray brown, medium dense, moderate cementation in places							
		2.5 / 253.5			9-13-28	9.5	111		
4		**CLAYEY SAND (SC)**, fine to medium grained, orange brown to light brown, dense, weak cementation in places			13-29-37	11.1	108	33-21-12	25
		very dense			13-24-48	8.7	110		
1		**POORLY GRADED SAND WITH SILT (SP-SM)**, fine to medium grained, orange brown to gray brown, very dense, weak cementation in places			13-50/3"	8.7	91		
		11.0 / 245			50/2"	7.4			
		auger refusal encountered on bedrock							
		Auger Refusal at 11 Feet							

5

10

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Drill Rig
D-90 Truck

Hammer Type
Automatic

Driller
Terracon Lodi

Logged by
Justin McNabb

Boring Started
11-11-2022

Boring Completed
11-11-2022

Notes
Elevation Reference: Elevations estimated from Google Earth Pro

Advancement Method
6" Hollow Stem Auger

Abandonment Method
Boring backfilled with neat cement grout
Surface capped with auger cuttings

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Boring Log No. B-5

Location: See Exploration Plan

Latitude: 38.7922° Longitude: -121.2352°

Depth (Ft.) | Elevation: 252 (Ft.) +/-

Model Layer	Graphic Log	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
1		**POORLY GRADED SAND WITH SILT (SP-SM)**, fine to medium grained, brown to red brown, medium dense, weak cementation in places			9-7-10	9.0	111		
		orange brown, very dense			22-38-50/4"	6.5	129		11
		4.5 / 247.5							
3		**SILTY SAND (SM)**, fine to medium grained, gray brown to brown, very dense			50/3"	3.0			
					50/2"	3.7			
					50/1"	3.9			
		11.0 / 241							
		auger refusal encountered on bedrock							
		Auger Refusal at 11 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations estimated from Google Earth Pro

Advancement Method
6" Hollow Stem Auger

Abandonment Method
Boring backfilled with neat cement grout
Surface capped with auger cuttings

Drill Rig
D-90 Truck

Hammer Type
Automatic

Driller
Terracon Lodi

Logged by
Justin McNabb

Boring Started
11-11-2022

Boring Completed
11-11-2022

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Boring Log No. B-6

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 38.7934° Longitude: -121.2354° Depth (Ft.) Elevation: 252 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
2		**SILTY CLAYEY SAND (SC-SM)**, fine to medium grained, brown to orange brown, medium dense, strong cementation in places								
						9-13-7 N=20	5.7		24-17-7	24
		very dense				9-39-49 N=88	15.0			43
		5.0 247	5							
		Boring Terminated at 5 Feet								

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Drill Rig
D-90 Truck

Hammer Type
Automatic

Driller
Terracon Lodi

Logged by
Justin McNabb

Boring Started
11-11-2022

Boring Completed
11-11-2022

Notes
Elevation Reference: Elevations estimated from Google Earth Pro

Advancement Method
6" Hollow Stem Auger

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Boring Log No. B-7

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 38.7930° Longitude: -121.2350° Depth (Ft.) Elevation: 256 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
1		**POORLY GRADED SAND WITH SILT (SP-SM)**, fine to medium grained, orange brown, medium dense, weak cementation in places								
						6-7-12 N=19	3.0			
			5							
		very dense 5.5 250.5				50	3.0			
		Boring Terminated at 5.5 Feet								

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes
Elevation Reference: Elevations estimated from Google Earth Pro

Advancement Method
6" Hollow Stem Auger

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Drill Rig
D-90 Truck

Hammer Type
Automatic

Driller
Terracon Lodi

Logged by
Justin McNabb

Boring Started
11-11-2022

Boring Completed
11-11-2022

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Boring Log No. B-8

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 38.7929° Longitude: -121.2357° Depth (Ft.) Elevation: 256 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
1		**POORLY GRADED SAND WITH SILT (SP-SM)**, fine to medium grained, orange brown with white, very dense, moderate cementation in places								
						29-50/3"	3.7			
			5							
						24-50	3.4			
		6.0 250								
		Boring Terminated at 6 Feet								

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Drill Rig
D-90 Truck

Hammer Type
Automatic

Driller
Terracon Lodi

Logged by
Justin McNabb

Boring Started
11-11-2022

Boring Completed
11-11-2022

Notes
Elevation Reference: Elevations estimated from Google Earth Pro

Advancement Method
6" Hollow Stem Auger

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Boring Log No. B-9

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 38.7926° Longitude: -121.2354° Depth (Ft.) Elevation: 255 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
1		**POORLY GRADED SAND WITH SILT (SP-SM)**, fine to coarse grained, orange brown with white, very dense, moderate cementation in places								
						9-29-50/4"	4.4			
						40-46-50 N=96	3.3			
		5.0 250	5							
		Boring Terminated at 5 Feet								

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Drill Rig
D-90 Truck

Hammer Type
Automatic

Driller
Terracon Lodi

Logged by
Justin McNabb

Boring Started
11-11-2022

Boring Completed
11-11-2022

Notes
Elevation Reference: Elevations estimated from Google Earth Pro

Advancement Method
6" Hollow Stem Auger

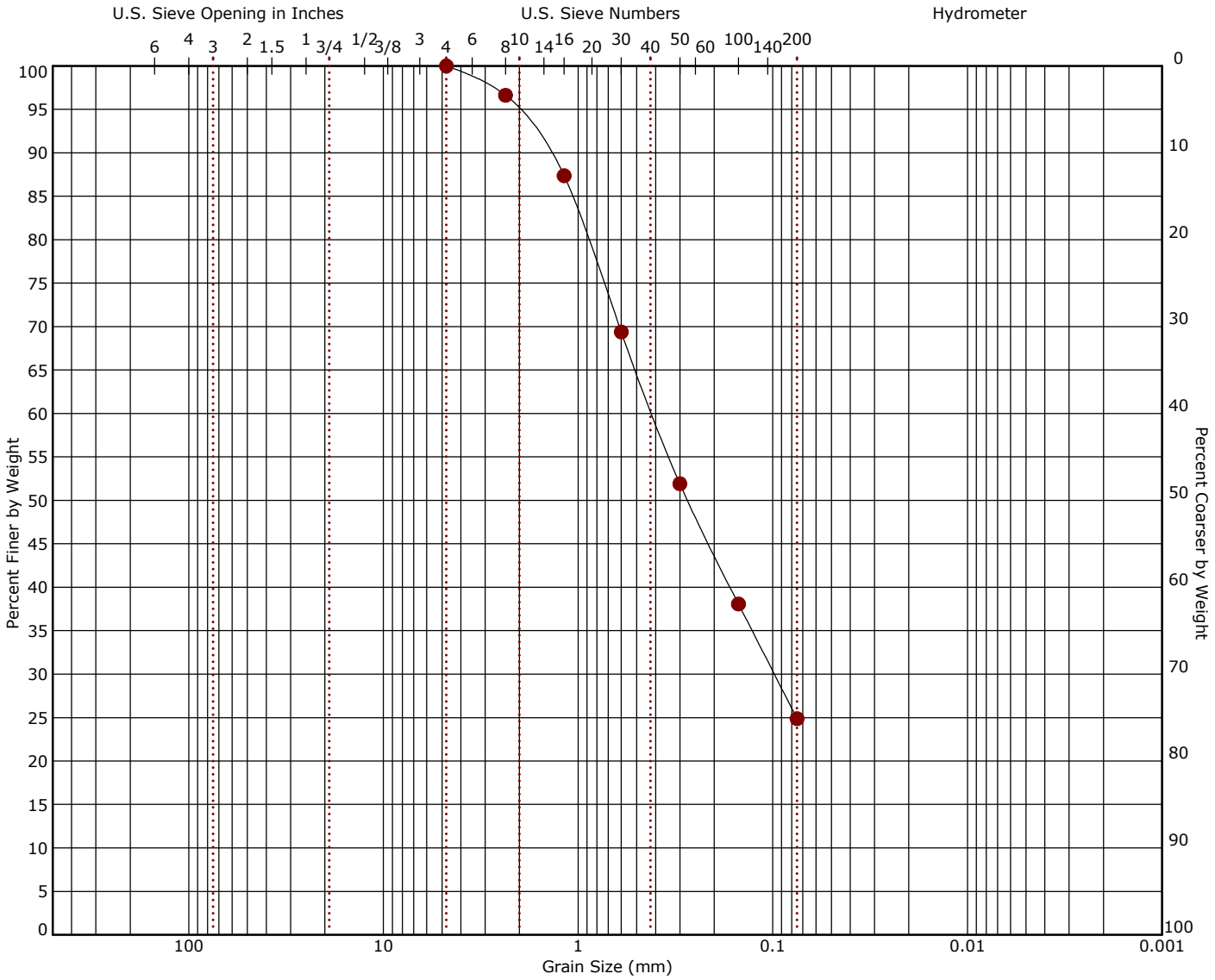
Abandonment Method
Boring backfilled with auger cuttings upon completion.

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Grain Size Distribution

ASTM D422 / ASTM C136



Cobbles	Gravel		Sand			Silt or Clay
	coarse	fine	coarse	medium	fine	

Boring ID	Depth (Ft)	Description	USCS	LL	PL	PI	Cc	Cu
B-1	1 - 2.5	CLAYEY SAND	SC					

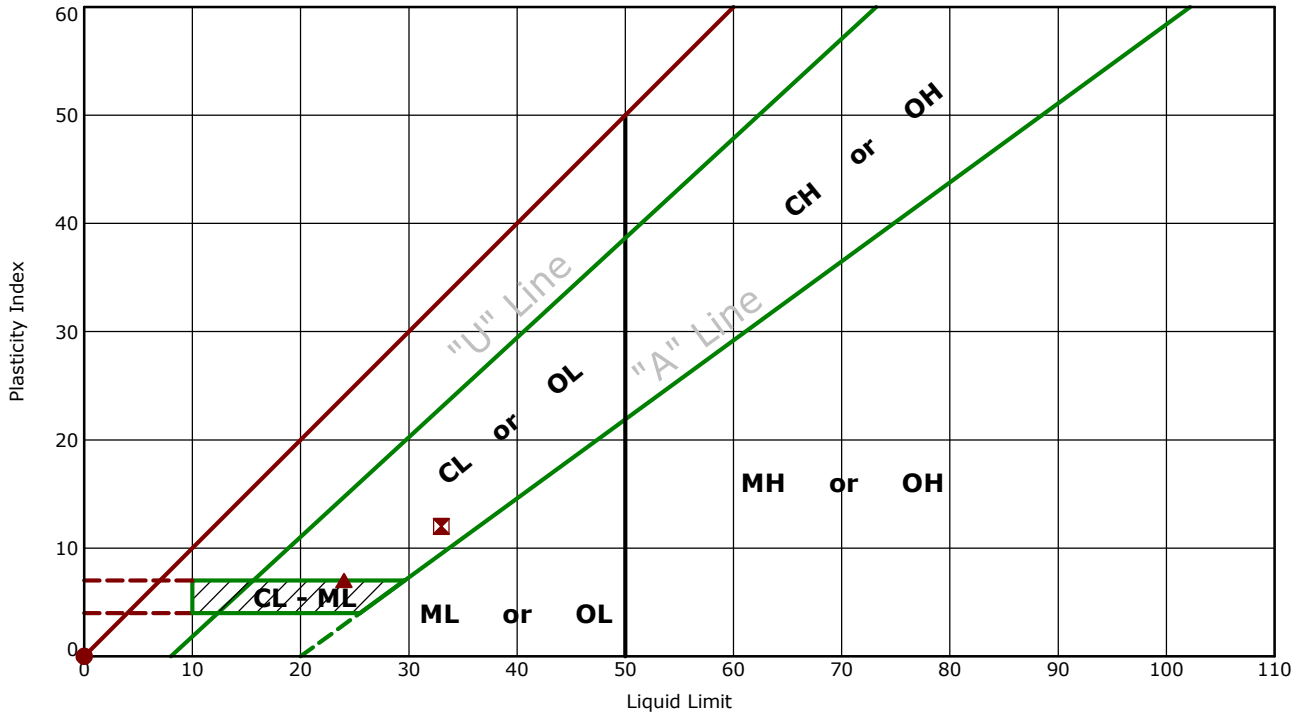
Boring ID	Depth (Ft)	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
B-1	1 - 2.5	4.75	0.414	0.098		0.0	0.0	75.1	24.9		

Oak & Pine St Housing Development
5020 Pacific Street | Rocklin, CA
Terracon Project No. NB225053

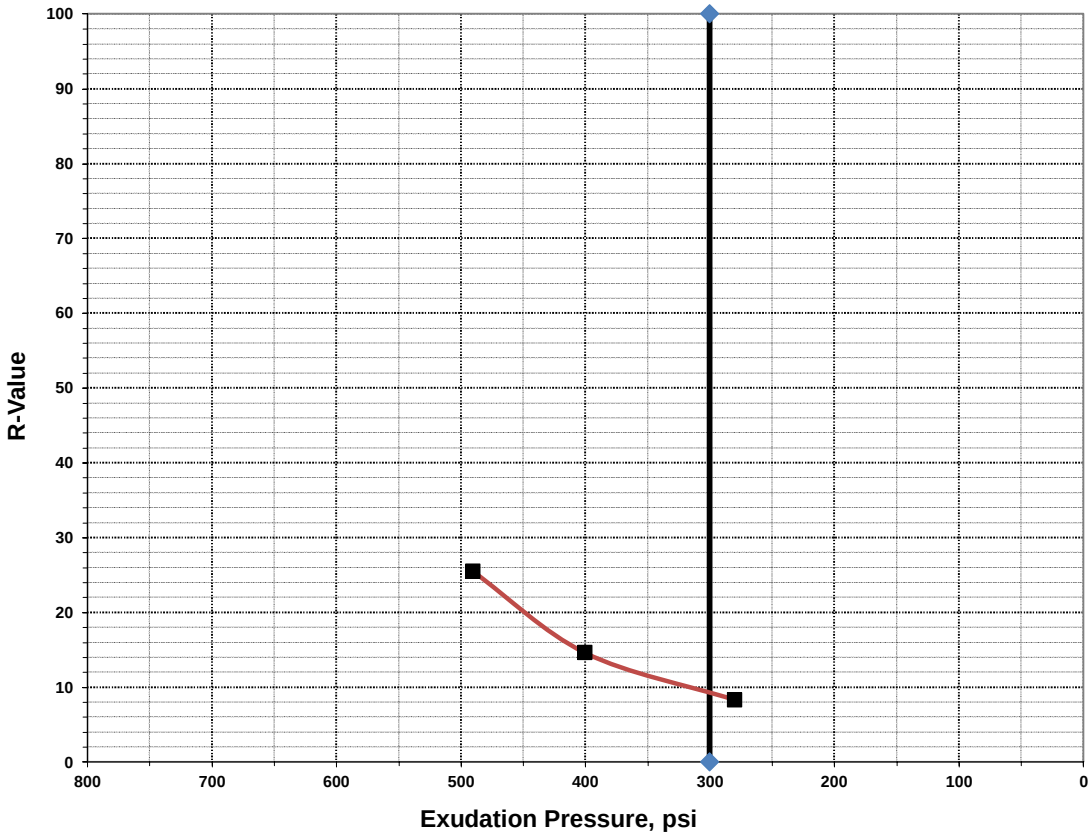
Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

Atterberg Limit Results

ASTM D4318



	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
●	B-1	7.5 - 7.7	NP	NP	NP	21.2	SM	SILTY SAND
⊠	B-4	2.5 - 4	33	21	12	24.7	SC	CLAYEY SAND
▲	B-6	1 - 2.5	24	17	7	24.2	SC-SM	SILTY, CLAYEY SAND



Specimen Identification	Compaction Pressure (psi)	R-Value at 300 psi
B-8 @ 1-4'	**140.0**	**9**

R-Value Test

Client:	Community Housing Works
Project:	Oak & Pine St. Housing Development
Location:	5020 Pacific St, Rocklin, CA 95677
Project No.:	NB225053

CHEMICAL LABORATORY TEST REPORT

Project Number: NB225053
Service Date: 11/21/22
Report Date: 11/23/22

10400 State Highway 191
Midland, Texas 79707
432-684-9600

Client

Community HousingWorks
3111 Camino Del Rio North Suite 800
San Diego, CA 92108

Project

Oak & Pine St Housing Development
5020 Pacific Street
Rocklin, CA

Sample Location	B-3
Sample Depth (ft.)	1-2.5
pH Analysis, ASTM - G51-18	3.5
Water Soluble Sulfate (SO4), ASTM C 1580 (%)	< 0.01
Sulfides, ASTM - D4658-15, (mg/kg)	nil
Chlorides, ASTM D 512 , (%)	0.04
RedOx, ASTM D-1498, (mV)	+640
Total Salts, ASTM D1125-14, (mg/kg)	1,865
Resistivity, ASTM G187, (ohm-cm)	6,402

Analyzed By: Zach Robertson

Zach Robertson
Engineering Technician III

Supporting Information

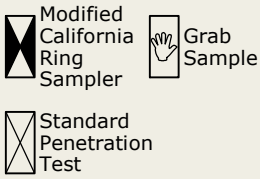
Contents:

Note: All attachments are one page unless noted above.

Terracon
50 Golden Land Ct Ste 100
Sacramento, CA

General Notes

Sampling



Water Level

Water Initially Encountered

Water Level After a Specified Period of Time

Water Level After a Specified Period of Time

Cave In Encountered

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

Field Tests

N	Standard Penetration Test Resistance (Blows/Ft.)
(HP)	Hand Penetrometer
(T)	Torvane
(DCP)	Dynamic Cone Penetrometer
UC	Unconfined Compressive Strength
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer

Descriptive Soil Classicification

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

Location And Elevation Notes

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

Strength Terms

Relative Density of Coarse-Grained Soils
(More than 50% retained on No. 200 sieve.)
Density determined by Standard Penetration Resistance

Relative Density	Standard Penetration or N-Value (Blows/Ft.)	Ring Sampler (Blows/Ft.)
Very Loose	0 - 3	0 - 5
Loose	4 - 9	6 - 14
Medium Dense	10 - 29	15 - 46
Dense	30 - 50	47 - 79
Very Dense	> 50	> 80

Consistency of Fine-Grained Soils
(50% or more passing the No. 200 sieve.)
Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance

Consistency	Unconfined Compressive Strength Qu (tsf)	Standard Penetration or N-Value (Blows/Ft.)	Ring Sampler (Blows/Ft.)
Very Soft	less than 0.25	0 - 1	< 3
Soft	0.25 to 0.50	2 - 4	3 - 5
Medium Stiff	0.50 to 1.00	4 - 8	6 - 10
Stiff	1.00 to 2.00	8 - 15	11 - 18
Very Stiff	2.00 to 4.00	15 - 30	19 - 36
Hard	> 4.00	> 30	> 36

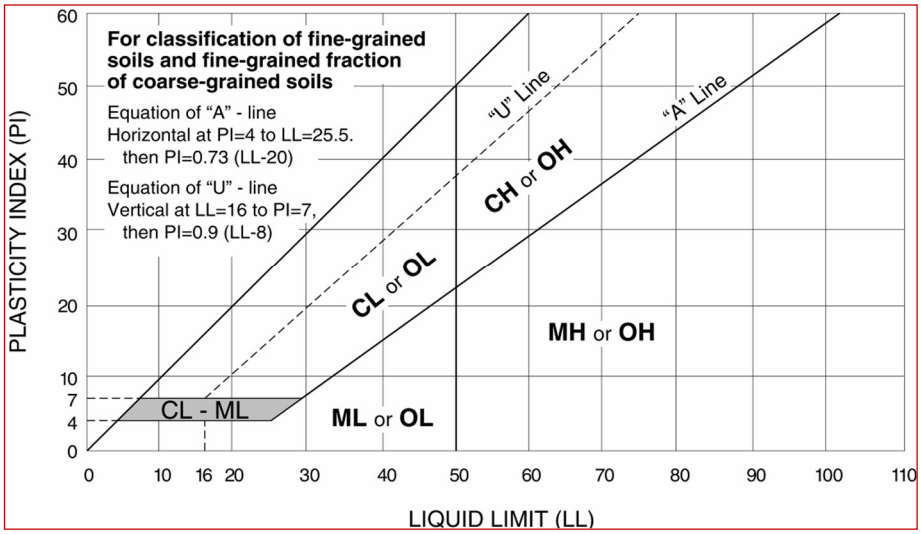
Relevance of Exploration and Laboratory Test Results

Exploration/field results and/or laboratory test data contained within this document are intended for application to the project as described in this document. Use of such exploration/field results and/or laboratory test data should not be used independently of this document.

Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]				Soil Classification	
				Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 4 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	Cu≥4 and 1≤Cc≤3 [E]	GW	Well-graded gravel [F]
			Cu<4 and/or [Cc<1 or Cc>3.0] [E]	GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH	GM	Silty gravel [F, G, H]
			Fines classify as CL or CH	GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	Cu≥6 and 1≤Cc≤3 [E]	SW	Well-graded sand [I]
			Cu<6 and/or [Cc<1 or Cc>3.0] [E]	SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH	SM	Silty sand [G, H, I]
			Fines classify as CL or CH	SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots above "A" line [J]	CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]	ML	Silt [K, L, M]
		Organic:	$\frac{LL\ oven\ dried}{LL\ not\ dried} < 0.75$	OL	Organic clay [K, L, M, N]
					Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line	CH	Fat clay [K, L, M]
			PI plots below "A" line	MH	Elastic silt [K, L, M]
		Organic:	$\frac{LL\ oven\ dried}{LL\ not\ dried} < 0.75$	OH	Organic clay [K, L, M, P]
					Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.
[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.
[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.
[E] $Cu = D_{60}/D_{10}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
[F] If soil contains ≥ 15% sand, add "with sand" to group name.
[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
[H] If fines are organic, add "with organic fines" to group name.
[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.
[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.
[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.
[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
[N] PI ≥ 4 and plots on or above "A" line.
[O] PI < 4 or plots below "A" line.
[P] PI plots on or above "A" line.
[Q] PI plots below "A" line.



APPENDIX F

SITE ACCESS AND CIRCULATION STUDY

FEHR PEERS

Memorandum

Date: December 6, 2023

To: Simon Fraser, Community Housing Works

From: Rob Hananouchi, Fehr & Peers

Subject: Pacific Street Apartments – Site Access & Circulation Study

RS23-4302

This memorandum documents the site access and circulation study for the proposed Pacific Street Apartments in Rocklin, CA. The project is located on a 2.93-acre site on Pacific Street between Oak Street and Pine Street in the Rocklin Quarry District. **Figure 1** shows the project location.

This study evaluates vehicular circulation to and from the project site, vehicle queues, and a qualitative assessment of the project site plan to provide access and circulation recommendations.

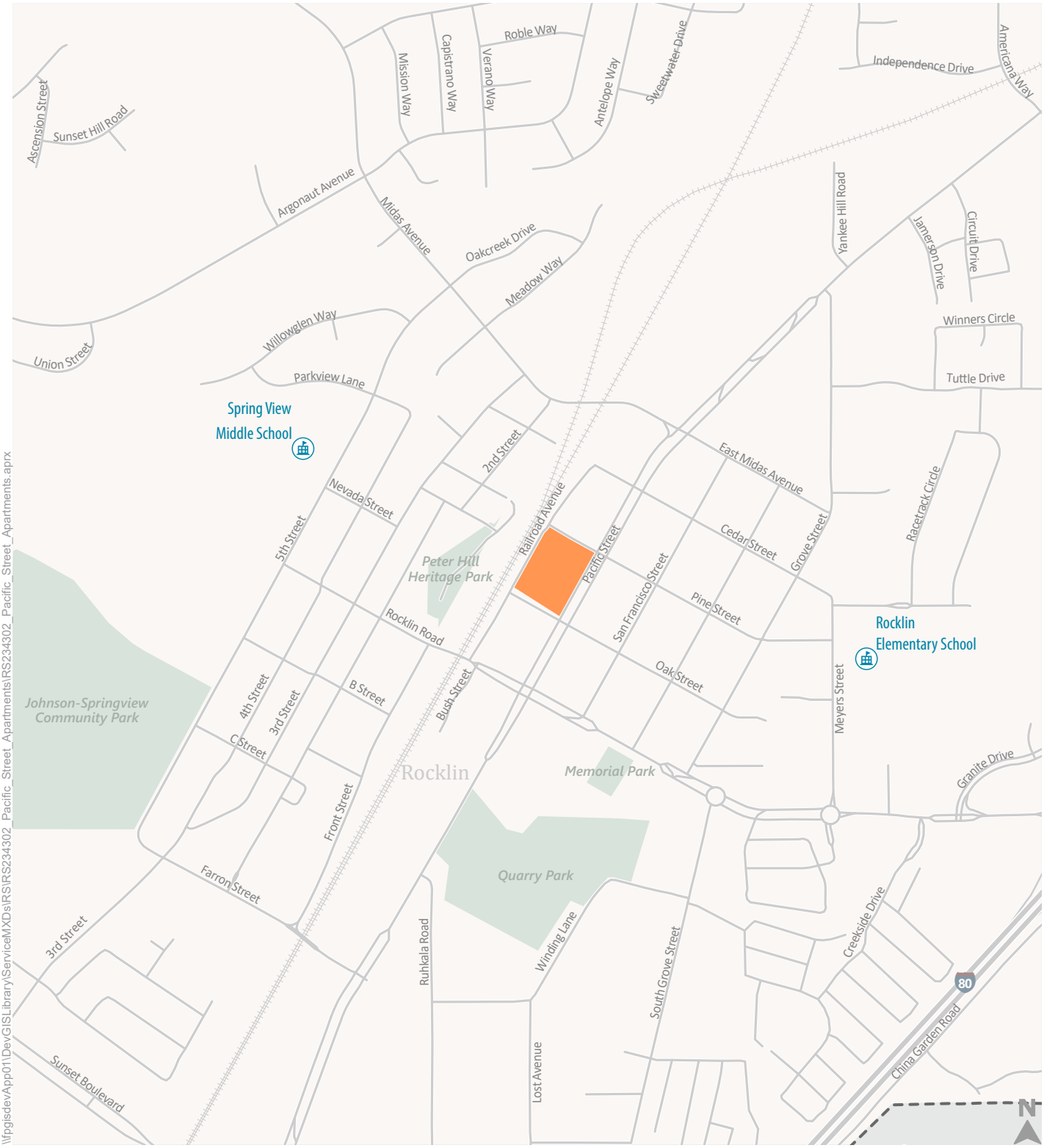
Project Description

The proposed Pacific Street Apartments would be a multifamily residential development consisting of 110 deed-restricted affordable dwelling units. **Figure 2** shows the project site plan. The residential units would be a mix of one, two, and three-bedroom units organized into four 3-story buildings arranged around the site. In addition, a 2-story building would consist of a leasing office and community amenities on the ground level with one-bedroom residential units on the second level.

The residential buildings would front Pacific Street on the eastern side of the project site. A 132-space surface parking lot would occupy the western side of the project site fronting Railroad Avenue. The site plan in **Figure 2** shows two access points to the surface parking lot:

- On Oak Street between Railroad Avenue and an existing alley driveway. This driveway would be right-in/right-out due to the existing diagonal on-street parking in the Oak Street median.
- On Railroad Avenue south of Pine Street. This driveway is assumed to provide full access (i.e., left-in, left-out, right-in, and right-out).

These two driveways would be 26-feet wide, which is consistent with City of Rocklin design standards. The parking spaces in the proposed surface parking lot would be available to residents of the project on a non-exclusive basis under a license agreement or other instrument acceptable to the City of Rocklin.



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Schools

Parks

Project Site

Figure 1

Project Location

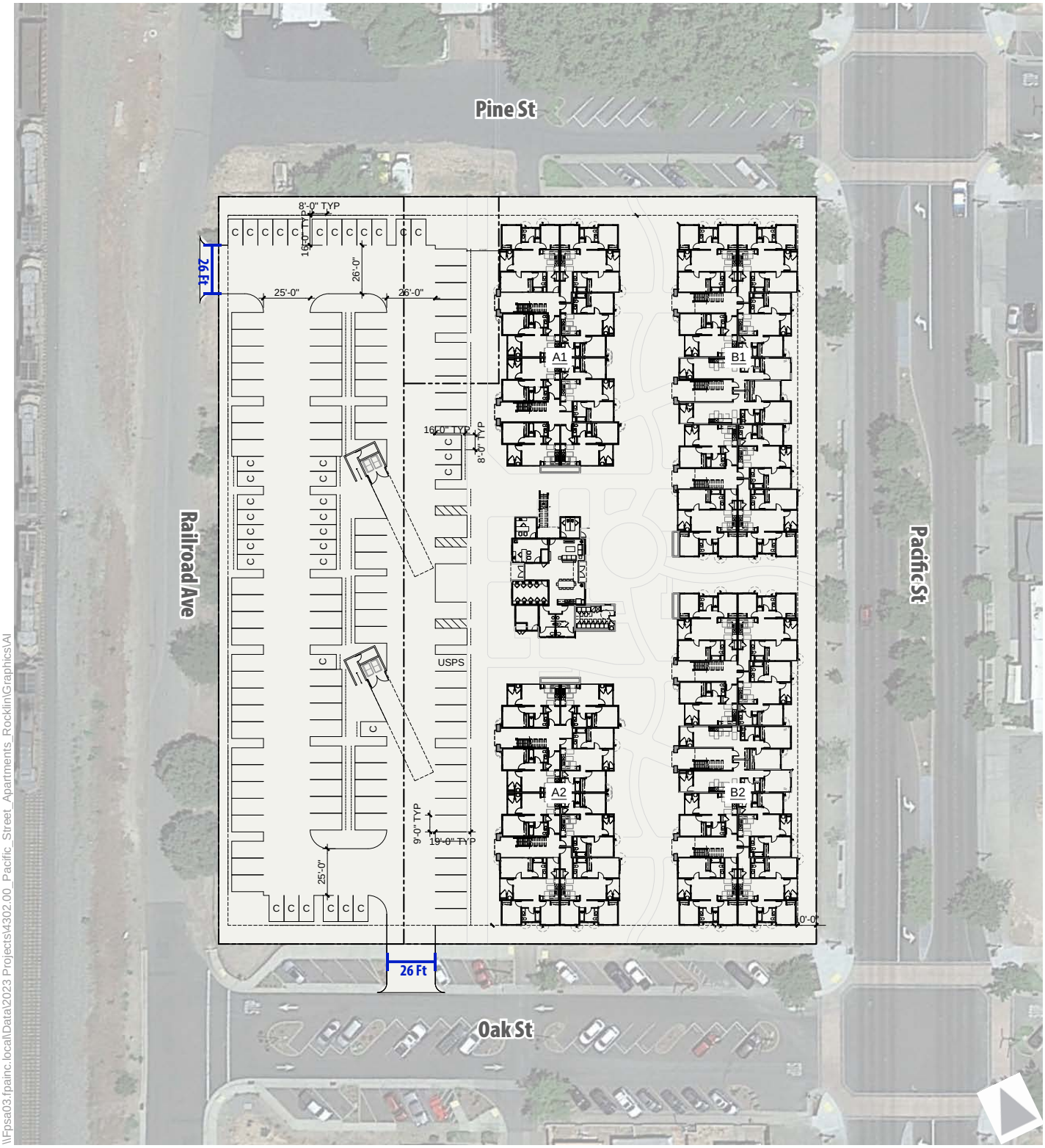

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Figure 2

Project Site Plan

Existing Conditions

Pacific Street provides the primary regional access to the project site. Pacific Street is a four-lane arterial roadway that connects the Rocklin Quarry District with Roseville to the south and Loomis to the north. North and south of Rocklin, Pacific Street becomes Taylor Road. Adjacent to the project site, it has a posted speed limit of 40 miles per hour (MPH) and features a raised landscaped median and streetscape improvements that include benches, lighting, street trees, street furniture, and occasional mid-block walls approximately three feet high that separate the sidewalk from adjacent vehicular traffic, as shown in the images below.

Pacific Street Streetscape Improvements

Pine Street, **Oak Street**, and **Railroad Avenue** are two-lane local roadways with relatively low traffic volumes. Pine Street and Oak Street feature diagonal on-street parking along the edge of the roadway as well as in the median. Landscaped islands separate the diagonal on-street parking approximately every three to five spaces, plus a median break for an alleyway, as shown in the images below. Diagonal on-street parking is present on Oak Street between Railroad Avenue and Pacific Street, while Pine Street has diagonal parking only between the alleyway and Pacific Street, with no designated on-street parking between Railroad Avenue and the alleyway.

The existing on-street parking on Pine Street and Oak Street adjacent to the project site was lightly used during the morning and evening peak periods on November 9, 2023, as shown in the images below. The adjacent uses on Pine Street and Oak Street include small commercial businesses, such as automotive shops, a dental office, and a bike shop, as well as single-family residential.

Pine Street looking west from Pacific Street

Oak Street looking west from Pacific Street

The Pacific Street / Pine Street and Pacific Street / Oak Street intersections are two-way stop-control, with stop signs for side-street traffic on Pine Street and Oak Street. These two intersections feature pedestrian curb ramps on all four corners and decorative crosswalks across all four legs of the intersection. Pedestrian crossing signs[1] on Pacific Street alerts drivers of the crosswalks upon approaching the intersections, as shown in the image below.

Pacific Street looking south toward Oak Street

[1] *California Manual on Uniform Traffic Control Devices* (CA MUTCD) sign W11-2 provided on both northbound and southbound approaches of Pacific Street at Pine Street and Oak Street. Oak Street intersection shown above.

The Railroad Avenue / Oak Street intersection has a stop sign for side street traffic on Oak Street only. The Railroad Avenue / Pine Street intersection features no traffic control devices.

Existing Traffic Volumes

Morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak period traffic counts were collected at the following four intersections on Thursday, November 9, 2023.

- Pacific Street / Pine Street
- Pacific Street / Oak Street
- Railroad Avenue / Oak Street
- Railroad Avenue / Oak Street

Schools were in session, weather conditions were fair, and typical traffic conditions were observed at the time of the counts. **Appendix A** provides the traffic count data sheets.

Figure 3 presents the existing weekday a.m. and p.m. peak hour traffic volumes, lane configurations, and traffic control devices at these four intersections. As shown, most of the traffic in the study area consists of through travel on Pacific Street, with relatively low traffic movements on Railroad Avenue, Pine Street, and Oak Street.

Project Travel Characteristics

Trip Generation

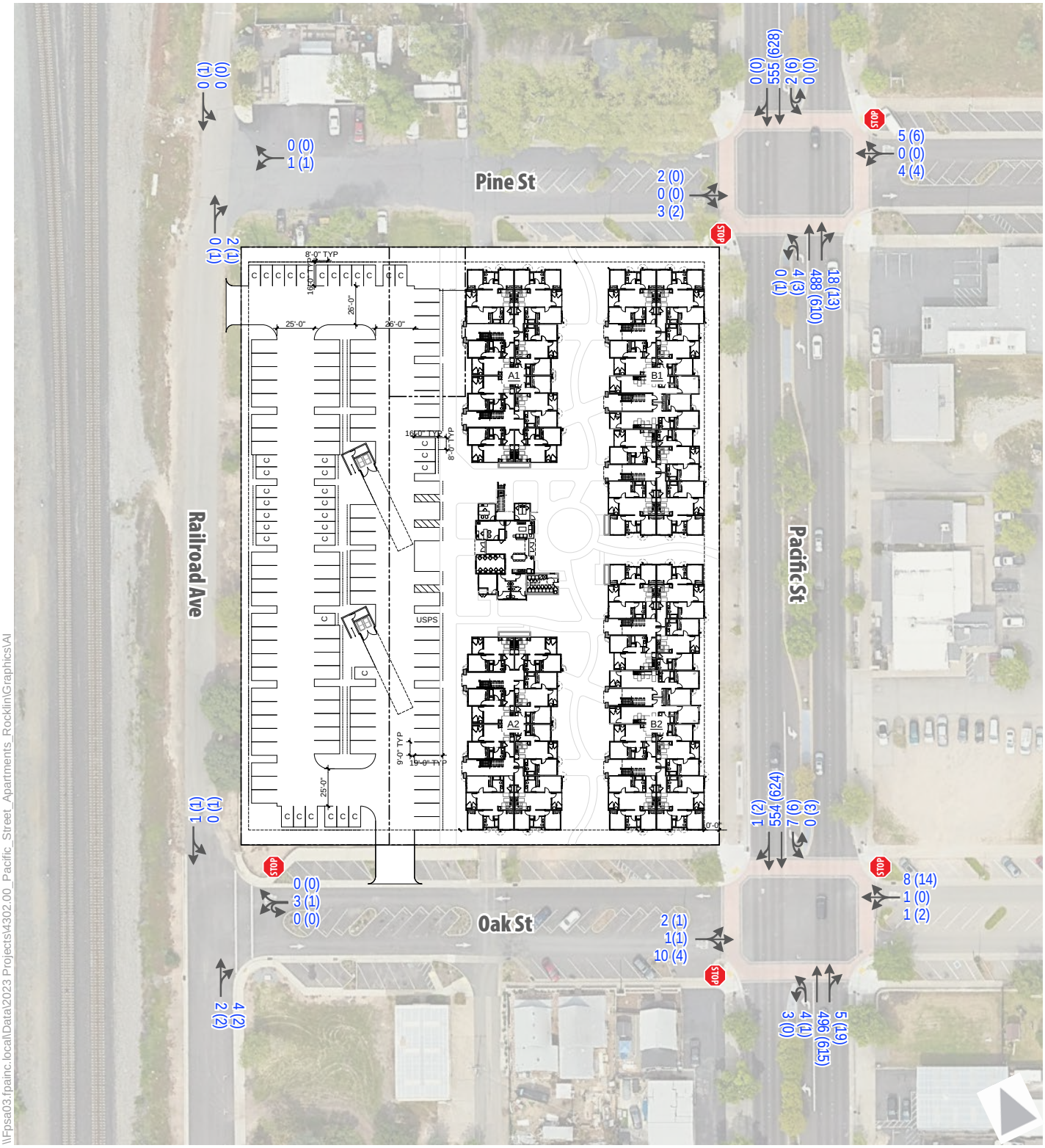
This study uses vehicle trip generation data contained in the *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021) to estimate the project's vehicle trip generation. **Table 1** presents the estimated a.m. peak hour and p.m. peak hour vehicle trip generation for the proposed project. As shown, the project would generate 56 peak hour trips during both the weekday a.m. and p.m. peak hours.

Table 1: Pacific Street Apartments Vehicle Trip Generation Estimate

		AM Peak Hour			PM Peak Hour		
Land Use	**Dwelling Units**	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Affordable Housing	110	56	16	40	56	33	23

Notes:
Vehicle trip generation estimate calculated using fitted curve equations obtained from *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers, 2021) for affordable housing – income limits (land use code 223).

Source: Fehr & Peers, 2023.



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STOP Stop Sign

Turn Lane

AM (PM) Peak Hour Traffic Volume

Figure 3

Peak Hour Traffic Volumes – Existing Conditions

Trip Distribution & Assignment

This study estimates the distribution of project trips considering a few factors, including:

- Project-only traffic assignment from the City of Rocklin travel forecasting model.
- Location of potential destinations, including job centers, shopping, schools, etc.
- Rocklin Unified School District school boundaries for elementary, middle, and high schools.

Figure 4 presents the forecasted project trip distribution during the weekday a.m. and p.m. peak hours. As shown, about three-quarters of project trips would travel to/from the south on Pacific Street toward Rocklin Road. The remaining trips would be split between traveling north on Pacific Street toward Midas Avenue, and toward the west on Rocklin Road. Due to the raised median on Rocklin Road at Railroad Avenue, outbound trips to the west are assumed to use Railroad Avenue, while inbound trips would use Rocklin Road to Pacific Street. Trips in this westerly direction may be traveling to/from local destinations, such as Spring View Middle School or Johnson Springview Park, or traveling to/from Sunset Boulevard via 3rd Street.

Project vehicle trips are assigned to the project driveways and adjacent intersections in accordance with the trip distribution shown in **Figure 4**. **Figure 5** shows the resulting weekday a.m. and p.m. peak hour project trips.

The project trips shown in **Figure 5** also reflect the right-in/right-out turn restriction at the Oak Street driveway. Outbound trips from the Oak Street driveway headed to Pacific Street would make a right-turn out of the driveway and then a U-turn at Railroad Avenue to travel back to Pacific Street. Due to this out-of-direction travel, some drivers who park at the northern end of the surface parking lot may opt to exit onto Railroad Avenue and make right-turn movements onto Pine Street to access Pacific Street, as shown in **Figure 5**.

These project trips are added to existing volumes to yield existing plus project turning movement forecasts, which are presented in **Figure 6**.

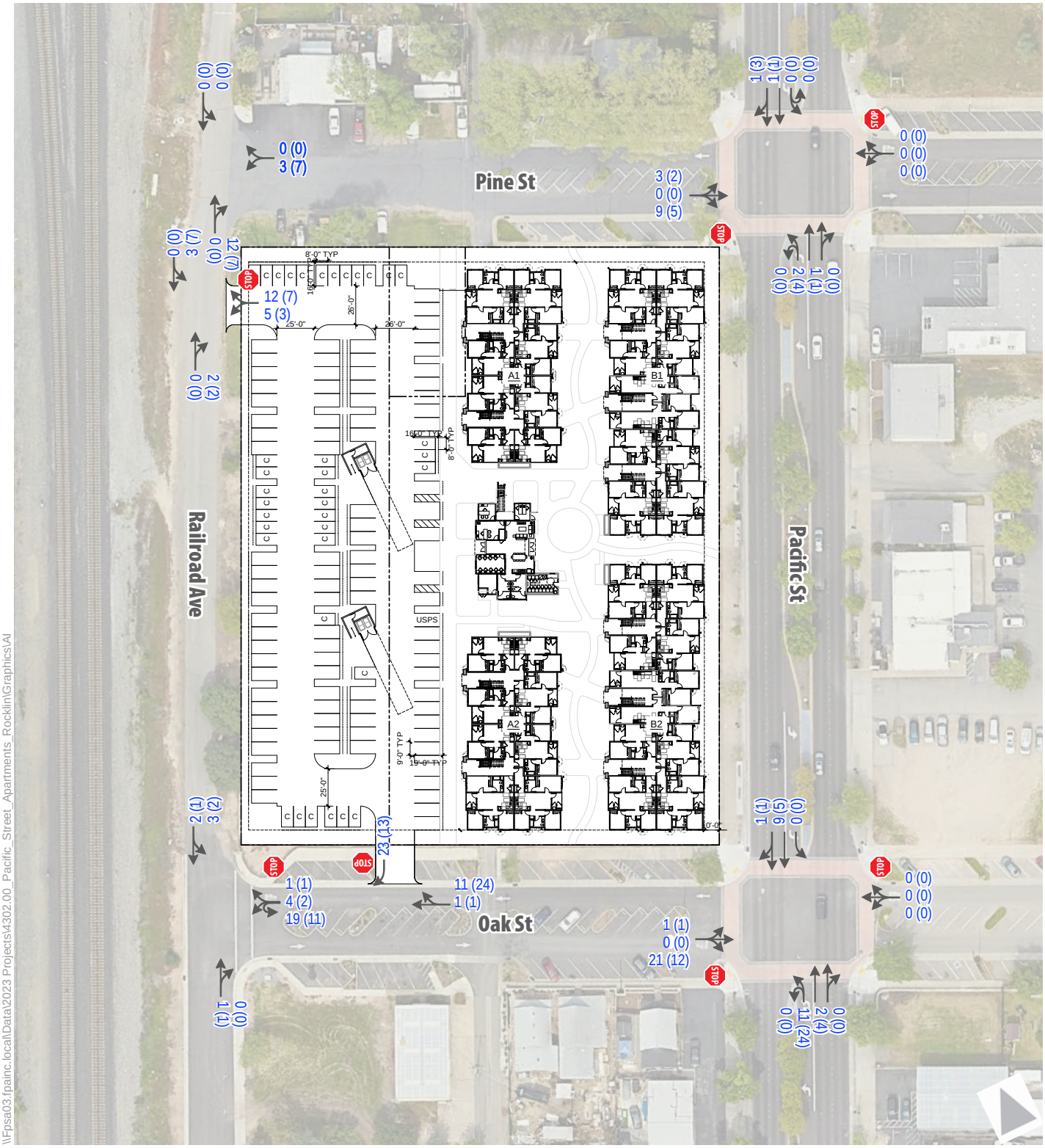
AM% (PM%)

Project Trip Distribution Percentage

Project Site

Figure 4

Project Trip Distribution



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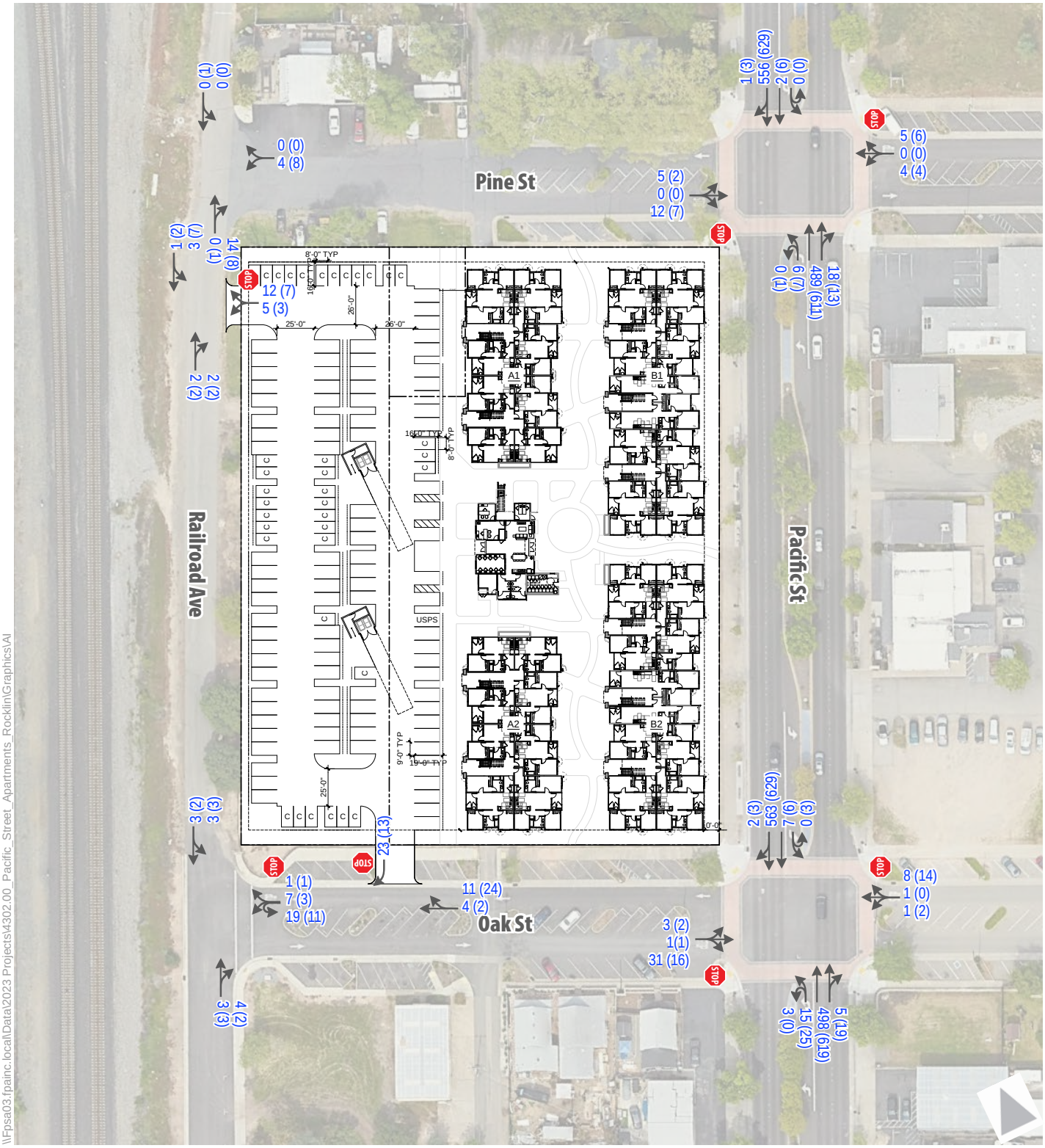
STOP Stop Sign

Turn Lane

AM (PM) Peak Hour Traffic Volume

Figure 5

Peak Hour Project Trip Assignment



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STOP Stop Sign

Turn Lane

AM (PM) Peak Hour Traffic Volume

Figure 6

Peak Hour Traffic Volumes – Existing Plus Project Conditions

Project Access Review

The review of the proposed project access focuses on the access points to the surface parking lot from public roadways, vehicle queues for key movements to and from the parking lot driveways, and potential frontage improvements.

This study evaluates vehicle queues at the project driveways and major street left-turn movements towards the project (i.e., northbound left-turn from Pacific Street onto Pacific Street onto Pine Street and Oak Street) to assess the project's vehicular access. This study uses the Maximum Queue Estimates for Unsignalized Right-Turn Driveways spreadsheet for right-turn egress movements and the Estimation of Maximum Queue Lengths at Unsignalized Intersections methodology (ITE Journal, November 2001) for left-turn movements.

Driveway Throat Depth Evaluation

Table 2 presents the forecasted existing plus project vehicle queues for outbound movements at the driveways to the surface parking lot (refer to **Appendix B** for detailed calculations). As shown, the maximum vehicle queue at each driveway is expected to be one vehicle.

At the Railroad Avenue driveway, a departing vehicle may partially block the first parking stall adjacent to the driveway. However, given the low traffic volume on Railroad Avenue, this would likely be brief and is unlikely to create an access or circulation issue for entering or exiting the driveway.

At the Oak Street driveway, a vehicle exiting the driveway may partially block the sidewalk when stopping to yield to oncoming traffic. This would be similar to the Rubino's Ristorante driveway on Pine Street east of Pacific Street. However, this would likely be brief due to the low traffic volume on Oak Street.

Table 2: Maximum Outbound Vehicle Queues at Parking Lot Driveways

Driveway	Throat Depth[1]	Peak Hour	Maximum Vehicle Queue Length[2]
Railroad Avenue Driveway	15 feet	AM	1 vehicle (25 feet)
		PM	1 vehicle (25 feet)
Oak Street Driveway	35 feet	AM	1 vehicle (25 feet)
		PM	1 vehicle (25 feet)

Notes:

1. Driveway throat depths estimated based on project site plan dated October 26, 2023, prepared by KTGY.
2. Maximum queue based on Maximum Queue Estimates for Unsignalized Right-Turn Driveways spreadsheet (see **Appendix B**). Queue length in feet estimated assuming each vehicle occupies on average 25 feet of space.

Source: Fehr & Peers, 2023.

Pacific Street Left-Turn Evaluation

Table 3 presents the existing and forecasted existing plus project vehicle queues for left-turn movements from Pacific Street onto Pine Street and Oak Street (refer to **Appendix B** for detailed calculations). The existing vehicle queue estimates using the ITE methodology match field observations, which showed a maximum queue of one vehicle for the northbound left-turn movements at both Pacific Street onto Pine Street and Oak Street.

Table 3: Maximum Vehicle Queues: Left-Turn Movements from Pacific Street

Movement	Storage[1]	Peak Hour	Maximum Vehicle Queue Length[2]	
			Existing Conditions	Existing + Project
Northbound left-turn at Pine Street.	90 feet	AM	1 vehicle (25 feet)	1 vehicle (25 feet)
		PM	1 vehicle (25 feet)	2 vehicles (50 feet)
Northbound left-turn at Oak Street.	85 feet	AM	1 vehicle (25 feet)	1 vehicle (25 feet)
		PM	1 vehicle (25 feet)	2 vehicles (50 feet)

Notes:

1. Storage represents the left-turn pocket length, estimated based on aerial imagery.
2. Maximum vehicle queue length based on Estimation of Maximum Queue Lengths at Unsignalized Intersections methodology (ITE Journal, November 2001) (see **Appendix B**). Queue length in feet estimated assuming each vehicle occupies on average 25 feet of space.

Source: Fehr & Peers, 2023.

As shown in **Table 3**, the existing left-turn pockets on Pacific Street at Pine Street and Oak Street provide adequate storage for the forecasted maximum queue under existing plus project conditions.

Site Access and Frontage Improvements

Figure 7 presents the site access and off-site frontage improvement recommendations to facilitate access, provide on-street parking, and complete roadway infrastructure in compliance with City of Rocklin standards.

The project site plan shows the driveways for the proposed surface parking lot on Railroad Avenue and Oak Street. However, the site plan does not indicate how these driveways would modify existing frontage improvements (i.e., diagonal on-street parking on Oak Street) or how it would interface with future frontage improvements on Railroad Avenue. Recommendations to integrate these driveways with adjacent frontage improvements and to facilitate project access are described in further detail below.

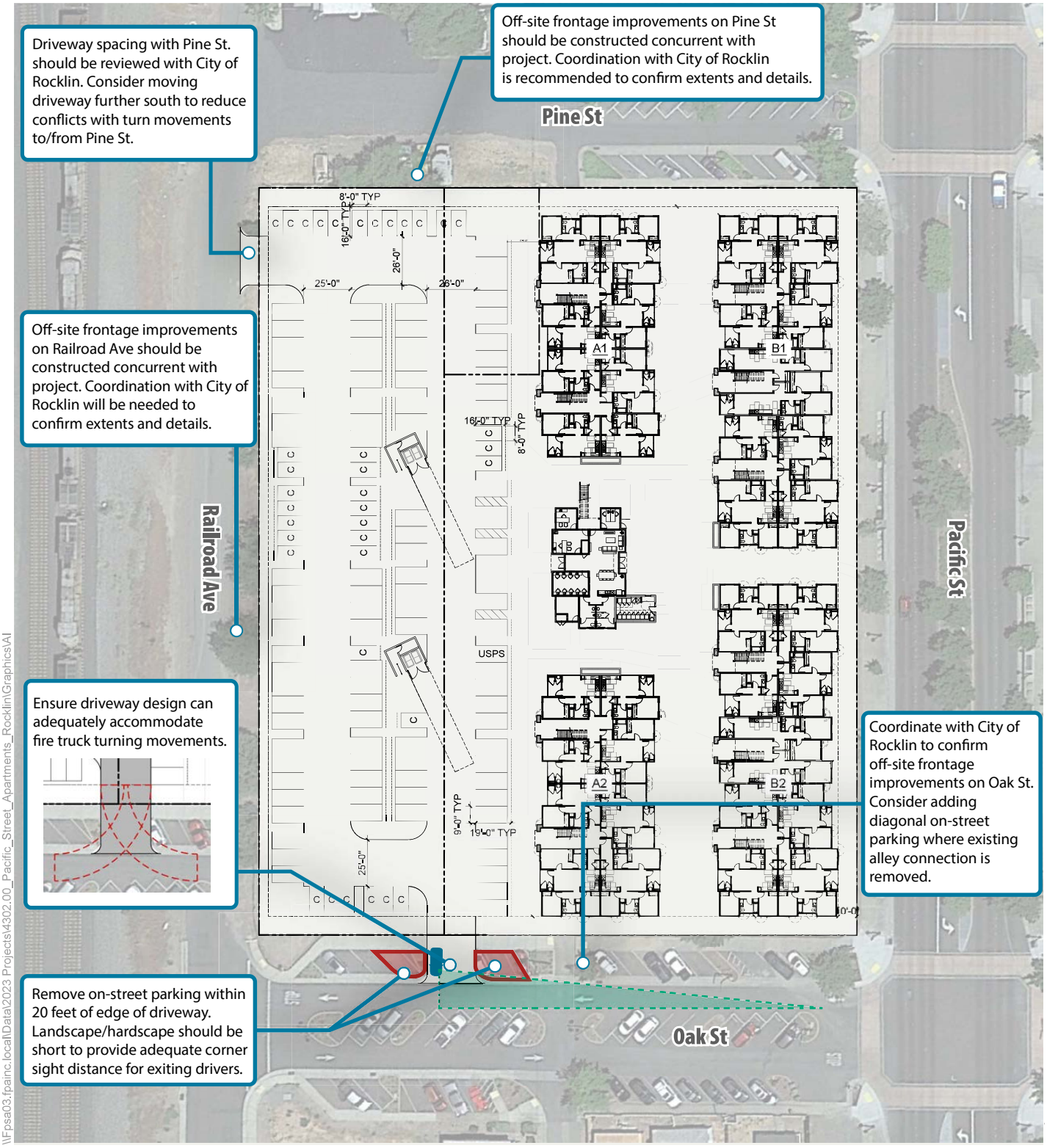

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Figure 7

Site Access & Circulation Recommendations

Pine Street

Pine Street features diagonal on-street parking, curbs, gutters, and sidewalks from the alleyway to Pacific Street along the project frontage, but no improvements between Railroad Avenue and the alleyway. With the proposed project, the existing alleyway access on the south side of Pine Street is no longer needed.

This study recommends that frontage improvements along the south side of Pine Street east of Railroad Avenue be constructed concurrent with the project. This would likely include curbs, gutters, sidewalks, and diagonal on-street parking, similar to the existing improvements east of the alleyway. Coordination with the City of Rocklin is recommended to confirm the extents, design, and implementation responsibility for these improvements.

Railroad Avenue

Railroad Avenue is unimproved adjacent to the project with a vegetated swale and oak trees along the project site frontage. In the future, this segment of Railroad Avenue is expected to be improved with curb, gutter, sidewalks, and parallel on-street parking, similar to Railroad Avenue south of Oak Street. This is expressed in the City of Rocklin General Plan Circulation Element (2012), which states in Policy C-42:

"Improve and extend Railroad Avenue between Farron Street and Midas Avenue to provide an alternative north/south route to Pacific Street."

Table 4-9 in the Circulation Element further notes that Railroad Avenue would include on-street parking in the Downtown Plan Area.

This study recommends that the Railroad Avenue frontage improvements (i.e., curb, gutter, sidewalk, and parallel on-street parking) be constructed concurrent with the project. This will ensure the parking lot driveway on Railroad Avenue is integrated seamlessly with these improvements. Coordination with the City of Rocklin is recommended to confirm the extents, design, and implementation responsibility for these improvements. Parallel on-street parking should be prohibited within 20 feet of the project driveway and the Pine Street and Oak Street intersections, consistent with the standards established in Assembly Bill (AB) 413, which was signed in October 2013.

The project site plan shows the proposed driveway on Railroad Avenue approximately 40 feet south of Pine Street (measured from the edge of driveway to edge of roadway). The City of Rocklin does not have specific driveway spacing standards for local minor streets (i.e., required spacing between the driveway and an adjacent intersection on a local minor street), and traffic volumes on Railroad Avenue and Pine Street would be low (see **Figure 6** – fewer than 20 vehicles per hour during the a.m. and p.m. peak hours). However, this close spacing should be reviewed with the City of Rocklin to determine if the driveway should be moved further south to reduce conflicts with turn movements to and from Pine Street.

Oak Street

The project site plan shows the proposed driveway on Oak Street approximately 60 feet west of the existing alleyway access. This proposed driveway location would displace existing diagonal on-street parking and requires modifying the existing curb, gutter, on-street parking, and landscape islands to accommodate the new driveway.

This study recommends that the project applicant demonstrate that the driveway design provides adequate curb radius for a fire truck to navigate into and out of the parking lot. In addition, the frontage improvements on Oak Street should remove on-street parking for a minimum of 20 feet from the edge of the driveway (see reference to AB 413 above). Any landscaped islands in this area adjacent to the driveway should ensure landscaping does not interfere with the drivers vision of approaching vehicles headed westbound on Oak Street when exiting the project driveway (see **Figure 7**).

With the proposed project, the existing alleyway access on the north side of Oak Street is no longer needed. This area could be repurposed to provide additional diagonal on-street parking as a partial replacement for the existing on-street parking that is lost because of the proposed parking lot driveway. This study estimates about five existing diagonal on-street parking stalls would be lost due to the proposed driveway cut, but two additional diagonal on-street parking stalls could be added.

APPENDIX G

ARBORIST REPORT

HELIX Environmental Planning, Inc.
1677 Eureka Rd, Suite 100
Roseville, CA 95661
916.365.8700 tel
619.462.0552 fax
www.helixepi.com

December 11, 2023 Project # 01860.00013.001

Simon Fraser, Senior Project Manager
Community Housing Works
3111 Camino Del Rio N, Suite 800
San Diego, CA 92108
sfraser@chworks.org | 619.450.8716

Subject: Arborist Report for the Pacific Street Apartments Project, City of Rocklin, Placer County, California

Dear Mr. Fraser:

This letter documents the results of an arborist survey conducted by HELIX Environmental Planning, Inc. (HELIX) to inventory and evaluate all trees regulated under the City of Rocklin Tree Ordinance (Ordinance) located within or overhanging the 2.93-Acre Pacific Street Apartments Project Site (Study Area). The Study Area is bordered by Railroad Avenue, Pine Street, Oak Street, and Pacific Street in the City of Rocklin, Placer County, California, Assessor's Parcel Number (APN) 010-121-006-00 (Figure 1). It is zoned C-4 and R1-5 (General Retail Service Commercial and Residential Single Family 5,000 Square Feet Minimum Lots) on the 2023 City of Rocklin Zoning Map (City of Rocklin 2023).

REGULATORY BACKGROUND

The City of Rocklin protects native oak trees under the Oak Tree Preservation Ordinance (Section 17.77 of the City Municipal Code) and the Oak Tree Preservation Guidelines (April 2006), hereafter referred to in combination as "Tree Preservation Ordinance" (TPO) (City of Rocklin 2006, 2020a). The TPO defines native oak species as the following species and natural hybrids between them: California live oak (*Quercus agrifolia*), canyon live oak (*Quercus chrysolepis*), blue oak (*Quercus douglasii*), California black oak (*Quercus kelloggii*), valley oak (*Quercus lobata*), interior live oak (*Quercus wislizeni*), and California scrub oak (*Quercus dumosa*). Native oak trees with a trunk diameter at breast height (TDBH) 6 inches or greater, measured 4.5 feet above the ground, are protected under the TPO. The TDBH of a multi-trunked tree is the measurement of the largest trunk only. Heritage trees are defined as native oak trees with a trunk diameter of 24 inches or more and that are in fair or good condition.

A tree preservation plan permit is required prior to removal of any healthy oak tree from an undeveloped lot. Mitigation is required for the removal or impact of all trees, except on lots zoned for commercial, retail, industrial, or business-professional (B-P; C-1, 2, 3, 4; C-H; M-1, 2, or an equivalent PD zone). No mitigation is required for the removal of a dead, dying, or diseased tree. No additional

mitigation is required for the removal of Heritage Trees, but special consideration should be given to their preservation during the planning process.

Mitigation may take the form of on-site planting, off-site planting, land dedication, or payment of in-lieu fees. Mitigation trees for on-site or off-site planting must be native oak trees and a minimum of 15-gallons in size. Any mitigation tree that dies within the first five years must be replanted. If less than 20% of the trees and less than 20% of the total TDBH on site will be removed, then mitigation is required at a 2:1 ratio for each tree removed. If more than 20% of the trees or TDBH will be removed, then mitigation is required based on a 1:1 inch per inch ratio of TDBH removed, less the discount diameter. The discount diameter is 20% of the total TDBH for the site. The mitigation fee formula works similarly, requiring payment at a rate of 2:1 tree ratio for impacts to less than 20% of the trees on site and 1:1 TDBH less the discount diameter for impacts to more than 20% of the trees on site. As of July 1, 2020, the mitigation fee is $96 per trunk inch (City of Rocklin 2020b).

METHODS

The Project Site was surveyed on November 20, 2023, by HELIX arborist Dena Elimelech. All protected oak trees and non-protected trees within and overhanging to the Study Area were identified and the following data were recorded for each tree: species, number of trunks, trunk diameter-at-breast-height, dripline radius, health, structure, and overall condition, along with any notes related to tree structure or health. Trees located in the Study Area were tagged with a circular aluminum tag containing a unique identification number. Trees whose trunks were located outside of the parcel boundary, but whose canopies overhang the property, were given an arbitrary identification number (#1 through #6) and not physically tagged. Approximate tree locations were recorded with a Juniper Systems Geode Global Navigation System receiver with sub-meter accuracy.

The health and structural condition of all inventoried trees were rated according to Table 1. The health rating considers factors such as the size, color, and density of the foliage; the amount of deadwood within the canopy; bud viability; evidence of wound closure; and the presence or evidence of stress, disease, nutrient deficiency, and/or insect infestation. The structural rating reflects the trunk and branch configuration; canopy balance; the presence of included bark and other structural defects such as decay; and the potential for structural failure. In cases where conditions fall between the Good, Fair, and Poor ratings, intermediate ratings Fair-Good and Poor-Fair were used.

Table 1
TREE RATING GUIDELINES

Rating	Tree Health
Good	There is an average or below-average amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density are typical for the species; buds are normal size, viable, abundant, and uniform throughout the canopy; current and past growth increments are generally average or better; any callusing is vigorous. This health rating indicates that there is very little, if any, evidence of stress, disease, nutrient deficiency, and/or insect infestation.
Fair	There is an above-average amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density may be below what is typically expected for the species; buds are normal size and viable, but slightly sparse throughout the canopy; current and past growth increments may be below average; tree may be slow to callus around old wounds. This health rating indicates that there is moderate evidence of stress, disease, nutrient deficiency, and/or insect infestation.
Poor	There is an extreme amount of deadwood/dieback with respect to the tree's size and growing environment; leaf size, color, and density are clearly compromised; very few viable buds are present throughout the canopy; current and past growth increments are meager; no evidence of callusing around old wounds. This health rating indicates that there is widespread evidence of stress, disease, nutrient deficiency, and/or insect infestation.
	Tree Structure and Form
Good	No wounds, cavities, decay, or indication of hollowness are evident in the root crown, trunk, or primary and secondary limbs; no anchor roots are exposed; no codominant branching or multiple trunk attachments are present; very little included bark at branch attachments exists; no dead primary or secondary limbs are present in canopy; there have been no major limb failures; limbs are not overburdened; branching structure is appropriate for species; any decay is limited to small dead branches/stubs. This structure rating represents a low potential for failure.
Fair	With respect to the size of the tree, small to moderate wounds, cavities, decay, and indication of hollowness may be evident in the root crown, trunk, and/or primary and secondary limbs; some anchor roots may be exposed; codominant branching or multiple trunk attachments may be present, but included bark does not exist or is not well developed; minor to moderate amounts of included bark at branch attachments may exist; there may be small to moderate amounts of large dead limbs in the canopy, but there is no evidence of large limb failures; limbs may be slightly overburdened; branching structure and/or canopy balance may be moderately altered by the tree's growing environment. This structure rating represents a moderate potential for failure.
Poor	With respect to the size of the tree, significant wounds, cavities, decay, and/or indication of hollowness may be evident in the root crown, trunk, and/or primary and secondary limbs; anchor roots may be exposed and/or the tree may have lost anchorage; codominant branching or multiple trunk attachments may be present; significant amounts of included bark may exist in trunk and branch attachments; there may be significant amounts of large dead limbs in the canopy; there may be evidence of trunk or large limb failures; limbs may be severely overburdened; branching structure and/or canopy balance may be drastically altered by the tree's growing environment. This structure rating represents a high potential for failure.

RESULTS

The Study Area is undeveloped ruderal disturbed infill with disturbed dirt and vegetated with ruderal herbaceous species with a variety of species of trees growing throughout the site. The dominant plant species on the site include stinkwort (*Dittrichia graveolens*), Russian thistle (*Salsola tragus*), and hedge

parsley (*Torilis arvensis*). The Study Area contains native oak trees, other native trees such as the foothill pine (*Pinus sabiniana*), and ornamental species such as crape myrtle (*Lagerstroemia indica*).

A total of 18 protected trees, consisting of five interior live oaks, seven valley oaks, and three blue oaks were inventoried in the Study Area. The total TDBH of the trees in the Study Area was 478 inches. Most of the trees in the Study Area were in "Fair" or better condition regarding health and structure. None of the protected trees are currently recommended for removal. Six of the protected trees, consisting of two blue oaks and one valley oak, and totaling 39.5 inches TDBH, were overhanging the Study Area. None of the trees qualify as a Heritage Trees. Approximate tree locations are shown in Figure 2 and tree data was included in Attachment A.

MITIGATION ASSESSMENT

A total of 15 protected oak trees, totaling approximately 247 trunk inches, will be removed by the proposed project. Additionally, 17 non-regulated trees will be removed, three non-regulated trees and two protected trees will be significantly impacted by construction occurring within more than 20% of their dripline area, and one non-regulated tree will be moderately impacted by construction within between 14% and 18% of their dripline area. Tree impacts and mitigation requirements are summarized in Table 2, below. This table assumes that mitigation will be required for removed and significantly impacted trees, but not for moderately impacted trees and trees with minor impacts. Upon completion of the final landscape plan, we can confirm mitigation plantings. The final calculation of required mitigation is subject to City approval. Tree removals and impacts as a result of the proposed project are shown in Figure 3.

Table 2
SUMMARY OF TREE IMPACTS AND MITIGATION

	# of Trees	Total DBH (Inches)	Mitigation Inches Require	In-Lieu Fee
Removed	34	424	247	$23,712
Significantly Impacted/ Possibly Removed	5	98	34	$3,264
Moderately Impacted	1	5	0	$0
Minor Impacts	0	0	0	$0
		Total Mitigation	**281**	**$26,976**

TREE PROTECTION RECOMMENDATIONS

The following measures should be integrated into the construction documents to protect oak trees to be preserved during any potential future construction.

- Tree Protection Fencing, consisting of four-foot-tall, high-visibility plastic fencing, shall be placed around the perimeter of the tree protection zone (TPZ) (dripline radius + 3 feet). The TPZ is the minimum distance for placing protective fencing. Tree protection fencing should be placed as far outside of the TPZ as possible. Two-foot square signs shall be placed along the fence denoting this as a Tree Protection Zone that shall not be moved until construction is complete. In cases where proposed work infringes on TPZ, fence shall be placed at edge of work.

- Whenever possible, fence multiple trees together in a single TPZ;
- Tree protection fencing shall not be moved without prior authorization from the City of Rocklin;
- No parking, portable toilets, dumping or storage of any construction materials, grading, excavation, trenching, or other infringement by workers or domesticated animals is allowed in the TPZ;
- No signs, ropes, cables, or any other item shall be attached to a protected tree, unless recommended by an ISA-Certified Arborist;
- Underground utilities should be avoided in the TPZ, but, if necessary, shall be bored or drilled. If boring is impossible, all trenching will be done by hand under the supervision of an ISA-Certified Arborist;
- No cut or fill within the dripline of protected trees is permitted. If cut or fill within the dripline is unavoidable, any mitigation requirements shall be determined by the City of Rocklin;
- Pruning of living limbs or roots over two inches in diameter shall be done under the supervision of an ISA-Certified Arborist;
- All wood plant material less than six inches in diameter shall be mulched on site. The resulting mulch shall be spread in a layer four to six inches deep in the TPZ of preserved trees. Mulch shall not be placed touching the trunk of preserved trees;
- At the discretion of Project Proponent and Project Arborist indirectly impacted trees should be deep watered once per month in July, August, September, and October to a soil saturation depth of 16-18 inches; and
- Appropriate fire prevention techniques shall be employed around all protected trees to be preserved. This includes cutting tall grass, removing flammable debris within the TPZ, and prohibiting the use of tools that may cause sparks, such as metal-bladed trimmers or mowers.

If any trees are preserved on site, the crown should be pruned to remove deadwood and raised as necessary for site use.

We appreciate the opportunity to assist you on this project. Feel free to contact me by phone at (916) 435-1202 or by email at PatrickB@helixepi.com with any questions.

Sincerely,

Patrick Britton
ISA Certified Arborist (WE-7449A)

Attachments:

Figure 1, Site and Vicinity Map
Figure 2, Approximate Tree Locations
Figure 3, Tree Impacts
Attachment A, Tree Data

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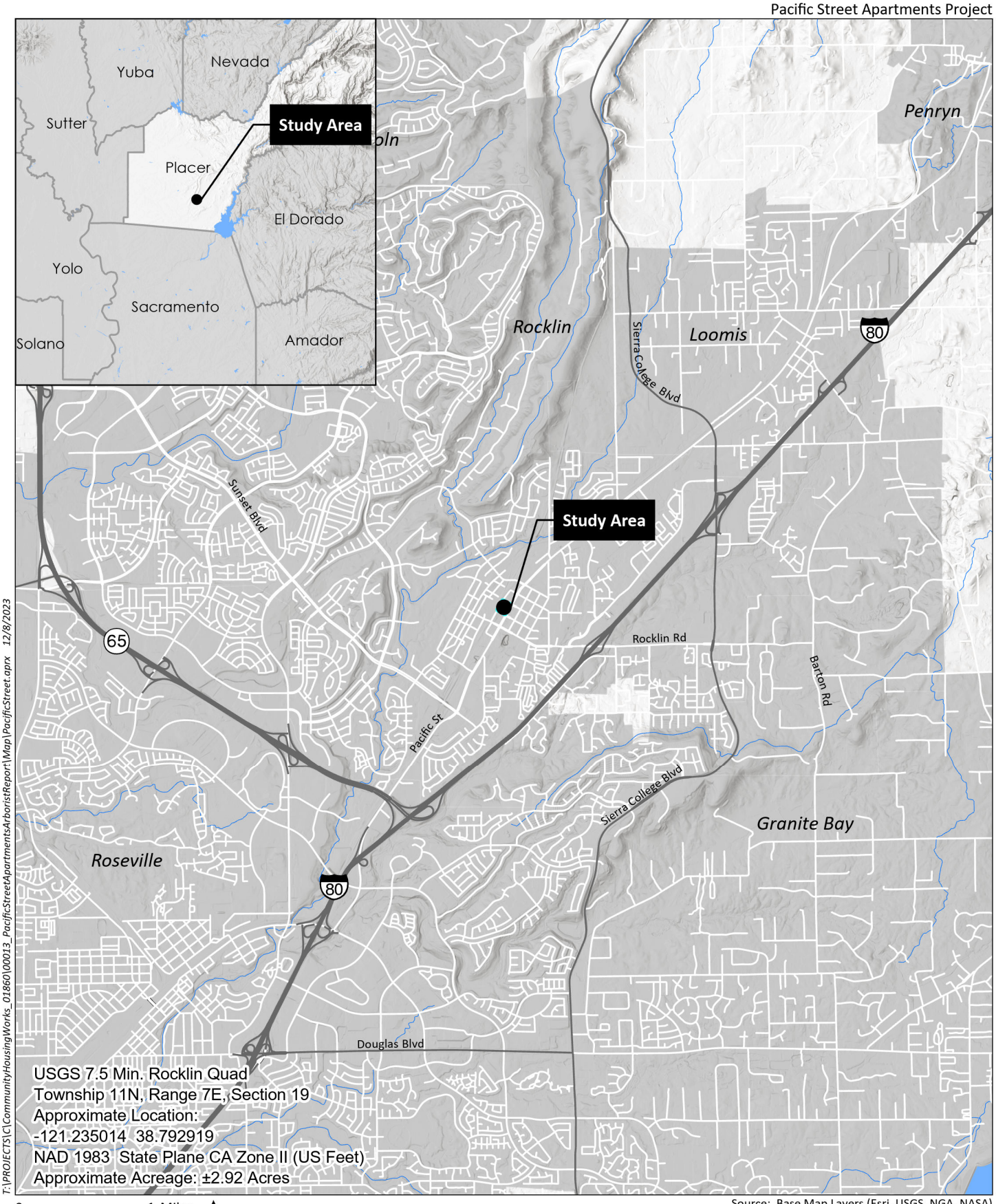

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Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1

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0 75 Feet

Source: Aerial (City of Rocklin 2021)

HELIX Environmental Planning

Approximate Tree Locations

Figure 2

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0 75 Feet

Source: Aerial (City of Rocklin 2021)

HELIX Environmental Planning

Proposed Tree Impacts

Figure 3

Attachment A

Tree Data

Attachment A
Tree Data

Tree #	Common Name	# of Trunks	DBH (inches)	DLR (feet)	Height (feet)	Health	Structure	Rec. for Removal	Additional Comments	Impact
101	Valley Oak	1	18	20	35	Fair	Good Fair	No	Epicormic shoots, some canopy thinning.	Removed
102	Mulberry	9	**7**, 7, 7, 6, 5, 6, 5, 5, 5, 4	15	15	Fair	Fair Poor	No	9x stem, large wound at base. dead dying branches, thinning canopy.	Removed
103	Blue Oak	1	**23**	15	25	Good Fair	Fair	No	Included bark, decent canopy, compacted dirt, galls present.	Removed
104	Elm	2	**23**, 9	20	35	Poor	Poor	Yes	2x stem, epicormic shoots, some dead branches, main lead is dead and hollow.	Removed
105	Blue Oak	1	12.5	15	30	Good Fair	Fair	No	No insect activity, compacted soil, some codit, some epicormic shoots, strong branch union.	Removed
106	Blue Oak	1	10.5	15	30	Fair	Fair	No	Epicormic sprouts, poor compacted soil, on a slight slope, some dieback, some holes at base.	Removed
107	Black Walnut	2	**7**, 4.5	12	15	Good Fair	Fair	No	2x stem, some codit, some epicormic shoots, removed lead without codit, poor soil.	Significant impacts to ~40% of dripline area
108	Black Walnut	5	**4.5**, 4.5, 4, 4, 3	10	15	Good Fair	Fair	No	5x stem, decent canopy, some codit, some included bark.	Removed
109	Japanese Euonymus	4	**7**, 5, 5, 3	12	10	Poor	Fair Poor	No	Mangled trunk, dead twisting leads, strong canopy, sapsucker activity.	Removed
110	Elm	1	47	30	45	Fair Poor	Fair Poor	No	Removed lead with some codit, heavy previous pruning, epicormic shoots, multistem at 7 ft, minor lean, unbalanced canopy.	Significant impacts to ~25% of the dripline area
111	Crape Myrtle	5	**5**, 5, 3.5, 3, 3	10	12	Poor	Poor	Yes	Dead leads, dying/dead tree, multistem, included bark, major dieback.	Removed
112	Mulberry	1	9	10	18	Poor	Poor	Yes	Dead and dying, old codit, dead trunk, major dieback, epicormic shoots.	Removed
113	Unknown	2	**15**, 13	20	30	Poor	Poor	Yes	Dead/dying, heavily pruned, woodpecker activity, bark coming off.	Removed
114	Valley Oak	1	28	20	37	Good Fair	Fair	No	Epicormic sprouts, dieback, codit, on slope, decent canopy.	Removed
115	Valley Oak	1	19	20	40	Good Fair	Good Fair	No	Epicormic sprouts, decent canopy, codit, compacted dirt.	Removed
116	Valley Oak	2	**18**, 15	20	40	Fair	Fair	No	Healthy branch unions, branch bark ridges present, codit, some dieback, poor soil.	Removed
117	Valley Oak	1	17	20	40	Fair	Good Fair	No	Canopy is tight to branches with some dieback, epicormic shoots, healthy branch unions, even structure.	Removed
118	Prunus sp.	3	**8**, 4, 3.5	15	10	Fair	Fair	No	Multistem, previous pruning cuts, heavy dieback.	Removed
119	Prunus sp.	9	**7**, 6, 5, 4, 4, 3, 3, 2.5, 2.5	15	15	Fair Poor	Fair Poor	No	Multistem, sapping, included bark, old pruning cuts without codit, heavy dieback, understory tree.	Removed
120	Interior Live Oak	1	17	20	35	Good Fair	Fair	No	Included bark, growing on a slight slope with poor soil, epicormic shoots, codit, understory dieback.	Removed
121	Prunus sp.	2	**8**, 3.5	20	17	Poor	Fair Poor	No	Dying, heavy epicormic growth from removed lead, remaining lead has some codit, heavy dieback.	Removed
122	Interior Live Oak	3	**7.5**, 5, 4.5	23	25	Good Fair	Fair	No	Included bark, included bark, heavy lean, some codit, epicormic shoots, decent canopy, phototropism.	Removed
123	Prunus sp.	10	**10.5**, 9, 6, 6, 5.5, 5.5, 6, 7.5, 7, 7	25	20	Fair Poor	Fair Poor	No	10x stem, dead leads, thin canopy, epicormic shoots, some codit.	Removed
124	Valley Oak	1	18.5	23	30	Fair	Fair	No	Lean, heavy epicormic shoots, some dieback.	Removed

* Indicates tree located offsite but overhanging the project site.
Trunk DBH in **bold** indicates largest trunk of multi-trunk tree.
Highlighted in green are trees protected by the City of Rocklin Tree Ordinance

Attachment A
Tree Data

Tree #	Common Name	# of Trunks	DBH (inches)	DLR (feet)	Height (feet)	Health	Structure	Rec. for Removal	Additional Comments	Impact
125	Valley Oak	1	24	25	35	Fair	Fair	No	Epicormic sprouts, dieback, growing over retaining wall, some dead branches.	Removed
126	Interior Live Oak	3	**18**, 12.5, 12	17	30	Fair	Fair	No	Good codit, healthy branch attachments, some epicormic sprouts.	Removed
127	Honey Locust	2	**11**, 8.5	15	25	Fair Poor	Fair	No	2x stem, included bark, bare canopy, possibly dead/dying.	Removed
128	Elm	3	**6**, 5, 5	10	15	Fair Poor	Fair Poor	No	Heay epicormic shoots at base, sparse canopy.	Removed
129	Elm	2	**8**, 7	15	20	Fair Poor	Fair Poor	No	Included bark, Epicormic growth, sparse canopy.	Removed
130	Elm	3	**4**, 1.5, 1.5	10	12	Poor	Fair Poor	Yes	Multistem, dying, epicormic shoots, same as surrounding elms.	Removed
131	Elm	1	5	10	15	Poor	Fair Poor	Yes	Dead/dying, same as surrounding elms.	Removed
132	Elm	4	**4**, 3, 2, 1	10	12	Poor	Fair Poor	Yes	Multistem, dying, epicormic growth, same as surrounding elms.	Removed
133	Interior Live Oak	5	**9.5**, 9, 9, 7.5, 5.5	20	25	Good Fair	Fair	No	Multistem, insect activity on underside of leaves or larvae, good codit, strong canopy.	Removed
134	Interior Live Oak	4	**6**, 6, 3.5, 3	12	11	Poor	Poor	No	Multistem, dead/dying leads, some codit, epicormic shoots, insect larvae on underside of leaves.	Removed
135	Gray Pine	5	**26**, 25, 21, 24, 8.5	30	38	Fair	Fair	No	Multistem, some sap, some dieback, even weight distribution, poor soil quality/compaction.	Removed
136	Elm	8	**9.5**, 8.5, 8.5, 6, 5.5, 5, 6, 5	20	25	Poor	Fair	No	Dead/dying elm, heavy dieback, multistem, some codit.	Removed
1*	Blue Oak	2	**16.5**, 14	20	20	Good Fair	Good	No	Strong branch attachments, epicormic shoots, some dieback.	Significant impacts to ~25% of the dripline area
2*	Blue Oak	2	**17.5**, 15	20	25	Good Fair	Good Fair	No	Codit, some dieback, 2x stem, some epicormic shoots, good weight distribution.	Significant impacts to ~25% of the dripline area
3*	Honey Locust	10	**10**, 9, 7, 7, 7, 6.5, 6, 4.5, 4, 4	15	20	Fair	Fair Poor	No	Multistem, dead leads, cavities at base, even canopy structure, included bark.	Significant impacts to ~25% of the dripline area
4*	Cherry	4	**5**, 3, 2, 2	10	13	Fair	Fair	No	4x stem, trunk wounds, decent canopy, lacking codit, included bark.	Moderate impacts to ~14% of the dripline area
5*	Elm	1	15	0	15	Poor	Poor	No	Dead, on study area boundary, canopy removed, standing dead trunk.	None
6*	Valley Oak	1	5.5	10	12	Fair Poor	Fair	No	Heavy epicormic sprouts, on a slope.	None

* Indicates tree located offsite but overhanging the project site.
Trunk DBH in **bold** indicates largest trunk of multi-trunk tree.
Highlighted in green are trees protected by the City of Rocklin Tree Ordinance

APPENDIX H

ADDITIONAL SOURCES

Appendix H Contents:

- U.S. Fish & Wildlife Service. *Coastal Barrier Resources Act.* Available at: https:// https://www.fws.gov/program/coastal-barrier-resources-act/about-us. Accessed April 2024.
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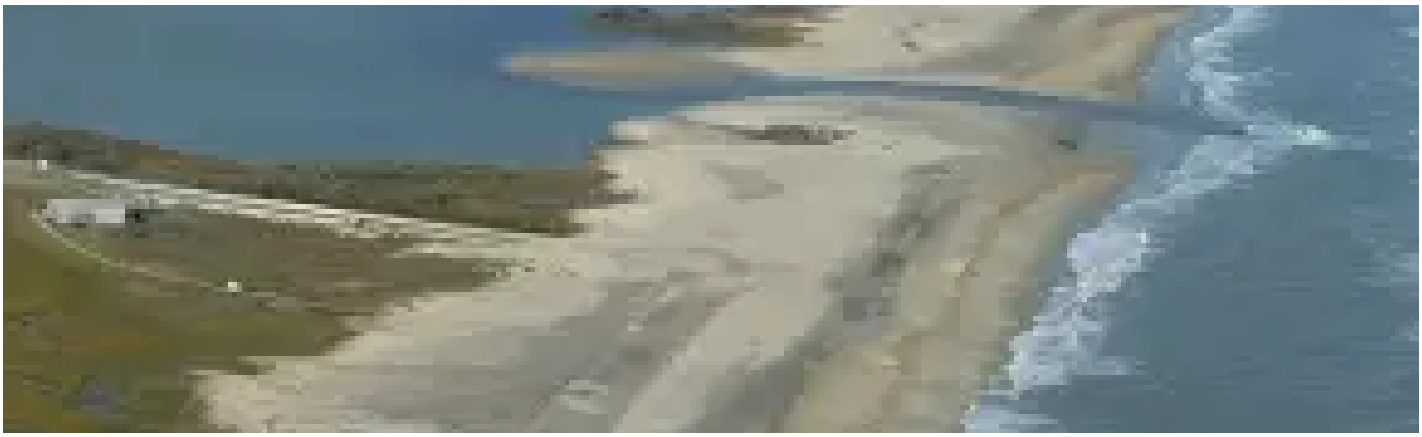
Image Details

Coastal Barrier Resources Act

We administer the Coastal Barrier Resources Act (CBRA), which encourages the conservation of storm-prone and dynamic coastal barriers by withdrawing the availability of federal funding and financial assistance within a designated set of units known as the Coastal Barrier Resources System (CBRS). The CBRS includes 3.5 million acres along the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts.

What We Do



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Our Services

Our responsibilities under CBRA include maintaining the official maps of the CBRS and making recommendations to Congress for appropriate changes to the boundaries; consulting with other federal agencies regarding federally-funded projects proposed within the CBRS; and working with property owners, project proponents, and other stakeholders to determine whether a specific property or project site is located within the CBRS.

Our Projects and Initiatives

The Service is committed to ensuring accurate and user-friendly maps depicting the CBRS. Through a series of mapping projects, we have made progress in modernizing maps for the CBRS using digital technology that has significantly improved public access to information, increased efficiency for infrastructure project planning, and increased accuracy and timeliness in determining whether individual properties are located with the CBRS.

Image Details

Our Laws and Regulations

With the passage of CBRA in 1982, Congress recognized that certain actions and programs of the Federal Government have historically subsidized and encouraged development on coastal barriers , resulting in the loss of natural resources, threats to human life, health, and property, and the expenditure of millions of tax dollars each year. CBRA seeks to minimize these effects by restricting federal funding and financial assistance affecting the CBRS. The CBRS includes 588 System Units, which comprise nearly 1.4 million acres of land and associated aquatic habitat. There are also 282 "Otherwise Protected Areas," a category of coastal barriers that are mostly held for conservation and/or recreation purposes that include an additional 2.1 million acres of land and associated aquatic habitat.

A 2019 study published in the *Journal of Coastal Research* analyzed the economic benefits from CBRA and found that CBRA reduced federal coastal disaster expenditures by $9.5 billion between 1989 and 2013, and forecasts that additional savings will range between $11 and $108 billion by 2068.

CBRA does not prohibit the expenditure of private, state, or local funds within the CBRS. Additionally, it does not prevent federal agencies from issuing permits or conducting environmental studies. Areas within the CBRS may be developed, provided that private developers or other non-federal parties bear the full cost and risk.

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Habitat Restoration

Service Sends Coastal Barrier Resources System Report to Congress with Updated Maps for the North Atlantic Coast

The U.S. Fish and Wildlife Service has submitted to Congress its Report to Congress: John H. Chafee Coastal Barrier Resources System Hurricane Sandy Remapping Project. The report includes revised maps for 438 Coastal Barrier Resources System (CBRS) units in the nine states most affected by...

Apr 6, 2022

1 2 3 4 5 6

Our Library

Image Details

Whether you are looking for additional information about the Coastal Barrier Resources System, our current mapping projects, or official maps, you can find it here in our library.

Official Coastal Barrier Resources System Maps

The Coastal Barrier Resources Act (CBRA) of 1982 and subsequent amendments established the John H. Chafee Coastal Barrier Resources System (CBRS). The CBRS consists of relatively undeveloped coastal barriers and other areas located the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and...

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Service Sends Coastal Barrier Resources System Report to Congress with Updated Maps for the North Atlantic Coast

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Press Release

Apr 6, 2022

Report to Congress: John H. Chafee Coastal Barrier Resources System Hurricane Sandy Remapping Project

In 2014, the U.S. Fish and Wildlife Service (Service) initiated a project to modernize the maps of the Coastal Barrier Resources System (CBRS) units in the nine states along the North Atlantic coast most affected by Hurricane Sandy: Connecticut, Delaware, Maryland, Massachusetts, New Hampshire,...

PDF

Apr 5, 2022

Coastal Barrier Resources Act Project Consultation

This library collection includes resources and information related to Coastal Barrier Resources Act project consultations, as well as guidance for shoreline stabilization, disaster assistance, and property buyouts.

Library Collection

13 Items

Updated Maps for Coastal Barrier Resources System Units in North Carolina, South Carolina, and Florida

The Service has submitted to Congress seven draft revised maps for John H. Chafee Coastal Barrier Resources System (CBRS) units located in North Carolina, South Carolina, and Florida.

Story

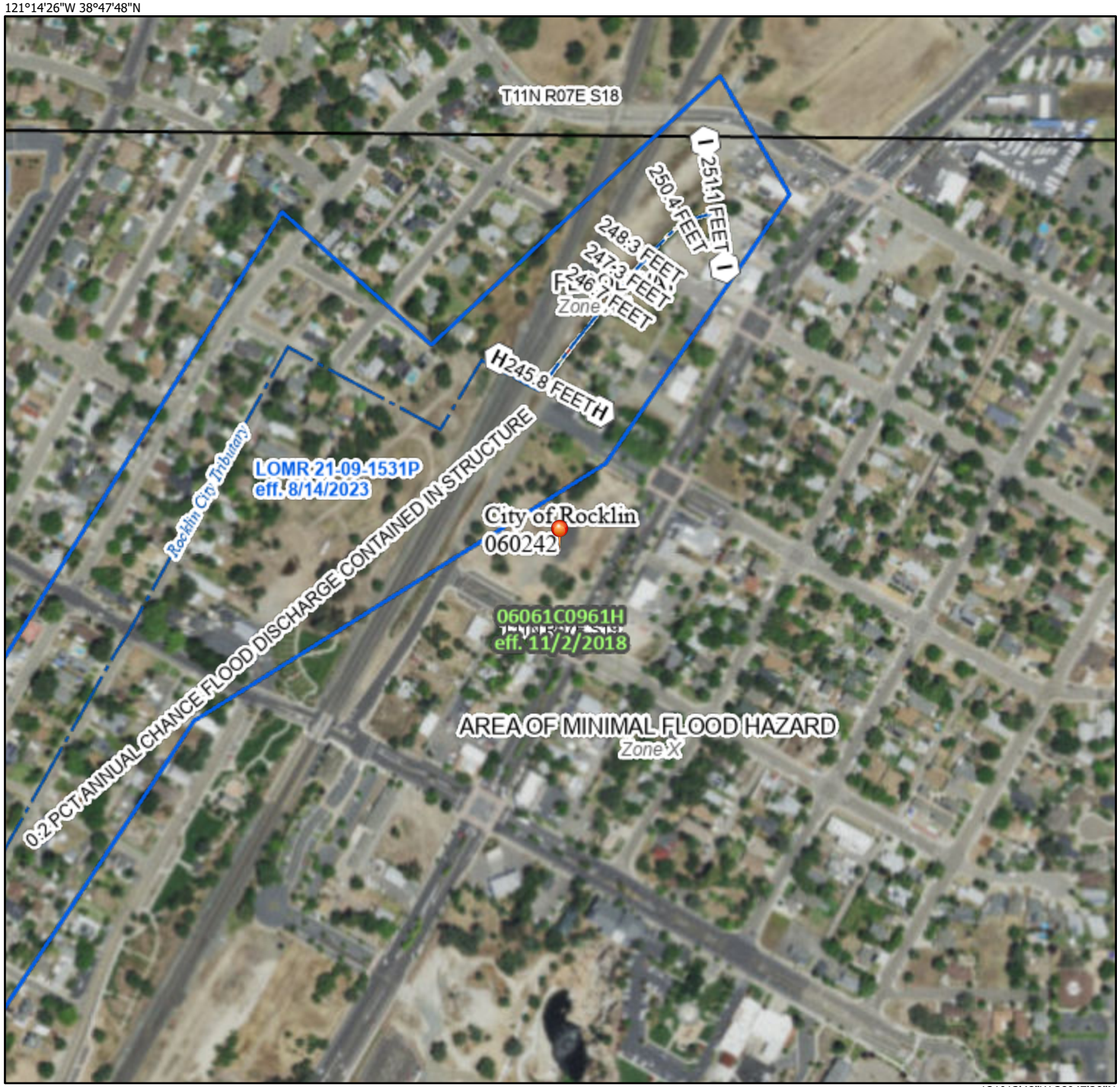
Apr 29, 2021

Science and Technology

National Flood Hazard Layer FIRMette

FEMA

121°14'26"W 38°47'48"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

121°13'48"W 38°47'20"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/3/2024 at 12:30 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE

April 2005

California Environmental Protection Agency
California Air Resources Board

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To My Local Government Colleagues....

I am pleased to introduce this informational guide to air quality and land use issues focused on community health. As a former county supervisor, I know from experience the complexity of local land use decisions. There are multiple factors to consider and balance. This document provides important public health information that we hope will be considered along with housing needs, economic development priorities, and other quality of life issues.

An important focus of this document is prevention. We hope the air quality information provided will help inform decision-makers about the benefits of avoiding certain siting situations. The overarching goal is to avoid placing people in harm's way. Recent studies have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities. What is encouraging is that the health risk is greatly reduced with distance. For that reason, we have provided some general recommendations aimed at keeping appropriate distances between sources of air pollution and land uses such as residences.

Land use decisions are a local government responsibility. The Air Resources Board's role is advisory and these recommendations do not establish regulatory standards of any kind. However, we hope that the information in this document will be seriously considered by local elected officials and land use agencies. We also hope that this document will promote enhanced communication between land use agencies and local air pollution control agencies. We developed this document in close coordination with the California Air Pollution Control Officers Association with that goal in mind.

I hope you find this document both informative and useful.

Barbara Riordan

Mrs. Barbara Riordan
Interim Chairman
California Air Resources Board

TABLE OF CONTENTS

APPENDICES

Acknowledgments

The ARB staff would like to acknowledge the exceptional contributions made to this document by members of the ARB Environmental Justice Stakeholders Group. Since 2001, ARB staff has consistently relied on this group to provide critical and constructive input on implementing the specifics of ARB's environmental justice policies and actions. The Stakeholders Group is convened by the ARB, and comprised of representatives from local land use and air agencies, community interest groups, environmental justice organizations, academia, and business. Their assistance and suggestions throughout the development of this Handbook have been invaluable.

Executive Summary

The Air Resources Board's (ARB) primary goal in developing this document is 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. Recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. Also, ARB community health risk assessments and regulatory programs have produced important air quality information about certain types of facilities that should be considered when siting new residences, schools, day care centers, playgrounds, and medical facilities (i.e., sensitive land uses). Sensitive land uses deserve special attention because children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the non-cancer effects of air pollution. There is also substantial evidence that children are more sensitive to cancer-causing chemicals.

Focusing attention on these siting situations is an important preventative action. ARB and local air districts have comprehensive efforts underway to address new and existing air pollution sources under their respective jurisdictions. The issue of siting is a local government function. As more data on the connection between proximity and health risk from air pollution become available, it is essential that air agencies share what we know with land use agencies. We hope this document will serve that purpose.

The first section provides ARB recommendations regarding the siting of new sensitive land uses near freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities. This list consists of the air pollution sources that we have evaluated from the standpoint of the proximity issue. It is based on available information and reflects ARB's primary areas of jurisdiction – mobile sources and toxic air contaminants. A key air pollutant common to many of these sources is particulate matter from diesel engines. Diesel particulate matter (diesel PM) is a carcinogen identified by ARB as a toxic air contaminant and contributes to particulate pollution statewide.

Reducing diesel particulate emissions is one of ARB's highest public health priorities and the focus of a comprehensive statewide control program that is reducing diesel PM emissions each year. ARB's long-term goal is to reduce diesel PM emissions 85% by 2020. However, cleaning up diesel engines will take time as new engine standards phase in and programs to accelerate fleet turnover or retrofit existing engines are implemented. Also, these efforts are reducing diesel particulate emissions on a statewide basis, but do not yet capture every site where diesel vehicles and engines may congregate. Because living or going to school too close to such air pollution sources may increase both cancer and non-cancer health risks, we are recommending that proximity be considered in the siting of new sensitive land uses.

There are also other key toxic air contaminants associated with specific types of facilities. Most of these are subject to stringent state and local air district regulations. However, what we know today indicates that keeping new homes and other sensitive land uses from siting too close to such facilities would provide additional health protection. Chrome platers are a prime example of facilities that should not be located near vulnerable communities because of the cancer health risks from exposure to the toxic material used during their operations.

In addition to source specific recommendations, we also encourage land use agencies to use their planning processes to ensure the appropriate separation of industrial facilities and sensitive land uses. While we provide some suggestions, how to best achieve that goal is a local issue. In the development of these guidelines, we received valuable input from local government about the spectrum of issues that must be considered in the land use planning process. This includes addressing housing and transportation needs, the benefits of urban infill, community economic development priorities, and other quality of life issues. All of these factors are important considerations. The recommendations in the Handbook need to be balanced with other State and local policies.

Our purpose with this document is to highlight the potential health impacts associated with proximity to air pollution sources so planners explicitly consider this issue in planning processes. We believe that with careful evaluation, infill development, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level. One suggestion for achieving this goal is more communication between air agencies and land use planners. Local air districts are an important resource that should be consulted regarding sources of air pollution in their jurisdictions. ARB staff will also continue to provide updated technical information as it becomes available.

Our recommendations are as specific as possible given the nature of the available data. In some cases, like refineries, we suggest that the siting of new sensitive land uses should be avoided immediately downwind. However, we leave definition of the size of this area to local agencies based on facility specific considerations. Also, project design that would reduce air pollution exposure may be part of the picture and we encourage consultation with air agencies on this subject.

In developing the recommendations, our first consideration was the adequacy of the data available for an air pollution source category. Using that data, we assessed whether we could reasonably characterize the relative exposure and health risk from a proximity standpoint. That screening provided the list of air pollution sources that we were able to address with specific recommendations. We also considered the practical implications of making hard and fast recommendations where the potential impact area is large, emissions will be reduced with time, and air agencies are in the process of looking at options for additional emission control. In the end, we tailored our recommendations to minimize the highest exposures for each source category independently. Due to the large variability in relative risk in the source categories, we chose not to apply

a uniform, quantified risk threshold as is typically done in air quality permitting programs. Instead, because these guidelines are not regulatory or binding on local agencies, we took a more qualitative approach in developing the distance-based recommendations.

Where possible, we recommend a minimum separation between a new sensitive land use and known air pollution risks. In other cases, we acknowledge that the existing health risk is too high in a relatively large area, that air agencies are working to reduce that risk, and that in the meantime, we recommend keeping new sensitive land uses out of the highest exposure areas. However, it is critical to note that our implied identification of the high exposure areas for these sources does not mean that the risk in the remaining impact area is insignificant. Rather, we hope this document will bring further attention to the potential health risk throughout the impact area and help garner support for our ongoing efforts to reduce health risk associated with air pollution sources. Areas downwind of major ports, rail yards, and other inter-modal transportation facilities are prime examples.

We developed these recommendations as a means to share important public health information. The underlying data are publicly available and referenced in this document. We also describe our rationale and the factors considered in developing each recommendation, including data limitations and uncertainties. These recommendations are advisory and should not be interpreted as defined "buffer zones." We recognize the opportunity for more detailed site-specific analyses always exists, and that there is no "one size fits all" solution to land use planning.

As California continues to grow, we collectively have the opportunity to use all the information at hand to avoid siting scenarios that may pose a health risk. As part of ARB's focus on communities and children's health, we encourage land use agencies to apply these recommendations and work more closely with air agencies. We also hope that this document will help educate a wider audience about the value of preventative action to reduce environmental exposures to air pollution.

1. ARB Recommendations on Siting New Sensitive Land Uses

Protecting California's communities and our children from the health effects of air pollution is one of the most fundamental goals of state and local air pollution control programs. Our focus on children reflects their special vulnerability to the health impacts of air pollution. Other vulnerable populations include the elderly, pregnant women, and those with serious health problems affected by air pollution. With this document, we hope to more effectively engage local land use agencies as partners in our efforts to reduce health risk from air pollution in all California communities.

Later sections emphasize the need to strengthen the connection between air quality and land use in both planning and permitting processes. Because the siting process for many, but not all air pollution sources involves permitting by local air districts, there is an opportunity for interagency coordination where the proposed location might pose a problem. To enhance the evaluation process from a land use perspective, section 4 includes recommended project related questions to help screen for potential proximity related issues.

Unlike industrial and other stationary sources of air pollution, the siting of new homes or day care centers does not require an air quality permit. Because these situations fall outside the air quality permitting process, it is especially important that land use agencies be aware of potential air pollution impacts.

The following recommendations address the issue of siting "sensitive land uses" near specific sources of air pollution; namely:

- High traffic freeways and roads
- Distribution centers
- Rail yards
- Ports
- Refineries
- Chrome plating facilities
- Dry cleaners
- Large gas dispensing facilities

The recommendations for each category include a summary of key information and guidance on what to avoid from a public health perspective.

Sensitive individuals refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses where sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses).

We are characterizing sensitive land uses as simply as we can by using the example of residences, schools, day care centers, playgrounds, and medical facilities. However, a variety of facilities are encompassed. For example, residences can include houses, apartments, and senior living complexes. Medical facilities can include hospitals, convalescent homes, and health clinics. Playgrounds could be play areas associated with parks or community centers.

In developing these recommendations, ARB first considered the adequacy of the data available for each air pollution source category. We assessed whether we could generally characterize the relative exposure and health risk from a proximity standpoint. The documented non-cancer health risks include triggering of asthma attacks, heart attacks, and increases in daily mortality and hospitalization for heart and respiratory diseases. These health impacts are well documented in epidemiological studies, but less easy to quantify from a particular air pollution source. Therefore, the cancer health impacts are used in this document to provide a picture of relative risk. This screening process provided the list of source categories we were able to address with specific recommendations. In evaluating the available information, we also considered the practical implications of making hard and fast recommendations where the potential impact area is large, emissions will be reduced with time, and air agencies are in the process of looking at options for additional emission control. Due to the large variability in relative risk between the source categories, we chose not to apply a uniform, quantified risk threshold as is typically done in regulatory programs. Therefore, in the end, we tailored our recommendations to minimize the highest exposures for each source category independently. Additionally, because this guidance is not regulatory or binding on local agencies, we took a more qualitative approach to developing distance based recommendations.

Where possible, we recommend a minimum separation between new sensitive land uses and existing sources. However, this is not always possible, particularly where there is an elevated health risk over large geographical areas. Areas downwind of ports and rail yards are prime examples. In such cases, we recommend doing everything possible to avoid locating sensitive receptors within the highest risk zones. Concurrently, air agencies and others will be working to reduce the overall risk through controls and measures within their scope of authority.

The recommendations were developed from the standpoint of siting new sensitive land uses. Project-specific data for new and existing air pollution sources are available as part of the air quality permitting process. Where such information is available, it should be used. Our recommendations are designed to fill a gap where information about existing facilities may not be readily available. These recommendations are only guidelines and are not designed to substitute for more specific information if it exists.

A summary of our recommendations is shown in Table 1-1. The basis and references[1] supporting each of these recommendations, including health studies, air quality modeling and monitoring studies is discussed below beginning with freeways and summarized in Table 1-2. As new information becomes available, it will be included on ARB's community health web page.

[1]Detailed information on these references are available on ARB's website at: http://www.ARB.ca.gov/ch/landuse.htm.

Table 1-1

Recommendations on Siting New Sensitive Land Uses Such As Residences, Schools, Daycare Centers, Playgrounds, or Medical Facilities*

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro-ethylene	• Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

*Notes:

- These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

- Recommendations are based primarily on data showing that the air pollution exposures addressed here (i.e., localized) can be reduced as much as 80% with the recommended separation.
- The relative risk for these categories varies greatly (see Table 1-2). To determine the actual risk near a particular facility, a site-specific analysis would be required. Risk from diesel PM will decrease over time as cleaner technology phases in.
- These recommendations are designed to fill a gap where information about existing facilities may not be readily available and are not designed to substitute for more specific information if it exists. The recommended distances take into account other factors in addition to available health risk data (see individual category descriptions).
- Site-specific project design improvements may help reduce air pollution exposures and should also be considered when siting new sensitive land uses.
- This table does not imply that mixed residential and commercial development in general is incompatible. Rather it focuses on known problems like dry cleaners using perchloroethylene that can be addressed with reasonable preventative actions.
- A summary of the basis for the distance recommendations can be found in Table 1-2.

Table 1-2

Summary of Basis for Advisory Recommendations

Source Category	Range of Relative Cancer Risk[1,2]	Summary of Basis for Advisory Recommendations
Freeways and High-Traffic Roads	300 – 1,700	• In traffic-related studies, the additional non-cancer health risk attributable to proximity was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70% drop off in particulate pollution levels at 500 feet.
Distribution Centers[3]	Up to 500	• Because ARB regulations will restrict truck idling at distribution centers, transport refrigeration unit (TRU) operations are the largest onsite diesel PM emission source followed by truck travel in and out of distribution centers. • Based on ARB and South Coast District emissions and modeling analyses, we estimate an 80 percent drop-off in pollutant concentrations at approximately 1,000 feet from a distribution center.
Rail Yards	Up to 500	• The air quality modeling conducted for the Roseville Rail Yard Study predicted the highest impact is within 1,000 feet of the Yard, and is associated with service and maintenance activities. The next highest impact is between a half to one mile of the Yard, depending on wind direction and intensity.
Ports	Studies underway	• ARB will evaluate the impacts of ports and develop a new comprehensive plan that will describe the steps needed to reduce public health impacts from port and rail activities in California. In the interim, a general advisory is appropriate based on the magnitude of diesel PM emissions associated with ports.
Refineries	Under 10	• Risk assessments conducted at California refineries show risks from air toxics to be under 10 chances of cancer per million.[4] • Distance recommendations were based on the amount and potentially hazardous nature of many of the pollutants released as part of the refinery process, particularly during non-routine emissions releases.
Chrome Platers	10-100	• ARB modeling and monitoring studies show localized risk of hexavalent chromium diminishing significantly at 300 feet. There are data limitations in both the modeling and monitoring studies. These include variability of plating activities and uncertainty of emissions such as fugitive dust. Hexavalent chromium is one of the most potent toxic air contaminants. Considering these factors, a distance of 1,000 feet was used as a precautionary measure.
Dry Cleaners Using Perchloro-ethylene (perc)	15-150	• Local air district studies indicate that individual cancer risk can be reduced by as much as 75 percent by establishing a 300 foot separation between a sensitive land use and a one-machine perc dry cleaning operation. For larger operations (2 machines or more), a separation of 500 feet can reduce risk by over 85 percent.

Source Category	Range of Relative Cancer Risk[1,2]	Summary of Basis for Advisory Recommendations
Gasoline Dispensing Facilities (GDF)[5]	Typical GDF: Less than 10 Large GDF: Between Less than 10 and 120	• Based on the CAPCOA Gasoline Service Station Industry-wide Risk Assessment Guidelines, most typical GDFs (less than 3.6 million gallons per year) have a risk of less than 10 at 50 feet under urban air dispersion conditions. Over the last few years, there has been a growing number of extremely large GDFs with sales over 3.6 and as high as 19 million gallons per year. Under rural air dispersion conditions, these large GDFs can pose a larger risk at a greater distance.

[1]For cancer health effects, risk is expressed as an estimate of the increased chances of getting cancer due to facility emissions over a 70-year lifetime. This increase in risk is expressed as chances in a million (e.g., 10 chances in a million).

[2]The estimated cancer risks are a function of the proximity to the specific category and were calculated independent of the regional health risk from air pollution. For example, the estimated regional cancer risk from air toxics in the Los Angeles region (South Coast Air Basin) is approximately 1,000 in a million.

[3]Analysis based on refrigerator trucks.

[4]Although risk assessments performed by refineries indicate they represent a low cancer risk, there is limited data on non-cancer effects of pollutants that are emitted from these facilities. Refineries are also a source of non-routine emissions and odors.

[5]A typical GDF in California dispenses under 3.6 million gallons of gasoline per year. The cancer risk for this size facility is likely to be less than 10 in a million at the fence line under urban air dispersion conditions.

A large GDF has fuel throughputs that can range from 3.6 to 19 million gallons of gasoline per year. The upper end of the risk range (i.e., 120 in a million) represents a hypothetical worst case scenario for an extremely large GDF under rural air dispersion conditions.

Freeways and High Traffic Roads

Air pollution studies indicate that living close to high traffic and the associated emissions may lead to adverse health effects beyond those associated with regional air pollution in urban areas. Many of these epidemiological studies have focused on children. A number of studies identify an association between adverse non-cancer health effects and living or attending school near heavily traveled roadways (see findings below). These studies have reported associations between residential proximity to high traffic roadways and a variety of respiratory symptoms, asthma exacerbations, and decreases in lung function in children.

One such study that found an association between traffic and respiratory symptoms in children was conducted in the San Francisco Bay Area. Measurements of traffic-related pollutants showed concentrations within 300 meters (approximately 1,000 feet) downwind of freeways were higher than regional values. Most other studies have assessed exposure based on proximity factors such as distance to freeways or traffic density.

These studies linking traffic emissions with health impacts build on a wealth of data on the adverse health effects of ambient air pollution. The data on the effects of proximity to traffic-related emissions provides additional information that can be used in land use siting and regulatory actions by air agencies. The key observation in these studies is that close proximity increases both exposure and the potential for adverse health effects. Other effects associated with traffic emissions include premature death in elderly individuals with heart disease.

Key Health Findings

- Reduced lung function in children was associated with traffic density, especially trucks, within 1,000 feet and the association was strongest within 300 feet. (Brunekreef, 1997)
- Increased asthma hospitalizations were associated with living within 650 feet of heavy traffic and heavy truck volume. (Lin, 2000)
- Asthma symptoms increased with proximity to roadways and the risk was greatest within 300 feet. (Venn, 2001)
- Asthma and bronchitis symptoms in children were associated with proximity to high traffic in a San Francisco Bay Area community with good overall regional air quality. (Kim, 2004)
- A San Diego study found increased medical visits in children living within 550 feet of heavy traffic. (English, 1999)

In these and other proximity studies, the distance from the roadway and truck traffic densities were key factors affecting the strength of the association with adverse health effects. In the above health studies, the association of traffic-related emissions with adverse health effects was seen within 1,000 feet and was

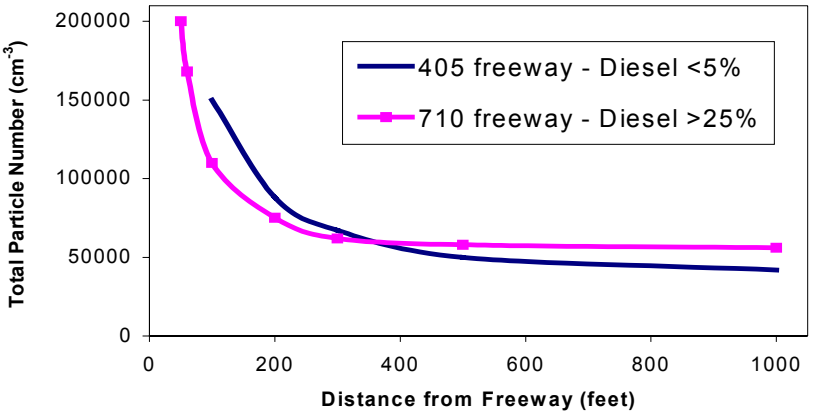
strongest within 300 feet. This demonstrates that the adverse effects diminished with distance.

In addition to the respiratory health effects in children, proximity to freeways increases potential cancer risk and contributes to total particulate matter exposure. There are three carcinogenic toxic air contaminants that constitute the majority of the known health risk from motor vehicle traffic – diesel particulate matter (diesel PM) from trucks, and benzene and 1,3-butadiene from passenger vehicles. On a typical urban freeway (truck traffic of 10,000-20,000/day), diesel PM represents about 70 percent of the potential cancer risk from the vehicle traffic. Diesel particulate emissions are also of special concern because health studies show an association between particulate matter and premature mortality in those with existing cardiovascular disease.

Distance Related Findings

A southern California study (Zhu, 2002) showed measured concentrations of vehicle-related pollutants, including ultra-fine particles, decreased dramatically within approximately 300 feet of the 710 and 405 freeways. Another study looked at the validity of using distance from a roadway as a measure of exposure

Figure 1-1
Decrease In Concentration of Freeway Diesel PM Emissions With Distance



to traffic related air pollution (Knape, 1999). This study showed that concentrations of traffic related pollutants declined with distance from the road, primarily in the first 500 feet.

These findings are consistent with air quality modeling and risk analyses done by ARB staff that show an estimated range of potential cancer risk that decreases with distance from freeways. The estimated risk varies with the local meteorology, including wind pattern. As an example, at 300 feet downwind from a freeway (Interstate 80) with truck traffic of 10,000 trucks per day, the potential cancer risk was as high as 100 in one million (ARB Roseville Rail Yard Study). The cancer health risk at 300 feet on the upwind side of the freeway was much

less. The risk at that distance for other freeways will vary based on local conditions – it may be higher or lower. However, in all these analyses the relative exposure and health risk dropped substantially within the first 300 feet. This phenomenon is illustrated in Figure 1-1.

State law restricts the siting of new schools within 500 feet of a freeway, urban roadways with 100,000 vehicles/day, or rural roadways with 50,000 vehicles with some exceptions.[2] However, no such requirements apply to the siting of residences, day care centers, playgrounds, or medical facilities. The available data show that exposure is greatly reduced at approximately 300 feet. In the traffic-related studies the additional health risk attributable to the proximity effect was strongest within 1,000 feet.

The combination of the children's health studies and the distance related findings suggests that it is important to avoid exposing children to elevated air pollution levels immediately downwind of freeways and high traffic roadways. These studies suggest a substantial benefit to a 500-foot separation.

The impact of traffic emissions is on a gradient that at some point becomes indistinguishable from the regional air pollution problem. As air agencies work to reduce the underlying regional health risk from diesel PM and other pollutants, the impact of proximity will also be reduced. In the meantime, as a preventative measure, we hope to avoid exposing more children and other vulnerable individuals to the highest concentrations of traffic-related emissions.

Recommendation

- Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.

References

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- Lin, S. et al. *"Childhood asthma hospitalization and residential exposure to state route traffic."* Environ Res. 2002;88:73-81
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[2] Section 17213 of the California Education Code and section 21151.8 of the California Public Resources Code. See also Appendix E for a description of special processes that apply to school siting.

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Distribution Centers

Distribution centers or warehouses are facilities that serve as a distribution point for the transfer of goods. Such facilities include cold storage warehouses, goods transfer facilities, and inter-modal facilities such as ports. These operations involve trucks, trailers, shipping containers, and other equipment with diesel engines. A distribution center can be comprised of multiple centers or warehouses within an area. The size can range from several to hundreds of acres, involving a number of different transfer operations and long waiting periods. A distribution center can accommodate hundreds of diesel trucks a day that deliver, load, and/or unload goods up to seven days a week. To the extent that these trucks are transporting perishable goods, they are equipped with diesel-powered transport refrigeration units (TRUs) or TRU generator sets.

The activities associated with delivering, storing, and loading freight produces diesel PM emissions. Although TRUs have relatively small diesel-powered engines, in the normal course of business, their emissions can pose a significant health risk to those nearby. In addition to onsite emissions, truck travel in and out of distribution centers contributes to the local pollution impact.

ARB is working to reduce diesel PM emissions through regulations, financial incentives, and enforcement programs. In 2004, ARB adopted two airborne toxic control measures that will reduce diesel PM emissions associated with distribution centers. The first will limit nonessential (or unnecessary) idling of diesel-fueled commercial vehicles, including those entering from other states or countries. This statewide measure, effective in 2005, prohibits idling of a vehicle more than five minutes at any one location.[3] The elimination of unnecessary idling will reduce the localized impacts caused by diesel PM and other air toxics

[3] For further information on the Anti-Idling ATCM, please click on: http://www.arb.ca.gov/toxics/idling/outreach/factsheet.pdf

in diesel vehicle exhaust. This should be a very effective new strategy for reducing diesel PM emissions at distribution centers as well as other locations.

The second measure requires that TRUs operating in California become cleaner over time. The measure establishes in-use performance standards for existing TRU engines that operate in California, including out-of-state TRUs. The requirements are phased-in beginning in 2008, and extend to 2019.[4]

ARB also operates a smoke inspection program for heavy-duty diesel trucks that focuses on reducing truck emissions in California communities. Areas with large numbers of distribution centers are a high priority.

Key Health Findings

Diesel PM has been identified by ARB as a toxic air contaminant and represents 70 percent of the known potential cancer risk from air toxics in California. Diesel PM is an important contributor to particulate matter air pollution. Particulate matter exposure is associated with premature mortality and health effects such as asthma exacerbation and hospitalization due to aggravating heart and lung disease.

Distance Related Findings

Although distribution centers are located throughout the state, they are usually clustered near transportation corridors, and are often located in or near population centers. Diesel PM emissions from associated delivery truck traffic and TRUs at these facilities may result in elevated diesel PM concentrations in neighborhoods surrounding those sites. Because ARB regulations will restrict truck idling at distribution centers, the largest continuing onsite diesel PM emission source is the operation of TRUs. Truck travel in and out of distribution centers also contributes to localized exposures, but specific travel patterns and truck volumes would be needed to identify the exact locations of the highest concentrations.

As part of the development of ARB's regulation for TRUs, ARB staff performed air quality modeling to estimate exposure and the associated potential cancer risk of onsite TRUs for a typical distribution center. For an individual person, cancer risk estimates for air pollution are commonly expressed as a probability of developing cancer from a lifetime (i.e., 70 years) of exposure. These risks were calculated independent of regional risk. For example, the estimated regional cancer risk from air toxics in the Los Angeles region (South Coast Air Basin) is approximately 1,000 additional cancer cases per one million population.

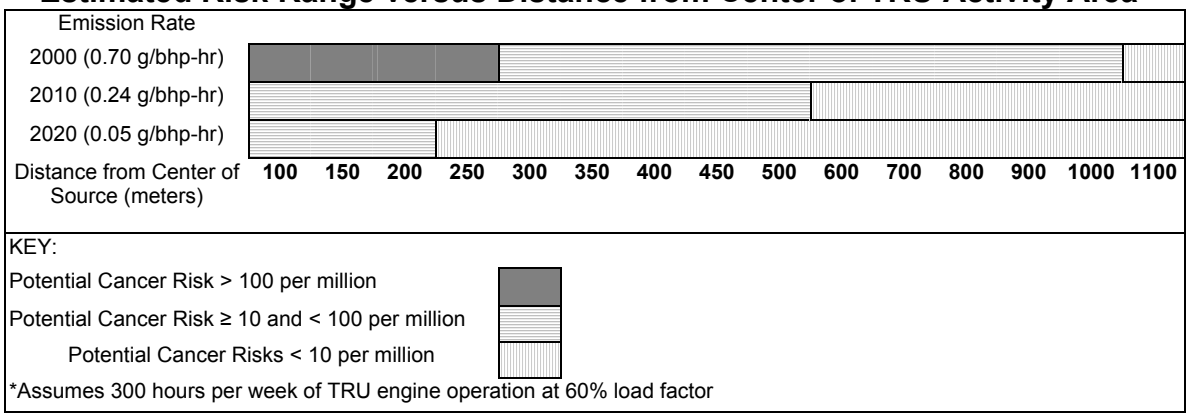
[4] For further information on the Transport Refrigeration Unit ATCM, please click on: http://www.arb.ca.gov/diesel/documents/trufaq.pdf

The diesel PM emissions from a facility are dependent on the size (horsepower), age, and number of engines, emission rates, the number of hours the truck engines and/or TRUs operate, distance, and meteorological conditions at the site. This assessment assumes a total on-site operating time for all TRUs of 300 hours per week. This would be the equivalent of 40 TRU-equipped trucks a day, each loading or unloading on-site for one hour, 12 hours a day and seven days a week.

As shown in Figure 1-2 below, at this estimated level of activity and assuming a current fleet diesel PM emission rate, the potential cancer risk would be over 100 in a million at 800 feet from the center of the TRU activity. The estimated potential cancer risk would be in the 10 to 100 per million range between 800 to 3,300 feet and fall off to less than 10 per million at approximately 3,600 feet. However with the implementation of ARB's regulation on TRUs, the risk will be significantly reduced.[5] We have not conducted a risk assessment for distribution centers based on truck traffic alone, but on an emissions basis, we would expect similar risks for a facility with truck volumes in the range of 100 per day.

Figure 1-2

Estimated Risk Range versus Distance from Center of TRU Activity Area*

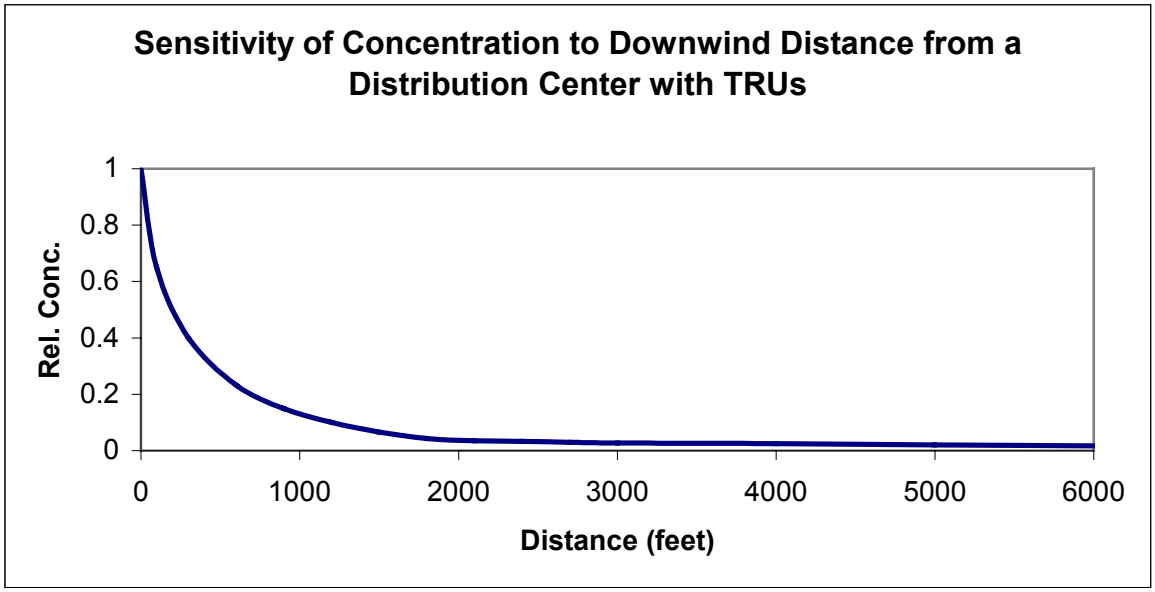


The estimated potential cancer risk level in Figure 1-2 is based on a number of assumptions that may not reflect actual conditions for a specific site. For example, increasing or decreasing the hours of diesel engine operations would change the potential risk levels. Meteorological and other facility specific parameters can also impact the results. Therefore, the results presented here are not directly applicable to any particular facility or operation. Rather, this information is intended to provide an indication as to the potential relative levels of risk that may be observed from operations at distribution centers. As shown in Figure 1-2, the estimated risk levels will decrease over time as lower-emitting diesel engines are used.

[5] These risk values assume an exposure duration of 70 years for a nearby resident and uses the methodology specified in the 2003 OEHHA health risk assessment guidelines.

Another air modeling analysis, performed by the South Coast Air Quality Management District (South Coast AQMD), evaluated the impact of diesel PM emissions from distribution center operations in the community of Mira Loma in southern California. Based on dispersion of diesel PM emissions from a large distribution center, Figure 1-3 shows the relative pollution concentrations at varying distances downwind. As Figure 1-3 shows, there is about an 80 percent drop off in concentration at approximately 1,000 feet.

Figure 1-3
Decrease In Relative Concentration of Risk
With Distance



Both the ARB and the South Coast AQMD analyses indicate that providing a separation of 1,000 feet would substantially reduce diesel PM concentrations and public exposure downwind of a distribution center. While these analyses do not provide specific risk estimates for distribution centers, they provide an indication of the range of risk and the benefits of providing a separation. ARB recommends a separation of 1,000 feet based on the combination of risk analysis done for TRUs and the decrease in exposure predicted with the South Coast AQMD modeling. However, ARB staff plans to provide further information on distribution centers as we collect more data and implement the TRU control measure.

Taking into account the configuration of distribution centers can also reduce population exposure and risk. For example, locating new sensitive land uses away from the main entry and exit points helps to reduce cancer risk and other health impacts.

Recommendations

- Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating TRUs per day, or where TRU unit operations exceed 300 hours per week).

- Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.

References

- *Airborne Toxic Control Measure To Limit Diesel-Fueled Commercial Motor Vehicle Idling.* ARB (August 20, 2004). Rule effectiveness date awaiting submittal of regulation to the Office of Administration Law. http://www.arb.ca.gov/regact/idling/idling.htm

- *Revised Staff Report: Initial Statement of Reasons for Proposed Rulemaking. Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate.* ARB (October 28, 2003). http://www.arb.ca.gov/regact/trude03/revisor.doc

- *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis.* SCAQMD (August 2003) http://www.aqmd.gov/ceqa/handbook/diesel_analysis.doc

- *"Mira Loma Study: Analysis of the Impact of Diesel Particulate Emissions from Warehouse/Distribution Center Operations",* PowerPoint presentation. SCAQMD (July 31, 2002)

Rail Yards

Rail yards are a major source of diesel particulate air pollution. They are usually located near inter-modal facilities, which attract heavy truck traffic, and are often sited in mixed industrial and residential areas. ARB, working with the Placer County air district and Union Pacific Railroad, recently completed a study[6] of the Roseville Rail Yard (Yard) in northern California that focused on the health risk from diesel particulate. A comprehensive emissions analysis and air quality modeling were conducted to characterize the estimated potential cancer risk associated with the facility.

[6] To review the study, please click on: http://www.arb.ca.gov/diesel/documents/rrstudy.htm

The Yard encompasses about 950 acres on a one-quarter mile wide by four-mile long strip of land that parallels Interstate 80. It is surrounded by commercial, industrial, and residential properties. The Yard is one of the largest service and maintenance rail yards in the West with over 30,000 locomotives visiting annually.

Using data provided by Union Pacific Railroad, the ARB determined the number and type of locomotives visiting the Yard annually and what those locomotives were doing - moving, idling, or undergoing maintenance testing. Union Pacific provided the annual, monthly, daily, and hourly locomotive activity in the yard including locomotive movements; routes for arrival, departure, and through trains; and locomotive service and testing. This information was used to estimate the emissions of particulate matter from the locomotives, which was then used to model the potential impacts on the surrounding community.

The key findings of the study are:

- Diesel PM emissions in 2000 from locomotive operations at the Roseville Yard were estimated at about 25 tons per year.

- Of the total diesel PM in the Yard, moving locomotives accounted for about 50 percent, idling locomotives about 45 percent, and locomotive testing about five percent.

- Air quality modeling predicts potential cancer risks greater than 500 in a million (based on 70 years of exposure) in a 10-40 acre area immediately adjacent to the Yard's maintenance operations.

- The risk assessment also showed elevated cancer risk impacting a larger area covering about a 10 by 10 mile area around the Yard.

The elevated concentrations of diesel PM found in the study contribute to an increased risk of cancer and premature death due to cardiovascular disease, and non-cancer health effects such as asthma and other respiratory illnesses. The magnitude of the risk, the general location, and the size of the impacted area depended on the meteorological data used to characterize conditions at the Yard, the dispersion characteristics, and exposure assumptions. In addition to these variables, the nature of locomotive activity will influence a risk characterization at a particular rail yard. For these reasons, the quantified risk estimates in the Roseville Rail Yard Study cannot be directly applied to other rail yards. However, the study does indicate the health risk due to diesel PM from rail yards needs to be addressed. ARB, in conjunction with the U.S. Environmental Protection Agency (U.S. EPA), and local air districts, is working with the rail industry to identify and implement short term, mid-term and long-term mitigation strategies. ARB also intends to conduct a second rail study in southern California to increase its understanding of rail yard operations and the associated public health impacts.

Key Health Findings

Diesel PM has been identified by ARB as a toxic air contaminant and represents 70 percent of the known potential cancer risk from air toxics in California. Diesel PM is an important contributor to particulate matter air pollution. Particulate matter exposure is associated with premature mortality and health effects such as asthma exacerbation and hospitalization due to aggravating heart and lung disease.

Distance Related Findings

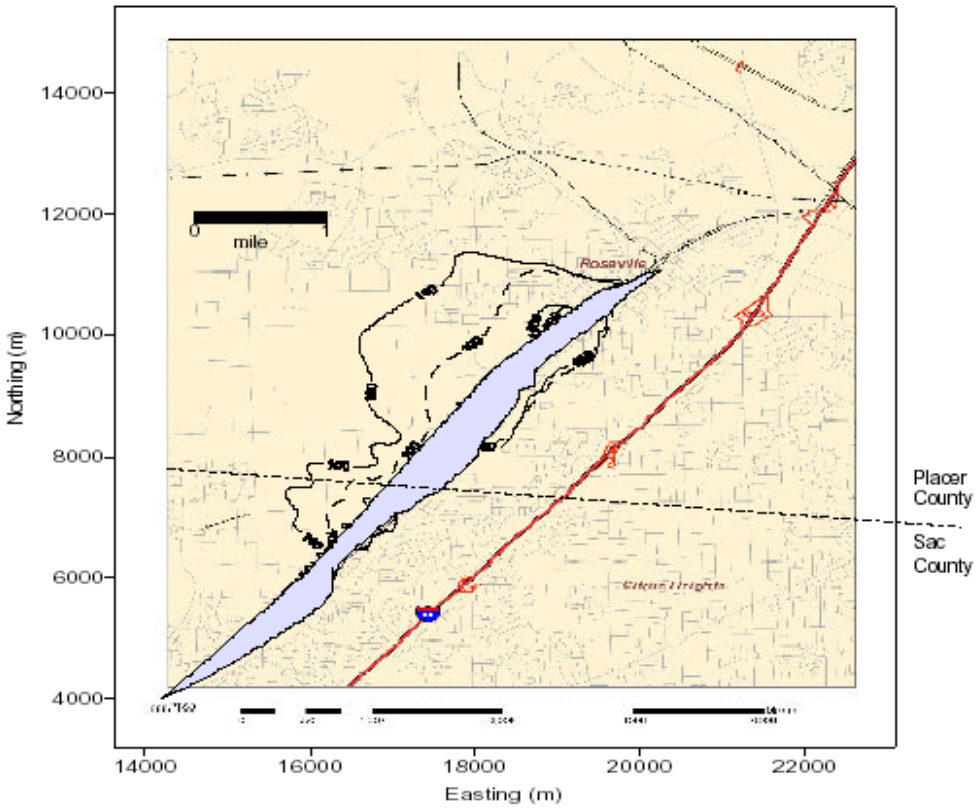
Two sets of meteorological data were used in the Roseville study because of technical limitations in the data. The size of the impact area was highly dependent on the meteorological data set used. The predicted highest impact area ranged from 10 - 40 acres with the two different meteorological data sets. This area, with risks estimated above 500 in a million, is adjacent to an area that includes a maintenance shop (see Figure 1-4). The high concentration of diesel PM emissions is due to the number of locomotives and nature of activities in this area, particularly idling locomotives.

The area of highest impact is within 1,000 feet of the Yard. The next highest impact zone as defined in the report had a predicted risk between 500 and 100 in one million and extends out between a half to one mile in some spots, depending on which meteorological conditions were assumed. The impact areas are irregular in shape making it difficult to generalize about the impact of distance at a particular location. However, the Roseville Rail Yard Study clearly indicates that the localized health risk is high, the impact area is large, and mitigation of the locomotive diesel PM emissions is needed.

For facilities like rail yards and ports, the potential impact area is so large that the real solution is to substantially reduce facility emissions. However, land use planners can avoid encroaching upon existing rail facilities and those scheduled for expansion. We also recommend that while air agencies tackle this problem, land use planners try not to add new sensitive individuals into the highest exposure areas. Finally, we recommend that land use agencies consider the potential health impacts of rail yards in their planning and permitting processes. Additional limitations and mitigation may be feasible to further reduce exposure on a site-specific basis.

Figure 1-4

Estimated Cancer Risk from the Yard
(100 and 500 in a million risk isopleths)



Notes: 100/Million Contours: Solid Line – Roseville Met Data; Dashed Line-McClellan Met Data, Urban Dispersion Coefficients, 80th Percentile Breathing Rate, All Locomotives' Activities (23 TPY), 70-Year Exposure

Recommendation

- Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard[7].

- Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.

References

- *Roseville Rail Yard Study.* ARB (2004)

[7] The rail yard risk analysis was conducted for the Union Pacific rail yard in Roseville, California. This rail yard is one of the largest in the state. There are other rail yards in California with comparable levels of activity that should be considered "major" for purposes of this Handbook.

Ports

Air pollution from maritime port activities is a growing concern for regional air quality as well as air quality in nearby communities. The primary air pollutant associated with port operations is directly emitted diesel particulate. Port-related activities also result in emissions that form ozone and secondary particulate in the atmosphere. The emission sources associated with ports include diesel engine-powered ocean-going ships, harbor craft, cargo handling equipment, trucks, and locomotives. The size and concentration of these diesel engines makes ports one of the biggest sources of diesel PM in the state. For that reason, ARB has made it a top priority to reduce diesel PM emissions at the ports, in surrounding communities, and throughout California.

International, national, state, and local government collaboration is critical to reducing port emissions based on both legal and practical considerations. For example, the International Maritime Organization (IMO) and the U.S. EPA establish emission standards for ocean-going vessels and U.S.-flagged harbor craft, respectively. ARB is pursuing further federal actions to tighten these standards. In addition, ARB and local air districts are reducing emissions from ports through a variety of approaches. These include: incentive programs to fund cleaner engines, enhanced enforcement of smoke emissions from ships and trucks, use of dockside electricity instead of diesel engines, cleaner fuels for ships, harbor craft, locomotives, and reduced engine idling. The two ATCMs that limit truck idling and reduce emissions from TRUs (discussed under “Distribution Centers”) also apply to ports.

ARB is also developing several other regulations that will reduce port-related emissions. One rule would require ocean-going ships to use a cleaner marine diesel fuel to power auxiliary engines while in California coastal waters and at dock. Ships that frequently visit California ports would also be required to further reduce their emissions. ARB has adopted a rule that would require harbor craft to use the same cleaner diesel fuel used by on-road trucks in California. In 2005, ARB will consider a rule that would require additional controls for in-use harbor craft, such as the use of add-on emission controls and accelerated turnover of older engines.

Key Health Findings

Port activities are a major source of diesel PM. Diesel PM has been identified by ARB as a toxic air contaminant and represents 70 percent of the known potential cancer risk from air toxics in California. Diesel PM is an important contributor to particulate matter air pollution. Particulate matter exposure is associated with premature mortality and health effects such as asthma exacerbation and hospitalization due to aggravating heart and lung disease.

Distance Related Findings

The Ports of Los Angeles and Long Beach provide an example of the emissions impact of port operations. A comprehensive emissions inventory was completed in June 2004. These ports combined are one of the world's largest and busiest seaports. Located in San Pedro Bay, about 20 miles south of downtown Los Angeles, the port complex occupies approximately 16 square miles of land and water. Port activities include five source categories that produce diesel emissions. These are ocean-going vessels, harbor craft, cargo handling equipment, railroad locomotives, and heavy-duty trucks.

The baseline emission inventory provides emission estimates for all major air pollutants. This analysis focuses on diesel PM from in-port activity because these emissions have the most potential health impact on the areas adjacent to the port. Ocean vessels are the largest overall source of diesel PM related to the ports, but these emissions occur primarily outside of the port in coastal waters, making the impact more regional in nature.

The overall in-port emission inventory for diesel particulate for the ports of Los Angeles and Long Beach is estimated to be 550 tons per year. The emissions fall in the following major categories: ocean-going vessels (17%), harbor craft (25%), cargo handling (47%), railroad locomotive (3%), and heavy duty vehicles (8%). In addition to in-port emissions, ship, rail, and trucking activities also contribute to regional emissions and increase emissions in nearby neighborhoods. Off-port emissions associated with related ship, rail, and trucking activities contribute an additional 680 tons per year of diesel particulate at the Port of Los Angeles alone.

To put this in perspective, the diesel PM emissions estimated for the Roseville Yard in ARB's 2004 study are 25 tons per year. The potential cancer risk associated with these emissions is 100 in one million at a distance of one mile, or one half mile, depending on the data set used. This rail yard covers one and a half square miles. The Los Angeles and Long Beach ports have combined diesel PM emissions of 550 tons per year emitted from a facility that covers a much larger area - 16 miles. The ports have about twice the emission density of the rail yard - 34 tons per year per square mile compared to 16 tons per year per square mile. However, while this general comparison is illustrative of the overall size of the complex, a detailed air quality modeling analysis would be needed to assess the potential health impact on specific downwind areas near the ports.

ARB is in the process of evaluating the various port-related emission sources from the standpoint of existing emissions, growth forecasts, new control options, regional air quality impacts, and localized health risk. A number of public processes - both state and local - are underway to address various aspects of these issues. Until more of these analyses are complete, there is little basis for recommending a specific separation between new sensitive land uses and ports.

For example, the type of data we have showing the relationship between air pollutant concentrations and distance from freeways is not yet available.

Also, the complexity of the port facilities makes a site-specific analysis critical. Ports are a concentration of multiple emission sources with differing dispersion and other characteristics. In the case of the Roseville rail yard, we found a high, very localized impact associated with a particular activity, service and maintenance. By contrast, the location, size, and nature of impact areas can be expected to vary substantially for different port activities. For instance, ground level emissions from dockside activities would behave differently from ship stack level emissions.

Nonetheless, on an emissions basis alone, we expect locations downwind of ports to be substantially impacted. For that reason, we recommend that land use agencies track the current assessment efforts, and consider limitations on the siting of new sensitive land uses in areas immediately downwind of ports.

Recommendations

Avoid siting new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.

References

- *Roseville Rail Yard Study.* ARB (2004)
- Final Draft, "*Port-Wide Baseline Air Emissions Inventory."* Port of Los Angeles (June 2004)
- Final Draft, "*2002 Baseline Air Emissions Inventory."* Port of Long Beach (February 2004)

Petroleum Refineries

A petroleum refinery is a complex facility where crude oil is converted into petroleum products (primarily gasoline, diesel fuel, and jet fuel), which are then transported through a system of pipelines and storage tanks for final distribution by delivery truck to fueling facilities throughout the state. In California, most crude oil is delivered either by ship from Alaska or foreign sources, or is delivered via pipeline from oil production fields within the state. The crude oil then undergoes many complex chemical and physical reactions, which include distillation, catalytic cracking, reforming, and finishing. These refining processes have the potential to emit air contaminants, and are subject to extensive emission controls by district regulations.

As a result of these regulations covering the production, marketing, and use of gasoline and other oil by-products, California has seen significant regional air quality benefits both in terms of cleaner fuels and cleaner operating facilities. In

the 1990s, California refineries underwent significant modifications and modernization to produce cleaner fuels in response to changes in state law. Nevertheless, while residual emissions are small when compared to the total emissions controlled from these major sources, refineries are so large that even small amounts of fugitive, uncontrollable emissions and associated odors from the operations, can be significant. This is particularly the case for communities that may be directly downwind of the refinery. Odors can cause health symptoms such as nausea and headache. Also, because of the size, complexity, and vast numbers of refinery processes onsite, the occasional refinery upset or malfunction can potentially result in acute or short-term health effects to exposed individuals.

Key Health Findings

Petroleum refineries are large single sources of emissions. For volatile organic compounds (VOCs), eight of the ten largest stationary sources in California are petroleum refineries. For oxides of nitrogen (NOx), four of the ten largest stationary sources in California are petroleum refineries. Both of these compounds react in the presence of sunlight to form ozone. Ozone impacts lung function by irritating and damaging the respiratory system. Petroleum refineries are also large stationary sources of both particulate matter under 10 microns in size (PM_{10}) and particulate matter under 2.5 microns in size ($PM_{2.5}$). Exposure to particulate matter aggravates a number of respiratory illnesses, including asthma, and is associated with premature mortality in people with existing cardiac and respiratory disease. Both long-term and short-term exposure can have adverse health impacts. Finer particles pose an increased health risk because they can deposit deep in the lung and contain substances that are particularly harmful to human health. NOx are also significant contributors to the secondary formation of $PM_{2.5}$.

Petroleum refineries also emit a variety of toxic air pollutants. These air toxics vary by facility and process operation but may include: acetaldehyde, arsenic, antimony, benzene, beryllium, 1,3-butadiene, cadmium compounds, carbonyl sulfide, carbon disulfide, chlorine, dibenzofurans, diesel particulate matter, formaldehyde, hexane, hydrogen chloride, lead compounds, mercury compounds, nickel compounds, phenol, 2,3,7,8 tetrachlorodibenzo-p-dioxin, toluene, and xylenes (mixed) among others. The potential health effects associated with these air toxics can include cancer, respiratory irritation, and damage to the central nervous system, depending on exposure levels.

Distance Related Findings

Health risk assessments for petroleum refineries have shown risks from toxic air pollutants that have quantifiable health risk values to be around 10 potential cancer cases per million. Routine air monitoring and several air monitoring studies conducted in the San Francisco Bay Area (Crockett) and the South Coast Air Basin (Wilmington) have not identified significant health risks specifically

associated with refineries. However, these studies did not measure diesel PM as no accepted method currently exists, and there are many toxic air pollutants that do not have quantifiable health risk values.

In 2002, ARB published a report on the results of the state and local air district air monitoring done near oil refineries. The purpose of this evaluation was to try to determine how refinery-related emissions might impact nearby communities. This inventory of air monitoring activities included 10 ambient air monitoring stations located near refineries in Crockett and four stations near refineries in Wilmington. These monitoring results did not identify significant increased health risks associated with the petroleum refineries. In 2002-2003, ARB conducted additional monitoring studies in communities downwind of refineries in Crockett and Wilmington. These monitoring results also did not indicate significant increased health risks from the petroleum refineries.

Consequently, there are no air quality modeling or air monitoring data that provides a quantifiable basis for recommending a specific separation between refineries and new sensitive land uses. However, in view of the amount and potentially hazardous nature of many of the pollutants released as part of the refinery process, we believe the siting of new sensitive land uses immediately downwind should be avoided. Land use agencies should consult with the local air district when considering how to define an appropriate separation for refineries within their jurisdiction.

Recommendations

- Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.

References

- *Review of Current Ambient Air Monitoring Activities Related to California Bay Area and South Coast Refineries. ARB (March 2002)* http://www.arb.ca.gov/aaqm/qmosqual/special/mldrefinery.pdf
- *Community Air Quality Monitoring: Special Studies – Crockett. ARB (September 2004)* http://www.arb.ca.gov/ch/communities/studies/crockett/crockett.htm
- *Wilmington Study - Air Monitoring Results. ARB (2003)* http://www.arb.ca.gov/ch/communities/studies/wilmington/wilmington.htm

Chrome Plating Operations

Chrome plating operations rely on the use of the toxic metal hexavalent chromium, and have been subject to ARB and local air district control programs for many years. Regulation of chrome plating operations has reduced statewide emissions substantially. However, due to the nature of chrome plating

operations and the highly toxic nature of hexavalent chromium, the remaining health risk to nearby residents is a continuing concern.

Chrome plating operations convert hexavalent chromium in solution to a chromium metal layer by electroplating, and are categorized based upon the thickness of the chromium metal layer applied. In “decorative plating”, a layer of nickel is first plated over a metal substrate. Following this step, a thin layer of chromium is deposited over the nickel layer to provide a decorative and protective finish, for example, on faucets and automotive wheels. “Hard chrome plating” is a process in which a thicker layer of chromium metal is deposited directly on metal substrates such as engine parts, industrial machinery, and tools to provide greater protection against corrosion and wear.

Hexavalent chromium is emitted into the air when an electric current is applied to the plating bath. Emissions are dependent upon the amount of electroplating done per year and the control requirements. A unit of production referred to as an ampere-hour represents the amount of electroplating produced. Small facilities have an annual production rate of 100,000 – 500,000 ampere-hours, while medium-size facilities may have a production rate of 500,000 to about 3 million ampere-hours. The remaining larger facilities have a range of production rates that can be as high as 80 million ampere-hours.

The control requirements, which reduce emissions from the plating tanks, vary according to the size and type of the operation. Facilities either install add-on pollution control equipment, such as filters and scrubbers, or in-tank controls, such as fume suppressants and polyballs. With this combination of controls, the overall hexavalent chromium emissions have been reduced by over 90 percent. Larger facilities typically have better controls that can achieve efficiencies greater than 99 percent. However, even with stringent controls, the lack of maintenance and good housekeeping practices can lead to problems. And, since the material itself is inherently dangerous, any lapse in compliance poses a significant risk to nearby residents.

A 2002 ARB study in the San Diego community of Barrio Logan measured unexpectedly high concentrations of hexavalent chromium near chrome platers. The facilities were located in a mixed-use area with residences nearby. The study found that fugitive dust laden with hexavalent chromium was an important source of emissions that likely contributed to the elevated cancer risk. Largely as a result of this study, ARB is in the process of updating the current requirements to further reduce the emissions from these facilities.

In December 2004, the ARB adopted an ATCM to reduce emissions of hexavalent chromium and nickel from thermal spraying operations through the installation of best available control technology. The ATCM requires all existing facilities to comply with its requirements by January 1, 2006. New and modified thermal spraying operations must comply upon initial startup. An existing thermal spraying facility may be exempt from the minimum control efficiency

requirements of the ATCM if it is located at least 1,640 feet from the nearest sensitive receptor and emits no more than 0.5 pound per year of hexavalent chromium.[8]

Key Health Findings

Hexavalent chromium is one of the most toxic air pollutants regulated by the State of California. Hexavalent chromium is a carcinogen and has been identified in worker health studies as causing lung cancer. Exposure to even very low levels of hexavalent chromium should be avoided.

The California Office of Environmental Health Hazard Assessment has found that: 1) many epidemiological studies show a strong association between hexavalent chromium exposure in the work place and respiratory cancer; and 2) all short-term assays reported show that hexavalent chromium compounds can cause damage to human DNA.

Hexavalent chromium when inhaled over a period of many years can cause a variety of non-cancer health effects. These health effects include damage to the nose, blood disorders, lung disease, and kidney damage. The non-cancer health impacts occur with exposures considerably higher than exposures causing significant cancer risks. It is less likely that the public would be exposed to hexavalent chromium at levels high enough to cause these non-cancer health effects. Non-cancer health effects, unlike cancer health effects, have a threshold or exposure level below which non-cancer health effects would not be expected.

Distance Related Findings

ARB's 2002 Barrio Logan Study measured concentrations of hexavalent chromium in the air near two chrome plating facilities. The study was conducted from December 2001 to May 2002. There were two chrome platers on the street - one decorative and one hard plater. The purpose of the study was to better understand the near source impact of hexavalent chromium emissions. Air monitors were placed at residences next to the platers and at varying distances down the street. The monitors were moved periodically to look at the spatial distribution of the impact. Source testing and facility inspections identified one of the facilities as the likely source.

The first two weeks of monitoring results showed unexpectedly high levels of hexavalent chromium at a number of the monitoring sites. The high concentrations were intermittent. The concentrations ranged from 1 to 22 ng/m3 compared to the statewide average of 0.1 ng/m3. If these levels were to continue for 70 years, the potential cancer risk would be 150 in one million. The highest value was found at an air monitor behind a house adjacent to one of the

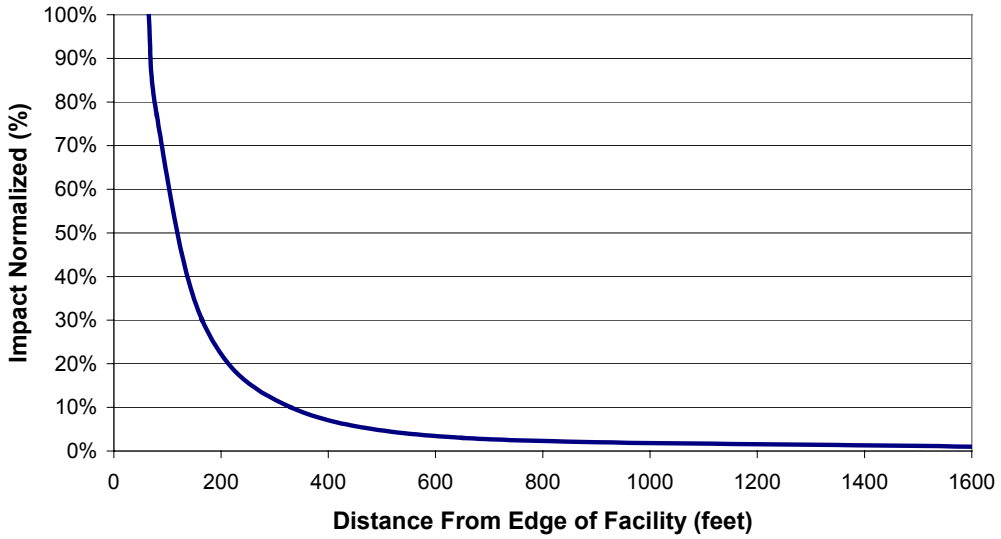
[8] For further information on the ATCM, please refer to: http://www.arb.ca.gov/regact/thermspr/thermalspr.htm

plating facilities–approximately 30 feet from the back entrance. Lower, but significant concentrations were found at an ambient air monitor 250 feet away.

The monitoring covered a period when the facility was not operating its plating tank. During this period, one of the highest concentrations was measured at an adjacent house. It appears that chromium-laden dust was responsible for high concentrations at this location since there was no plating activity at the time. Dust samples from the facility were tested and found to contain high levels of hexavalent chromium. On the day the highest concentration was measured at the house next door, a monitor 350 feet away from the plater's entrance showed very little impact. Similar proximity effects are shown in ARB modeling studies.

Figure 1-5 shows how the relative health risk varies as a function of distance from a chrome plater. This analysis is based on a medium-sized chrome plater with an annual production rate of 3 million ampere-hours. As shown in Figure 1- 5, the potential health risk drops off rapidly, with over 90 percent reduction in risk within 300 feet. This modeling was done in 2003 as part of a review of ARB's current air toxic control measure for chrome platers and is based on data from a recent ARB survey of chrome platers in California. The emission

Figure 1-5
Risk vs. Distance From Chrome Plater
(Based on plating tank emissions)



rates are only for plating operations. Because there are insufficient data available to directly quantify the impacts, the analysis does not include fugitive emissions, which the Barrio Logan analysis indicated could be significant.

Both the ARB Barrio Logan monitoring results and ARB's 2003 modeling analysis suggests that the localized emissions impact of a chrome plater diminishes significantly at 300 feet. However, in developing our recommendation, we also considered the following factors:

- some chrome platers will have higher volumes of plating activity,
- potential dust impacts were not modeled,
- we have only one monitoring study looking at the impact of distance, and,
- hexavalent chromium is one of the most potent toxic air contaminants ARB has identified.

Given these limitations in the analysis, we recommend a separation of 1,000 feet as a precautionary measure. For large chrome platers, site specific information should be obtained from the local air district.

Recommendation

- Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.

References

- *Ambient Air Monitoring for Hexavalent Chromium and Metals in Barrio Logan: May 2001 through May 2002.* ARB, Monitoring and Laboratory Division (October 14, 2003)
- *Draft Barrio Logan Report.* ARB, Planning and Technical Support Division (November 2004)
- *Proposed Amendments to the Hexavalent Chromium Control Measure for Decorative and Hard Chrome Plating and Chromic Acid Anodizing Facilities.* ARB (April 1998)
- Murchison, Linda; Suer, Carolyn; Cook, Jeff. *"Neighborhood Scale Monitoring in Barrio Logan," (*AWMA Annual Conference Proceedings, June 2003)

Dry Cleaners Using Perchloroethylene (Perc Dry Cleaners)

Perchloroethylene (perc) is the solvent most commonly used by the dry cleaning industry to clean clothes or other materials. The ARB and other public health agencies have identified perc as a potential cancer-causing compound. Perc persists in the atmosphere long enough to contribute to both regional air pollution and localized exposures. Perc dry cleaners are the major source of perc emissions in California.

Since 1990, the statewide concentrations and health risk from exposure to perc has dropped over 70 percent. This is due to a number of regulatory requirements on perc dry cleaners and other sources, including degreasing operations, brake cleaners, and adhesives. ARB adopted an Airborne Toxic Control Measure (ATCM) for Perc Emissions from Dry Cleaning Operations in 1993. ARB has also prohibited the use of perc in aerosol adhesives and automotive brake cleaners.

Perc dry cleaners statewide are required to comply with ARB and local air district regulations to reduce emissions. However, even with these controls, some emissions continue to occur. Air quality studies indicate that there is still the potential for significant risks even near well-controlled dry cleaners. The South Coast AQMD has adopted a rule requiring that all new dry cleaners use alternatives to perc and that existing dry cleaners phase out the use of perc by December 2020. Over time, transition to non-toxic alternatives should occur. However, while perc continues to be used, a preventative approach should be taken to siting of new sensitive land uses.

Key Health Findings

Inhalation of perc may result in both cancer and non-cancer health effects. An assessment by California's Office of Environmental Health Hazard Assessment (OEHHA) concluded that perc is a potential human carcinogen and can cause non-cancer health effects. In addition to the potential cancer risk, the effects of long-term exposure include dizziness, impaired judgment and perception, and damage to the liver and kidneys. Workers have shown signs of liver toxicity following chronic exposure to perc, as well as kidney dysfunction and neurological effects. Non-cancer health effects occur with higher exposure levels than those associated with significant cancer risks. The public is more likely to be exposed to perchloroethylene at levels causing significant cancer risks than to levels causing non-cancer health effects. Non-cancer health effects, unlike cancer health effects, have a threshold or exposure level below which non-cancer health effects would not be expected. The ARB formally identified perc as a toxic air contaminant in October 1991.

One study has determined that inhalation of perc is the predominant route of exposure to infants living in apartments co-located in the same building with a business operating perc dry cleaning equipment. Results of air sampling within co-residential buildings indicate that dry cleaners can cause a wide range of exposures depending on the type and maintenance of the equipment. For example, a well-maintained state-of-the-art system may have risks in the range of 10 in one million, whereas a badly maintained machine with major leaks can have potential cancer risks of thousands in one million.

The California Air Pollution Control Officers Association (CAPCOA) is developing Industry-wide Risk Assessment Guidelines for Perchloroethylene Dry Cleaners which, when published, will provide detailed information on public health risk from exposure to emissions from this source.

Distance Related Findings

Risk created by perc dry cleaning is dependent on the amount of perc emissions, the type of dry cleaning equipment, proximity to the source, and how the emissions are released and dispersed (e.g., type of ventilation system, stack parameters, and local meteorology). Dry cleaners are often located near

residential areas, and near shopping centers, schools, day-care centers, and restaurants.

The vast majority of dry cleaners in California have one dry cleaning machine per facility. The South Coast AQMD estimates that an average well-controlled dry cleaner uses about 30 to 160 gallons of cleaning solvent per year, with an average of about 100 gallons. Based on these estimates, the South Coast AQMD estimates a potential cancer risk between 25 to 140 in one million at residential locations 75 feet or less from the dry cleaner, with an average of about 80 in one million. The estimate could be as high as 270 in one million for older machines.

CAPCOA's draft industry-wide risk assessment of perc dry cleaning operations indicates that the potential cancer risk for many dry cleaners may be in excess of potential cancer risk levels adopted by the local air districts. The draft document also indicates that, in general, the public's exposure can be reduced by at least 75 percent, by providing a separation distance of about 300 feet from the operation. This assessment is based on a single machine with perc use of about 100 gallons per year. At these distances, the potential cancer risk would be less than 10 potential cases per million for most scenarios.

The risk would be proportionately higher for large, industrial size, dry cleaners. These facilities typically have two or more machines and use 200 gallons or more per year of perc. Therefore, separation distances need to be greater for large dry cleaners. At a distance of 500 feet, the remaining risk for a large plant can be reduced by over 85 percent.

In California, a small number of dry cleaners that are co-located (sharing a common wall, floor, or ceiling) with a residence have the potential to expose the inhabitants of the residence to high levels of perc. However, while special requirements have been imposed on these existing facilities, the potential for exposure still exists. Avoiding these siting situations in the future is an important preventative measure.

Local air districts are a source of information regarding specific dry cleaning operations—particularly for large industrial operations with multiple machines. The 300 foot separation recommended below reflects the most common situation – a dry cleaner with only one machine. While we recommend 500 feet when there are two or more machines, site specific information should be obtained from the local air district for some very large industrial operations. Factors that can impact the risk include the number and type of machines, controls used, source configuration, building dimensions, terrain, and meteorological data.

Recommendation

- Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines provide 500 feet. For operations with 3 or more machines, consult with the local air district.

- Do not site new sensitive land uses in the same building with perc dry cleaning operations.

References

- *Proposed Amended Rule 1421 – Control of Perchloroethylene Emissions from Dry Cleaning Systems,* Final Staff Report. South Coast AQMD. (October 2002)
- *Air Toxic Control Measure for Emissions of Perchloroethylene from Dry Cleaning Operations.* ARB (1994) (http://www.arb.ca.gov/toxics/atcm/percatcm.htm)
- *"An Assessment of Tetrachloroethylene in Human Breast Milk"*, Judith Schreiber, New York State Department of Health – Bureau of Toxic Substance Assessment, Journal of Exposure Analysis and Environmental Epidemiology, Vol.2, Suppl.2, pp. 15-26, 1992.
- Draft *Air Toxics "Hot Spots" Program Perchloroethylene Dry Cleaner Industry-wide Risk Assessment Guidelines.* (CAPCOA (November 2002)
- *Final Environmental Assessment for Proposed Amended Rule 1421 – Control of Perchloroethylene Emissions from Dry Cleaning Systems.* South Coast AQMD. (October 18, 2002)

Gasoline Dispensing Facilities

Refueling at gasoline dispensing facilities releases benzene into the air. Benzene is a potent carcinogen and is one of the highest risk air pollutants regulated by ARB. Motor vehicles and motor vehicle-related activity account for over 90 percent of benzene emissions in California. While gasoline-dispensing facilities account for a small part of total benzene emissions, near source exposures for large facilities can be significant.

Since 1990, benzene in the air has been reduced by over 75 percent statewide, primarily due to the implementation of emissions controls on motor vehicle vapor recovery equipment at gas stations, and a reduction in benzene levels in gasoline. However, benzene levels are still significant. In urban areas, average benzene exposure is equivalent to about 50 in one million.

Gasoline dispensing facilities tend to be located in areas close to residential and shopping areas. Benzene emissions from the largest gas stations may result in near source health risk beyond the regional background and district health risk thresholds. The emergence of very high gasoline throughput at large retail or

wholesale outlets makes this a concern as these types of outlets are projected to account for an increasing market share in the next few years.

Key Health Findings

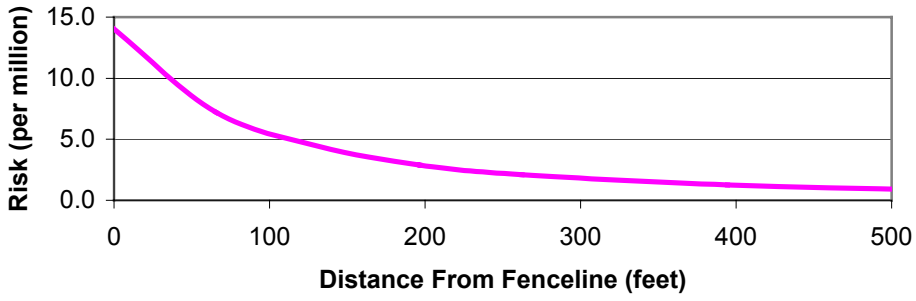
Benzene is a human carcinogen identified by ARB as a toxic air contaminant. Benzene also can cause non-cancer health effects above a certain level of exposure. Brief inhalation exposure to high concentrations can cause central nervous system depression. Acute effects include central nervous system symptoms of nausea, tremors, drowsiness, dizziness, headache, intoxication, and unconsciousness. It is unlikely that the public would be exposed to levels of benzene from gasoline dispensing facilities high enough to cause these non-cancer health effects.

Distance Related Findings

A well-maintained vapor recovery system can decrease emissions of benzene by more than 90% compared with an uncontrolled facility. Almost all facilities have emission control systems. Air quality modeling of the health risks from gasoline dispensing facilities indicate that the impact from the facilities decreases rapidly as the distance from the facility increases.

Statistics reported in the ARB's staff reports on Enhanced Vapor Recovery released in 2000 and 2002, indicated that almost 96 percent of the gasoline dispensing facilities had a throughput less than 2.4 million gallons per year. The remaining four percent, or approximately 450 facilities, had throughputs exceeding 2.4 million gallons per year. For these stations, the average gasoline throughput was 3.6 million gallons per year.

Figure 1-6
Gasoline Dispensing Facility Health Risk
for 3,600,000 gal/yr throughput



As shown in Figure 1-6, the risk levels for a gasoline dispensing facility with a throughput of 3.6 million gallons per year is about 10 in one million at a distance of 50 feet from the fenceline. However, as the throughput increases, the potential risk increases.

As mentioned above, air pollution levels in the immediate vicinity of large gasoline dispensing facilities may be higher than the surrounding area (although tailpipe emissions from motor vehicles dominates the health impacts). Very large gasoline dispensing facilities located at large wholesale and discount centers may dispense nine million gallons of gasoline per year or more. At nine million gallons, the potential risk could be around 25 in one million at 50 feet, dropping to about five in one million at 300 feet. Some facilities have throughputs as high as 19 million gallons.

Recommendation

- Avoid siting new sensitive land uses within 300 feet of a large gasoline dispensing facility (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

References

- *Gasoline Service Station Industry-wide Risk Assessment Guidelines.* California Air Pollution Control Officers Association (December 1997 and revised November 1, 2001)
- *Staff Report on Enhanced Vapor Recovery.* ARB (February 4, 2000)
- *The California Almanac of Emissions and Air Quality.* ARB (2004)
- *Staff Report on Enhanced Vapor Recovery Technology Review.* ARB (October 2002)

Other Facility Types that Emit Air Pollutants of Concern

In addition to source specific recommendations, Table 1-3 includes a list of other industrial sources that could pose a significant health risk to nearby sensitive individuals depending on a number of factors. These factors include the amount of pollutant emitted and its toxicity, the distance to nearby individuals, and the type of emission controls in place. Since these types of facilities are subject to air permits from local air districts, facility specific information should be obtained where there are questions about siting a sensitive land use close to an industrial facility.

Potential Sources of Odor and Dust Complaints

Odors and dust from commercial activities are the most common sources of air pollution complaints and concerns from the public. Land use planning and permitting processes should consider the potential impacts of odor and dust on surrounding land uses, and provide for adequate separation between odor and dust sources. As with other types of air pollution, a number of factors need to be considered when determining an adequate distance or mitigation to avoid odor or

Table 1-3 – Examples of Other Facility Types That Emit[1] Air Pollutants of Concern

Categories	Facility Type	Air Pollutants of Concern
Commercial		
	Autobody Shops	Metals, Solvents
	Furniture Repair	Solvents[2], Methylene Chloride
	Film Processing Services	Solvents, Perchloroethylene
	Distribution Centers	Diesel Particulate Matter
	Printing Shops	Solvents
	Diesel Engines	Diesel Particulate Matter
Industrial		
	Construction	Particulate Matter, Asbestos
	Manufacturers	Solvents, Metals
	Metal Platers, Welders, Metal Spray (flame spray) Operations	Hexavalent Chromium, Nickel, Metals
	Chemical Producers	Solvents, Metals
	Furniture Manufacturers	Solvents
	Shipbuilding and Repair	Hexavalent chromium and other metals, Solvents
	Rock Quarries and Cement Manufacturers	Particulate Matter, Asbestos
	Hazardous Waste Incinerators	Dioxin, Solvents, Metals
	Power Plants	Benzene, Formaldehyde, Particulate Matter
	Research and Development Facilities	Solvents, Metals, etc.
Public		
	Landfills	Benzene, Vinyl Chloride, Diesel Particulate Matter
	Waste Water Treatment Plants	Hydrogen Sulfide
	Medical Waste Incinerators	Dioxin, Benzene, PAH, PCBs, 1,3-Butadiene
	Recycling, Garbage Transfer Stations	Diesel Particulate Matter
	Municipal Incinerators	Dioxin, Benzene, PAH, PCBs, 1,3-Butadiene
Transportation		
	Truck Stops	Diesel Particulate Matter
Agricultural Operations		
	Farming Operations	Diesel Particulate Matter, VOCs, NOx, PM10, CO, SOx, Pesticides
	Livestock and Dairy Operations	Ammonia, VOCs, PM10

[1]Not all facilities will emit pollutants of concern due to process changes or chemical substitution. Consult the local air district regarding specific facilities.
[2]Some solvents may emit toxic air pollutants, but not all solvents are toxic air contaminants.

dust complaints in a specific situation. Local air districts should be consulted for advice when these siting situations arise.

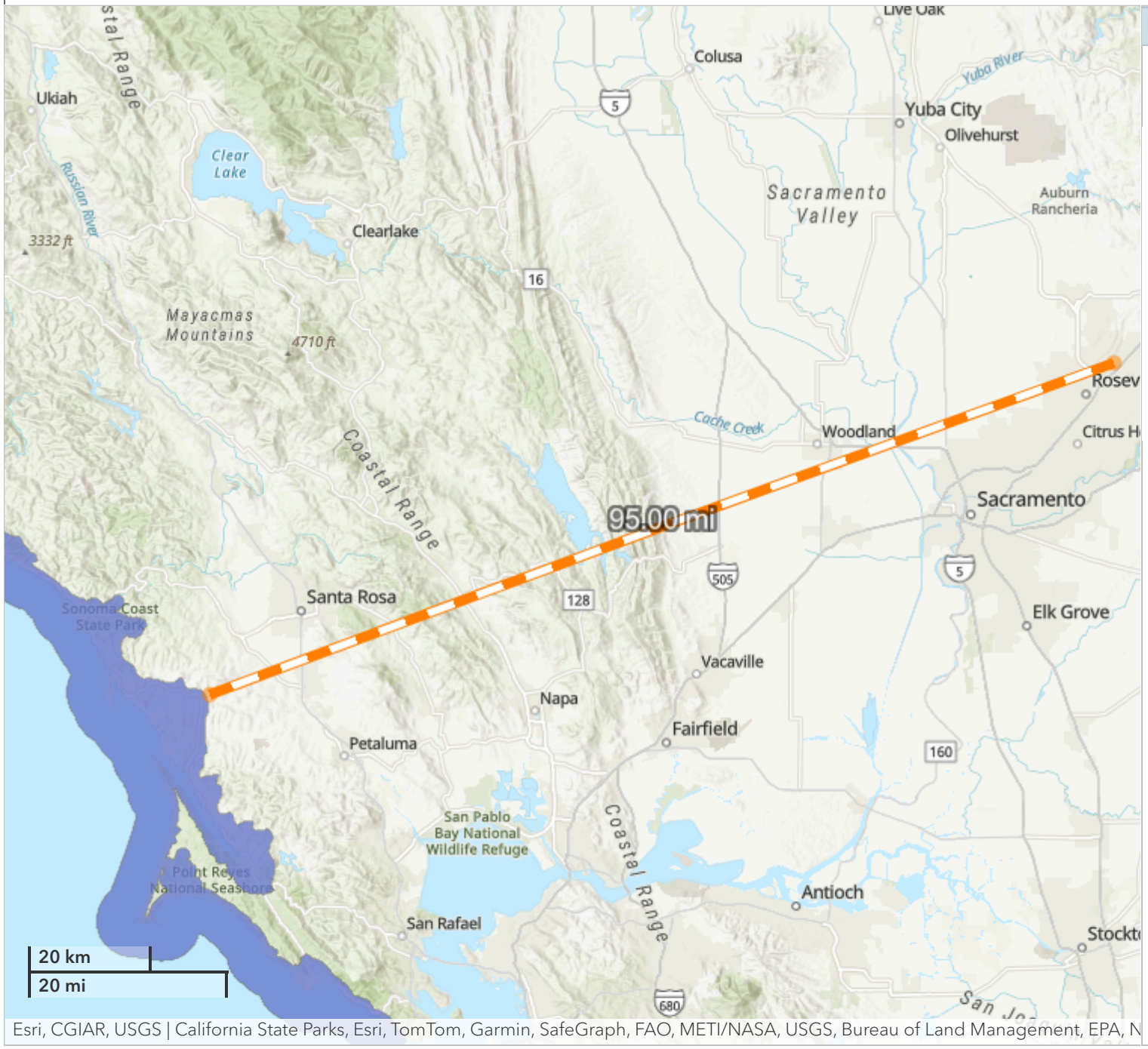
Table 1-4 lists some of the most common sources of odor complaints received by local air districts. Complaints about odors are the responsibility of local air districts and are covered under state law. The types of facilities that can cause odor complaints are varied and can range from small commercial facilities to large industrial facilities, and may include waste disposal and recycling operations. Odors can cause health symptoms such as nausea and headache. Facilities with odors may also be sources of toxic air pollutants (See Table 1-3). Some common sources of odors emitted by facilities are sulfur compounds, organic solvents, and the decomposition/digestion of biological materials. Because of the subjective nature of an individual's sensitivity to a particular type of odor, there is no specific rule for assigning appropriate separations from odor sources. Under the right meteorological conditions, some odors may still be offensive several miles from the source.

Table 1-4
Sources of Odor Complaints

- Sewage Treatment Plants
- Landfills
- Recycling Facilities
- Waste Transfer Stations
- Petroleum Refineries
- Biomass Operations
- Autobody Shops
- Coating Operations
- Fiberglass Manufacturing
- Foundries
- Rendering Plants
- Livestock Operations

Sources of dust are also common sources of air pollution-related complaints. Operations that can result in dust problems are rock crushing, gravel production, stone quarrying, and mining operations. A common source of complaints is the dust and noise associated with blasting that may be part of these operations. Besides the health impacts of dust as particulate matter, thick dust also impairs visibility, aesthetic values, and can soil homes and automobiles. Local air districts typically have rules for regulating dust sources in their jurisdictions, but dust sources can still be a concern. Therefore, separation of these facilities from residential and other new sensitive land uses should be considered.

In some areas of California, asbestos occurs naturally in stone deposits. Asbestos is a potent carcinogenic substance when inhaled. Asbestos-containing dust may be a public health concern in areas where asbestos-containing rock is mined, crushed, processed, or used. Situations where asbestos-containing gravel has been used in road paving materials are also a source of asbestos exposure to the general public. Planners are advised to consult with local air pollution agencies in areas where asbestos-containing gravel or stone products are produced or used.



Measurement Tool

Unit

Imperial

Distance

95.00 mi

New measurement

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Placer County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Reptiles

NAME	STATUS
Northwestern Pond Turtle Actinemys marmorata Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

Amphibians

NAME	STATUS
Western Spadefoot Spea hammondii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS

Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Lassics Lupine Lupinus constancei There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7976	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

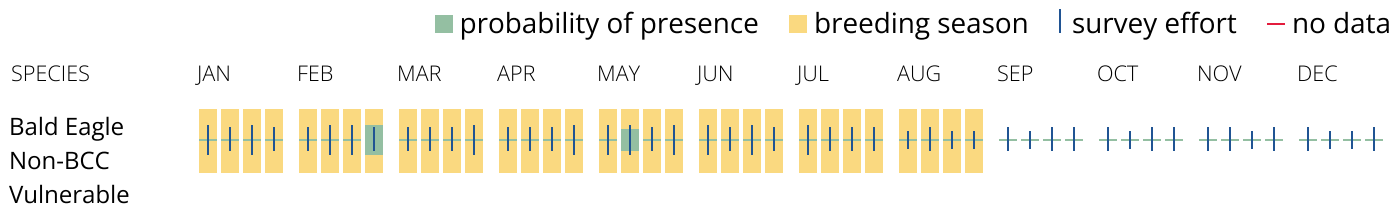
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Bullock's Oriole Icterus bullockii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25

California Gull Larus californicus — Breeds Mar 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Lawrence's Goldfinch Spinus lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Northern Harrier Circus hudsonius — Breeds Apr 1 to Sep 15
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8350

Nuttall's Woodpecker Dryobates nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Santa Barbara Song Sparrow Melospiza melodia graminea — Breeds Mar 1 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/5513

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Western Screech-owl Megascops kennicottii cardonensis — Breeds Mar 1 to Jun 30
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum

probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

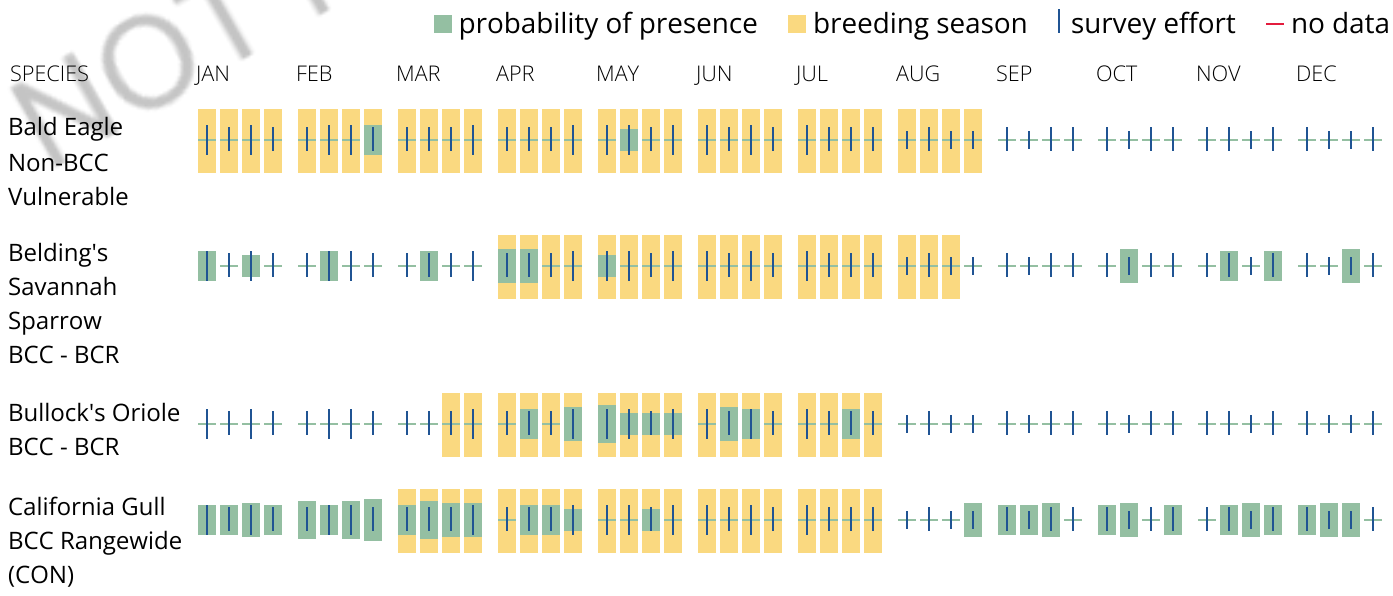
Breeding Season ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

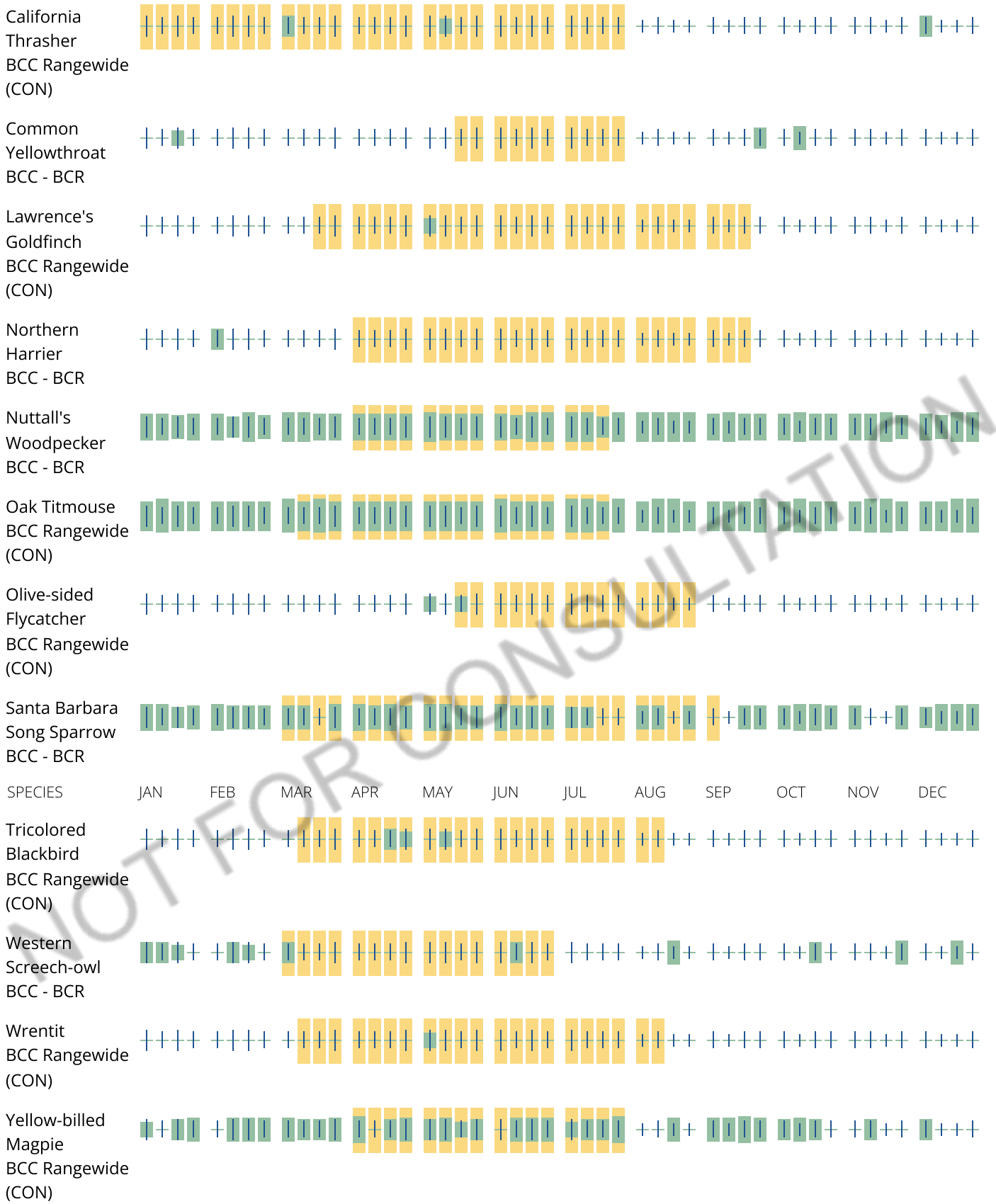
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);

2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

About

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Search By Keyword

SEARCH RESULTS (136)

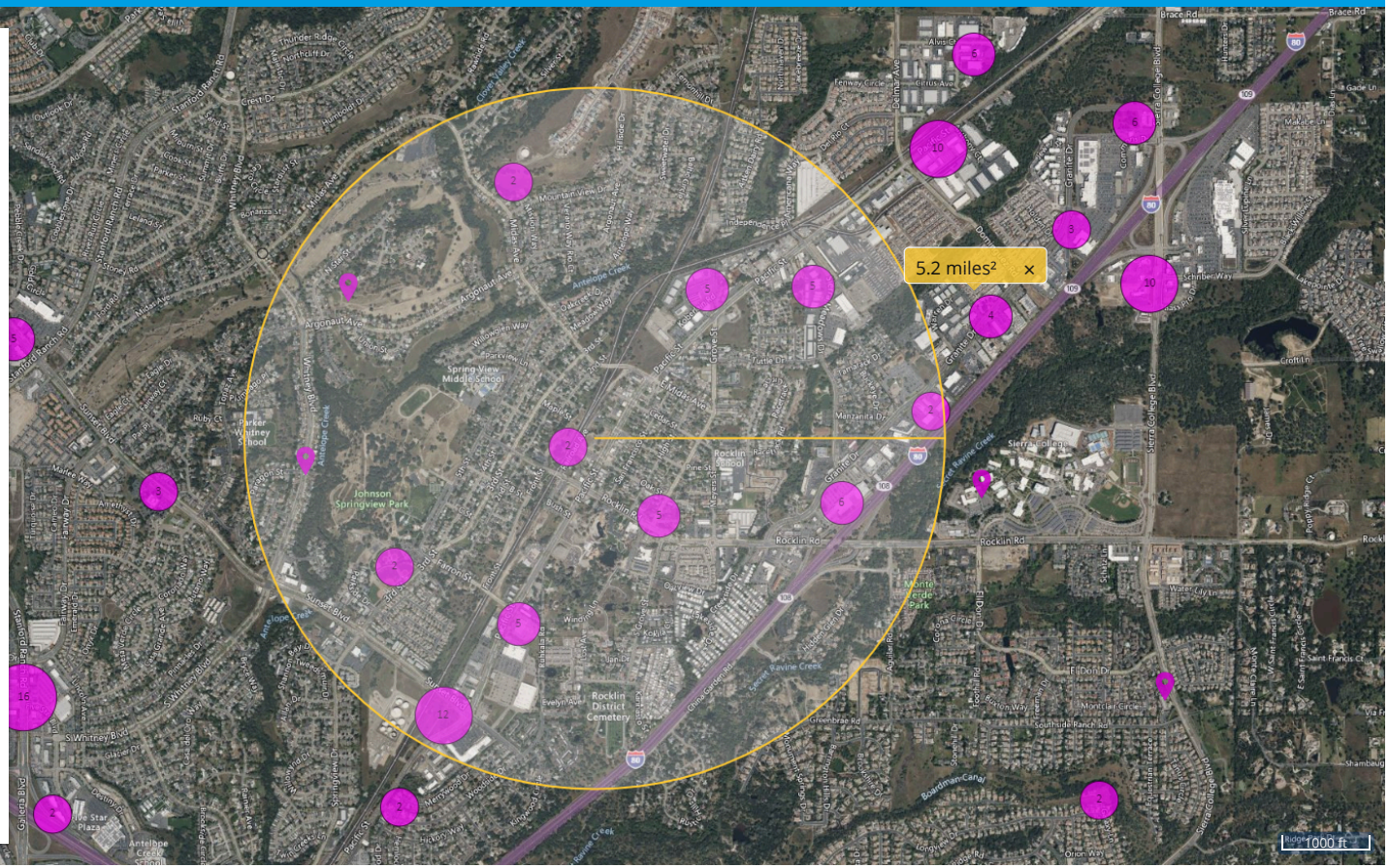
Measure Tool

Select the line, circle, or polygon tool below and then click the map to measure your first point - double-click to complete the measurement.

LINE CIRCLE POLYGON

miles²

CLEAR MEASUREMENTS



Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☐ **No:** ☑
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	119
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Blast Overpressure (ASDBOP)	
ASD for Thermal Radiation for People (ASDPPU)	113.94
ASD for Thermal Radiation for Buildings (ASDBPU)	18.79
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

About

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Search By Keyword

SEARCH RESULTS (4)

GETTING STARTED

To find the site you are looking for, you can:

Use the Search Bar above

Enter any identifying information into the search bar above, and both the Results list and the map will populate with any relevant results. This is a general search and will return results for each word in the search bar.

OR

Manipulate the Map

Focus in on a specific location using a mouse and the zoom tools or click on a bubble and the map will zoom to the location.

RICK'S AUTOMOTIVE
3725 PINE ST
ROCKLIN CA 95677

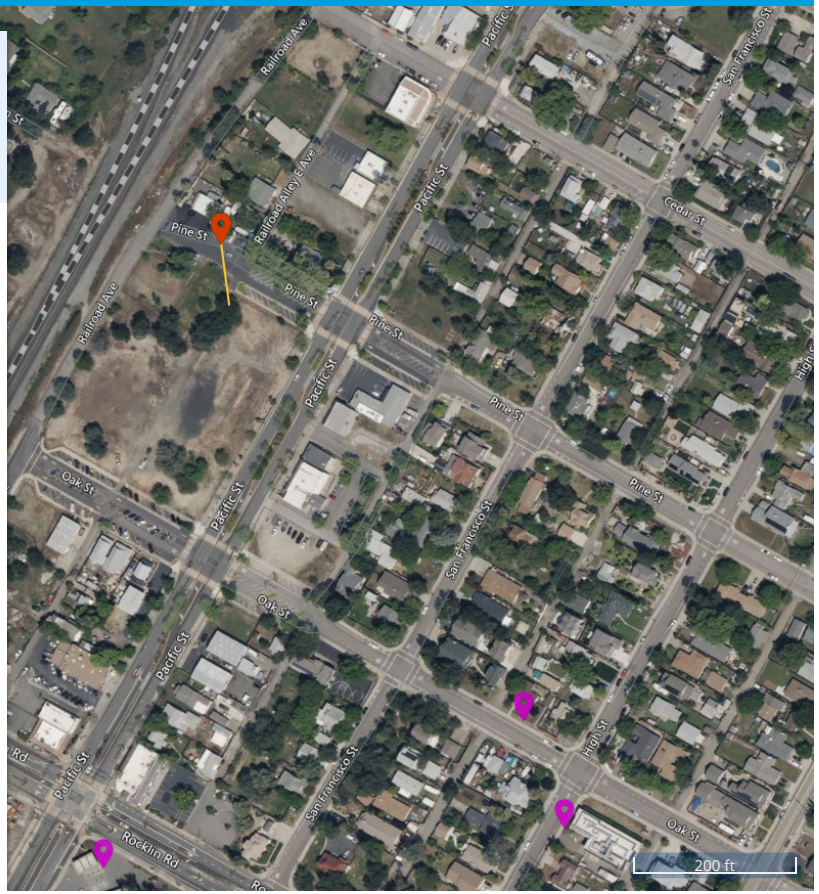
SHOW MORE INFORMATION >

Regulatory Programs

Chemical Storage Facilities
Hazardous Waste Generator

Evaluations

Evaluations With Violations	2
Evaluations Without Violations	6



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SEARCH RESULTS (4)

GETTING STARTED

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OR

Manipulate the Map

Focus in on a specific location using a mouse and the zoom tools or click on a bubble and the map will zoom to the location.

ADDITIONAL HELP

Simple Search

Enter any text into the keyword search. The results are based on each word. Using quotes does not create a phrase.

Filter

Items listed under the Filter tab limit your search results to the selected items. Filtering is applied in addition to the text you enter in the search box.

Criteria

RICK'S AUTOMOTIVE
3725 PINE ST
ROCKLIN CA 95677

SHOW MORE INFORMATION >

Regulatory Programs

Chemical Storage Facilities
Hazardous Waste Generator

Evaluations

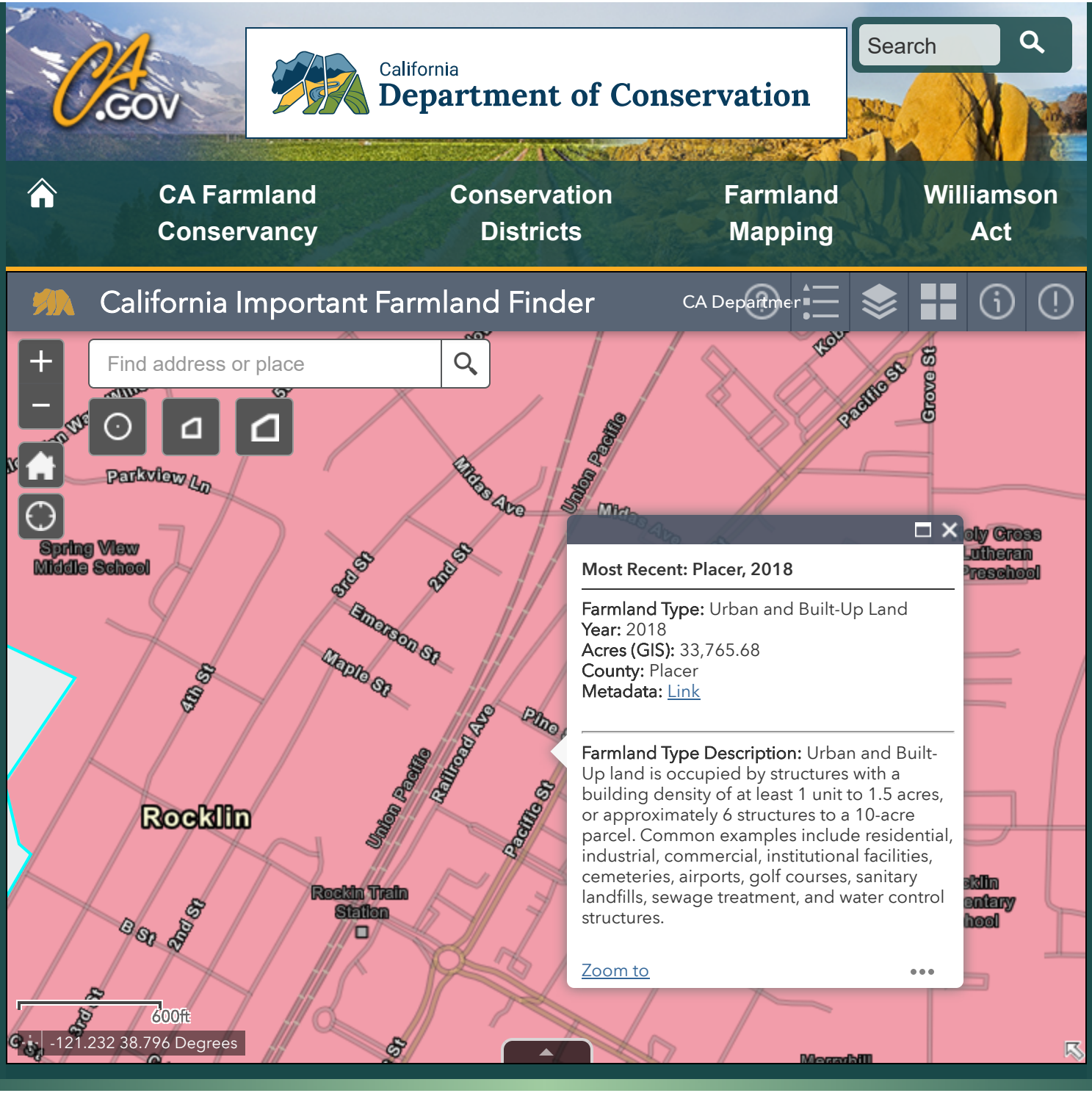
Evaluations With Violations	2
Evaluations Without Violations	6

Violations

Total	4

SiteID	FACILITY_I	ADDRESS	CITY	ZIP_CODE	REPORT_P	SUBMISSI	CAS_NUM	CHEMICAL	COMMON_	DOT_HAZ_	EHS_NAMI	MAX_DAIL	AVERAGE_	DAYS_ONS	TIER2_HAZ	TIER2_HAZ	TIER2_PHY	TIER2_PHY	TIER2_HEA	TIER2_HEA	IS_FIRE	IS_SUDDE	IS_REACTI	IS_PURE	IS_MIX	IS_SOLID	IS_LIQUID	IS_GAS	IS_DELAYE	IS_IMMEDIATE
30918	Aerys Gas	3800 ROCI	ROCKLIN	95677	2024	########	124-38-9	Carbon Dic	Carbon Dic	2.2 - Nonflammable G		0-2599 Cu	0-2599 Cu	365	FALSE		TRUE	Gas, Pure	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
30918	Aerys Gas	3800 ROCI	ROCKLIN	95677	2024	########	68476-34-	Diesel Fue	Low Sulfur	3 - Flammable and Co		12000-599	6000-8999	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
30918	Aerys Gas	3800 ROCI	ROCKLIN	95677	2024	########	8006-61-9	Gasoline	Premium U	3 - Flammable and Co		12000-599	6000-8999	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
30918	Aerys Gas	3800 ROCI	ROCKLIN	95677	2024	########	8006-61-9	Gasoline	Regular Ur	3 - Flammable and Co		12000-599	6000-8999	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
30918	Aerys Gas	3800 ROCI	ROCKLIN	95677	2024	########	70514-12-	Lubricating	Waste Mot	3 - Flammable and Co		120-599 G	0-11 Gallo	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
30918	Aerys Gas	3800 ROCI	ROCKLIN	95677	2024	########		Petroleum	Sump Water			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
30918	Aerys Gas	3800 ROCI	ROCKLIN	95677	2024	########	74-98-6	Propane	Propane	2.1 - Flammable Gase		60-119 Gal	0-11 Gallo	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
423048	Applied La	4500 PACI	ROCKLIN	95677	2023	########	68476-34-	Diesel Fue	Diesel Fue	3 - Flammable and Co		600-1199 (	600-1199 (	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
423048	Applied La	4500 PACI	ROCKLIN	95677	2023	########		Heartland	Black and Brown Mulch Colorant			6000-8999	3000-5999	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
423048	Applied La	4500 PACI	ROCKLIN	95677	2023	########	70514-12-	Lubricating	Used lubricating oils			120-599 G	0-11 Gallo	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
423048	Applied La	4500 PACI	ROCKLIN	95677	2023	########	6484-52-2	Urea Amm	Urea Ammonium Nitrate			120-599 G	120-599 G	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
554547	AT&T Calif	4500 WHIT	ROCKLIN	95677	2023	########		Nickel Cac	NiCad Batt	8 - Corrosives (Liquids		1000-4999	1000-4999	365	FALSE		TRUE	Solid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
434139	AT&T Calif	5115 HIGH	ROCKLIN	95677	2024	########	68476-34-	Diesel Fue	Diesel Fue	3 - Flammable and Co		3000-5999	3000-5999	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
434139	AT&T Calif	5115 HIGH	ROCKLIN	95677	2024	########		Lead Acid I	Lead Acid I	8 - Corrosives (Liquids		1200-2999	1200-2999	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
916497	AT&T Mobil	5540 3RD S	ROCKLIN	95677	2024	########		Lead Acid I	Lead Acid I	8 - Corrosives (Liquids		60-119 Gal	60-119 Ga	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
369449	Audi Rockl	4448 GRAI	ROCKLIN	95677	2023	########			Brake Klee	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
369449	Audi Rockl	4448 GRAI	ROCKLIN	95677	2023	########			Diesel Exhaust Fluid			120-599 G	60-119 Ga	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
369449	Audi Rockl	4448 GRAI	ROCKLIN	95677	2023	########			Drying Age	9 - Misc. Hazardous M		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
369449	Audi Rockl	4448 GRAI	ROCKLIN	95677	2023	########			Motor Oil	3 - Flammable and Co		600-1199 (	120-599 G	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
369449	Audi Rockl	4448 GRAI	ROCKLIN	95677	2023	########			Used Meta	3 - Flammable and Co		100-499 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
369449	Audi Rockl	4448 GRAI	ROCKLIN	95677	2023	########			Used Moto	3 - Flammable and Co		600-1199 (	120-599 G	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
369449	Audi Rockl	4448 GRAI	ROCKLIN	95677	2023	########			Vehicle Cl	9 - Misc. Hazardous M		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
369449	Audi Rockl	4448 GRAI	ROCKLIN	95677	2023	########			Waste Coc	9 - Misc. Hazardous M		120-599 G	120-599 G	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
369449	Audi Rockl	4448 GRAI	ROCKLIN	95677	2023	########			Waste Fue	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
369449	Audi Rockl	4448 GRAI	ROCKLIN	95677	2023	########			Waste Oily	3 - Flammable and Co		500-999 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
369449	Audi Rockl	4448 GRAI	ROCKLIN	95677	2023	########			Windshielc	8 - Corrosives (Liquids		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
513264	CALIFORN	5485 PACI	ROCKLIN	95677	2022	########		Oily Solids	Used Drair	3 - Flammable and Co		100-499 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
513264	CALIFORN	5485 PACI	ROCKLIN	95677	2022	########		Petroleum	Used Oil	3 - Flammable and Co		60-119 Gal	60-119 Ga	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
513264	CALIFORN	5485 PACI	ROCKLIN	95677	2022	########	107-21-1	Wasre Ethy	Waste Antifreeze			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
513264	CALIFORN	5485 PACI	ROCKLIN	95677	2022	########		Waste Oily	Waste Oily	3 - Flammable and Co		100-499 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
102739	CAMPING	4435 GRAI	ROCKLIN	95677	2022	########	74-86-2	Acetylene	Acetylene	2.1 - Flammable Gase		0-2599 Cu	0-2599 Cu	365	FALSE		TRUE	Gas, Pure	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
102739	CAMPING	4435 GRAI	ROCKLIN	95677	2022	########		Argon, mix	Argon Cart	2.2 - Nonflammable G		0-2599 Cu	0-2599 Cu	365	FALSE		TRUE	Gas, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE
102739	CAMPING	4435 GRAI	ROCKLIN	95677	2022	########	7782-44-7	Oxygen	Oxygen	2.2 - Nonflammable G		0-2599 Cu	0-2599 Cu	365	FALSE		TRUE	Gas, Pure	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
102739	CAMPING	4435 GRAI	ROCKLIN	95677	2022	########		Petroleum	Automatic	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
102739	CAMPING	4435 GRAI	ROCKLIN	95677	2022	########		Petroleum	Motor Oil	3 - Flammable and Co		120-599 G	120-599 G	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
102739	CAMPING	4435 GRAI	ROCKLIN	95677	2022	########		Petroleum	Used Moto	3 - Flammable and Co		120-599 G	120-599 G	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
102739	CAMPING	4435 GRAI	ROCKLIN	95677	2022	########	74-98-6	Propane	Liquefied F	2.1 - Flammable Gase		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
102739	CAMPING	4435 GRAI	ROCKLIN	95677	2022	########		Used Drair	Used Drair	9 - Misc. Hazardous M		500-999 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
102739	CAMPING	4435 GRAI	ROCKLIN	95677	2022	########		Waste Flar	Waste Aerosol Cans			100-499 P	0-99 Poun	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
109366	CVS Pharn	4785 GRAI	ROCKLIN	95677	2024	########		Liquefied F	Propane	2.1 - Flammable Gase		120-599 G	60-119 Ga	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
120209	Goodyear /	5470 PACI	ROCKLIN	95677	2023	########			Motor Oil			120-599 G	120-599 G	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
120209	Goodyear /	5470 PACI	ROCKLIN	95677	2023	########		Automatic	Automatic Transmission Fluid			60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
120209	Goodyear /	5470 PACI	ROCKLIN	95677	2023	########		Drained Us	Drained Used Oil Filters			1000-4999	0-99 Poun	0	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
120209	Goodyear /	5470 PACI	ROCKLIN	95677	2023	########	107-21-1	ETHYLENE	COOLANT			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
120209	Goodyear /	5470 PACI	ROCKLIN	95677	2023	########		used moto	used Motor Oil			120-599 G	60-119 Ga	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
120209	Goodyear /	5470 PACI	ROCKLIN	95677	2023	########		Waste Abs	Waste Absorbent			100-499 P	100-499 P	0	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
120209	Goodyear /	5470 PACI	ROCKLIN	95677	2023	########		Waste Aer	Misc Aeros	3 - Flammable and Co		100-499 P	100-499 P	0	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
120209	Goodyear /	5470 PACI	ROCKLIN	95677	2023	########	107-21-1	Waste Ethy	Ethylene Glycol			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########			Brickform Antique Releaser (Powd			100-499 P	0-99 Poun	365	FALSE		TRUE	Solid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########			Brickform Concrete Color Harden			500-999 P	0-99 Poun	365	FALSE		TRUE	Solid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########			Brickform Liquid Releaser			60-119 Gal	0-11 Gallo	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########			Rayngaurd Quick Dry Additive			60-119 Gal	0-11 Gallo	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########		Acrylic Pai	Novacoat Colorcoat Paint			1200-2999	600-1199 (	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########		Asphalt Em	Diluted OverKote Asphalt Coating			9000-1199	3000-5999	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########		Asphalt Em	OverKote Asphalt Coating			9000-1199	6000-8999	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########	107-21-1	Ethylene G	Wate Antifreeze			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########		Motor oil	Motor Oil			60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########	74-98-6	Propane	Liquefied F	2.1 - Flammable Gase		60-119 Gal	60-119 Ga	365	FALSE		TRUE	Gas, Pure	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########		Solventbor	Low VOC T	3 - Flammable and Co		120-599 G	120-599 G	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########		Thermopla	ThermoplasticTraffic Paint			1000-4999	1000-4999	365	FALSE		TRUE	Solid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########	13463-67-	Titanium o	Thermoplastic			1000-4999	500-999 P	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########		Used Oil Fi	Used Drained Oil Filters			100-499 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########		Used Petro	Used Oil			60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
395255	J & S ASPH	4512 YANK	ROCKLIN	95677	2023	########		Waterborn	Waterbase Traffic And Parking Lot			120-599 G	120-599 G	0	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
127517	KELLY-MO	4257 ROCI	ROCKLIN	95677	2023	########		>98% Plas	Empty Colorant Containers, CCA			100-499 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
127517	KELLY-MO	4257 ROCI	ROCKLIN	95677	2023	########		Pigment in	CCA Tint Series			120-599 G	120-599 G	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
395968	Kniesel's C	4680 PACI	ROCKLIN	95677	2024	########			Acetone	3 - Flammable and Co		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
395968	Kniesel's C	4680 PACI	ROCKLIN	95677	2024	########			Flammable	4.1 - Flammable Solids		500-999 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
395968	Kniesel's C	4680 PACI	ROCKLIN	95677	2024	########			Flammable	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
395968	Kniesel's C	4680 PACI	ROCKLIN	95677	2024	########			Paint Relat	4.1 - Flammable Solids		500-999 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
395968	Kniesel's C	4680 PACI	ROCKLIN	95677	2024	########			Waste Bon	3 - Flammable and Co		1000-4999	500-999 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
395968	Kniesel's C	4680 PACI	ROCKLIN	95677	2024	########			Waste Misc	4.1 - Flammable Solids		100-499 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
395968	Kniesel's C	4680 PACI	ROCKLIN	95677	2024	########			Waterbased Paint - Waste			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
395968	Kniesel's C	4680 PACI	ROCKLIN	95677	2024	########		Argon / CC	Argon / CO2 (NOS)			0-2599 Cu	0-2599 Cu	365	FALSE		TRUE	Gas, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE
395968	Kniesel's C	4680 PACI	ROCKLIN	95677	2024	########		Waste Anti	Waste Anti	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
395968	Kniesel's C	4680 PACI	ROCKLIN	95677	2024	########		Waste Oil	Waste Oil	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
129631	LAND ROV	4545 GRAI	ROCKLIN	95677	2023	########			Motor Oil	3 - Flammable and Co		600-1199 (	120-599 G	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
129631	LAND ROV	4545 GRAI	ROCKLIN	95677	2023	########			Waste Oil	3 - Flammable and Co		120-599 G	120-599 G	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
129631	LAND ROV	4545 GRAI	ROCKLIN	95677	2023	########	127-18-4	1,1,2,2,tet	Brake Clea	6.1 - Toxic Substances		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
129631	LAND ROV	4545 GRAI	ROCKLIN	95677	2023	########	78-48-8	Diesel Exh	Diesel Exhaust Fluid			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
129631	LAND ROV	4545 GRAI	ROCKLIN	95677	2023	########	107-21-1	Ethylene G	Coolant/A	3 - Flammable and Co		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
129631	LAND ROV	4545 GRAI	ROCKLIN	95677	2023	########	107-21-1	Ethylene G	Waste Coc	3 - Flammable and Co		120-599 G	60-119 Ga	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########			Automatic	3 - Flammable and Co		600-1199 (	120-599 G	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########			Brake Fluic	3 - Flammable and Co		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########			Car Wash	9 - Misc. Hazardous M		120-599 G	60-119 Ga	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########			Diesel Exh	9 - Misc. Hazardous M		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########			Eco Super	9 - Misc. Hazardous M		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########			Motor Oil	3 - Flammable and Co		1200-2999	600-1199 (	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########			Waste Bral	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########			Waste Fue	3 - Flammable and Co		120-599 G	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########			Waste Oil	3 - Flammable and Co		600-1199 (	120-599 G	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########		Brake Clea	BRAKE CLE	3 - Flammable and Co		120-599 G	60-119 Ga	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########	107-21-1	Ethylene G	Antifreeze	3 - Flammable and Co		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########	107-21-1	Ethylene G	Waste Coc	3 - Flammable and Co		120-599 G	120-599 G	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########	10024-97-	Nitrogen o	NOS Gas	2.2 - Nonflammable G		0-2599 Cu	0-2599 Cu	0	FALSE		TRUE	Gas, Pure	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########		Oily Water	Oily Hoist	9 - Misc. Hazardous M		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########	74-98-6	Propane	Propane	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########	7664-93-9	Sulfuric Ac	New Batter	8 - Corrosives (Liquids		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########	7664-93-9	Sulfuric Ac	Spent Leac	8 - Corrosives (Liquids		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
134272	MERCEDE	4747 GRAI	ROCKLIN	95677	2023	########		Waste Fue	Waste Fuel Filters/Oily Solids			1000-4999	1000-4999	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
52216	NIPPERT P	5220 FROI	ROCKLIN	95677	2023	########		Coatings W	Acrylic Latex Paint			600-1199 (	120-599 G	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
52216	NIPPERT P	5220 FROI	ROCKLIN	95677	2023	########		Lacquer St	Lacquer St	3 - Flammable and Co		60-119 Gal	60-119 Ga	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
52216	NIPPERT P	5220 FROI	ROCKLIN	95677	2023	########		Oil Based	Interior Wc	3 - Flammable and Co		120-599 G	120-599 G	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
52216	NIPPERT P	5220 FROI	ROCKLIN	95677	2023	########		Oil Based	Semi-Trans	3 - Flammable and Co		60-119 Gal	60-119 Ga	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
53071	O'Reilly Au	5601 PACI	ROCKLIN	95677	2023	########			Brake Lathe Shavings (heavy meta			0-99 Poun	0-99 Poun	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
53071	O'Reilly Au	5601 PACI	ROCKLIN	95677	2023	########			Used Absorbent Containing Oil			500-999 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
53071	O'Reilly Au	5601 PACI	ROCKLIN	95677	2023	########			Used Moto	3 - Flammable and Co		120-599 G	60-119 Ga	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
53071	O'Reilly Au	5601 PACI	ROCKLIN	95677	2023	########			Used Moto	3 - Flammable and Co		500-999 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
422288	Pacific Ere	4460 YANK	ROCKLIN	95677	2023	########			Waste Gasoline / Diesel			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
422288	Pacific Ere	4460 YANK	ROCKLIN	95677	2023	########	74-86-2	Acetylene	Acetylene	2.1 - Flammable Gase		0-2599 Cu	0-2599 Cu	365	FALSE		TRUE	Gas, Pure	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
422288	Pacific Ere	4460 YANK	ROCKLIN	95677	2023	########	68476-34-	Diesel Fue	Red Dyed I	3 - Flammable and Co		600-1199 (	120-599 G	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
422288	Pacific Ere	4460 YANK	ROCKLIN	95677	2023	########	86290-81-	Gasoline	Gasoline	3 - Flammable and Co		12-59 Gall	12-59 Gall	0	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
422288	Pacific Ere	4460 YANK	ROCKLIN	95677	2023	########		Oily Solids	Used Drair	3 - Flammable and Co		100-499 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
422288	Pacific Ere	4460 YANK	ROCKLIN	95677	2023	########	7782-44-7	Oxygen	Oxygen	2.2 - Nonflammable G		0-2599 Cu	0-2599 Cu	365	FALSE		TRUE	Gas, Pure	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
422288	Pacific Ere	4460 YANK	ROCKLIN	95677	2023	########		Petroleum	15W-40 M	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
422288	Pacific Ere	4460 YANK	ROCKLIN	95677	2023	########		Petroleum	Waste Mot	3 - Flammable and Co		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
422288	Pacific Ere	4460 YANK	ROCKLIN	95677	2023	########	74-98-6	Propane	Liquefied F	2.1 - Flammable Gase		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
142535	PERFORM/	2240 SIERI	ROCKLIN	95677	2023	########		Automatic	ATF	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
142535	PERFORM/	2240 SIERI	ROCKLIN	95677	2023	########	107-21-1	Ethylene G	Used Antifreeze			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
142535	PERFORM/	2240 SIERI	ROCKLIN	95677	2023	########		Motor Oil	Motor Oil /	3 - Flammable and Co		120-599 G	60-119 Ga	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
142535	PERFORM/	2240 SIERI	ROCKLIN	95677	2023	########		Motor Oil	Used Moto	3 - Flammable and Co		120-599 G	60-119 Ga	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
142535	PERFORM/	2240 SIERI	ROCKLIN	95677	2023	########		Used Oil Fi	Used Oil Fi	9 - Misc. Hazardous M		100-499 P	0-99 Poun	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
142535	PERFORM/	2240 SIERI	ROCKLIN	95677	2023	########		Used Pape	Oily Solids	9 - Misc. Hazardous M		100-499 P	0-99 Poun	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
52184	PORSCHE	4525 GRAI	ROCKLIN	95677	2023	########			Antifreeze	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
52184	PORSCHE	4525 GRAI	ROCKLIN	95677	2023	########			Motor Oil	3 - Flammable and Co		120-599 G	120-599 G	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
52184	PORSCHE	4525 GRAI	ROCKLIN	95677	2023	########			Used Moto	3 - Flammable and Co		120-599 G	120-599 G	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
52184	PORSCHE	4525 GRAI	ROCKLIN	95677	2023	########			Waste Anti	3 - Flammable and Co		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
52184	PORSCHE	4525 GRAI	ROCKLIN	95677	2023	########			Waste Pap	3 - Flammable and Co		100-499 P	100-499 P	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
52184	PORSCHE	4525 GRAI	ROCKLIN	95677	2023	########		Waste Die	Waste Bral	3 - Flammable and Co		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
52184	PORSCHE	4525 GRAI	ROCKLIN	95677	2023	########		Waste Gas	Waste Fue	3 - Flammable and Co		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
147803	RICK'S AU	3725 PINE	ROCKLIN	95677	2023	########	107-21-1	Ethylene G	Antifreeze, 50/50 Premix			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
147803	RICK'S AU	3725 PINE	ROCKLIN	95677	2023	########		New Motor	New Motor Oil			60-119 Gal	0-11 Gallo	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
147803	RICK'S AU	3725 PINE	ROCKLIN	95677	2023	########		Oily Soilds	Waste Oil Filters			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
147803	RICK'S AU	3725 PINE	ROCKLIN	95677	2023	########		Petroleum	Waste Mot	3 - Flammable and Co		60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
147803	RICK'S AU	3725 PINE	ROCKLIN	95677	2023	########	107-21-1	Waste Ethy	Waste Antifreeze			12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
62531	ROCKLIN /	4500 ROCI	ROCKLIN	95677	2024	########	124-38-9	Carbon Dic	Carbon Dic	2.2 - Nonflammable G		12-59 Gall	12-59 Gall	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
62531	ROCKLIN /	4500 ROCI	ROCKLIN	95677	2024	########	86290-81-	Gasoline	Premium U	3 - Flammable and Co		12000-599	6000-8999	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
62531	ROCKLIN /	4500 ROCI	ROCKLIN	95677	2024	########	86290-81-	Gasoline	Regular Ur	3 - Flammable and Co		12000-599	12000-599	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
62531	ROCKLIN /	4500 ROCI	ROCKLIN	95677	2024	########	74-98-6	Propane	Propane	2.1 - Flammable Gase		12-59 Gall	0-11 Gallo	365	FALSE		TRUE	Liquid, Pur	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
62531	ROCKLIN /	4500 ROCI	ROCKLIN	95677	2024	########		Used Fuel	Used Fuel Filters / Used Absorbent			100-499 P	0-99 Poun	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
62531	ROCKLIN /	4500 ROCI	ROCKLIN	95677	2024	########		Waste Gas	Sump Water			12-59 Gall	0-11 Gallo	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
148690	ROCKLIN I	4400 GRAI	ROCKLIN	95677	2023	########		Petroleum	Automatic	3 - Flammable and Co		120-599 G	60-119 Ga	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
148690	ROCKLIN I	4400 GRAI	ROCKLIN	95677	2023	########		Petroleum	Motor & Ge	3 - Flammable and Co		120-599 G	120-599 G	365	FALSE		TRUE	Liquid, Mix	FALSE		FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
148690	ROCKLIN I	4400 GRAI	ROCKLIN	95677	2023	########		Used Drair	Used Drair	3 - Flammable and Co		500-999 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
148690	ROCKLIN I	4400 GRAI	ROCKLIN	95677	2023	########	107-21-1	Waste Ethy	Waste Antifreeze			60-119 Gal	12-59 Gall	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
148690	ROCKLIN I	4400 GRAI	ROCKLIN	95677	2023	########		Waste Oily	Used Absorbent & Paper Oil Filters			100-499 P	100-499 P	365	FALSE		TRUE	Solid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
148690	ROCKLIN I	4400 GRAI	ROCKLIN	95677	2023	########		Waste Petr	Waste Mot	3 - Flammable and Co		120-599 G	120-599 G	365	FALSE		TRUE	Liquid	FALSE		FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
400845	ROCKLIN (	4450 ROCI	ROCKLIN	95677	2023	########	124-38-9	Carbon Dic	Carbon Dic	2.2 - Nonflammable G		0-2599 Cu	0-2599 Cu	365	FALSE		TRUE	Gas, Pure	FALSE		FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE

400845	ROCKLIN (	4450 ROCI	ROCKLIN	95677	2023	########	68476-34-	Diesel Fue	Ultra Low S	3 - Flammable and Co	9000-1199	6000-8999	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
400845	ROCKLIN (	4450 ROCI	ROCKLIN	95677	2023	########	8006-61-9	Gasoline	Premium L	3 - Flammable and Co	9000-1199	6000-8999	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
400845	ROCKLIN (	4450 ROCI	ROCKLIN	95677	2023	########	8006-61-9	Gasoline	Regular Ur	3 - Flammable and Co	9000-1199	6000-8999	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
400845	ROCKLIN (	4450 ROCI	ROCKLIN	95677	2023	########		Gasoline /	Gasoline / Diesel Contaminated S		100-499 Po	100-499 Po	365	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
400845	ROCKLIN (	4450 ROCI	ROCKLIN	95677	2023	########		Gasoline /	Sump Water		12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
400845	ROCKLIN (	4450 ROCI	ROCKLIN	95677	2023	########	74-98-6	Propane	Liquefied F	2.1 - Flammable Gase	60-119 Gal	12-59 Gall	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
598341	Rocklin Po	4080 ROCI	ROCKLIN	95677	2023	########	68476-34-	Diesel Fue	Diesel Fue	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
275735	ROCKLIN U	2225 CORI	ROCKLIN	95677	2023	########	74-86-2	Acetylene	Acetylene	2.1 - Flammable Gase	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
275735	ROCKLIN U	2225 CORI	ROCKLIN	95677	2023	########	107-21-1	Ethylene G	Antifreeze		12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
275735	ROCKLIN U	2225 CORI	ROCKLIN	95677	2023	########	107-21-1	Ethylene G	Waste Antifreeze		12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
275735	ROCKLIN U	2225 CORI	ROCKLIN	95677	2023	########	7782-44-7	Oxygen	Oxygen Ga	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
275735	ROCKLIN U	2225 CORI	ROCKLIN	95677	2023	########		Pertoleum	Automatic	3 - Flammable and Co	60-119 Gal	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
275735	ROCKLIN U	2225 CORI	ROCKLIN	95677	2023	########		Pertoleum	Motor Oil	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
275735	ROCKLIN U	2225 CORI	ROCKLIN	95677	2023	########		Petroleum	Wast Moto	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
275735	ROCKLIN U	2225 CORI	ROCKLIN	95677	2023	########		Waste Oily	Used Absorbent		100-499 Po	0-99 Poun	365	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
275735	ROCKLIN U	2225 CORI	ROCKLIN	95677	2023	########		Waste Oily	Used Oil Filtersl		100-499 Po	100-499 Po	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
150012	Safeway 2	4805 GRAI	ROCKLIN	95677	2024	########	7440-59-7	Helium	Helium Ga	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
150012	Safeway 2	4805 GRAI	ROCKLIN	95677	2024	########	811-97-2	R-134a	R-134a	9 - Misc. Hazardous M	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
150012	Safeway 2	4805 GRAI	ROCKLIN	95677	2024	########	75-45-6	R-22	R-22	2.2 - Nonflammable G	2600-1299	2600-1299	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
150012	Safeway 2	4805 GRAI	ROCKLIN	95677	2024	########		R-507	R-507	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE
152336	Secret Rav	5500 SCHI	ROCKLIN	95677	2024	########			Alkaline Shampoo		60-119 Gal	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
152336	Secret Rav	5500 SCHI	ROCKLIN	95677	2024	########			Tri-Foam Blue, Red and Yellow		60-119 Gal	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
152336	Secret Rav	5500 SCHI	ROCKLIN	95677	2024	########			Waste Gas	3 - Flammable and Co	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
152336	Secret Rav	5500 SCHI	ROCKLIN	95677	2024	########	124-38-9	Carbon Di	Carbon Di	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
152336	Secret Rav	5500 SCHI	ROCKLIN	95677	2024	########	68476-34-	Diesel Fue	Diesel Fue	3 - Flammable and Co	6000-8999	3000-5999	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
152336	Secret Rav	5500 SCHI	ROCKLIN	95677	2024	########	86290-81-	Gasoline	Premium L	3 - Flammable and Co	12000-599	3000-5999	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
152336	Secret Rav	5500 SCHI	ROCKLIN	95677	2024	########	86290-81-	Gasoline	Regular Ur	3 - Flammable and Co	12000-599	9000-1199	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
152336	Secret Rav	5500 SCHI	ROCKLIN	95677	2024	########	74-98-6	Propane	Propane	3 - Flammable and Co	120-599 G	60-119 Ga	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
434747	Shred Bee	4480 YANK	ROCKLIN	95677	2023	########	57-55-6	1,2-propar	Propylene	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
434747	Shred Bee	4480 YANK	ROCKLIN	95677	2023	########	124-38-9	Carbon Di	Compress	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
434747	Shred Bee	4480 YANK	ROCKLIN	95677	2023	########	124-38-9	Carbon Di	Liquid Carl	2.2 - Nonflammable G	120-599 G	60-119 Ga	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
434747	Shred Bee	4480 YANK	ROCKLIN	95677	2023	########	7697-37-2	Nitric Acid	High Temp	8 - Corrosives (Liquids	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
434747	Shred Bee	4480 YANK	ROCKLIN	95677	2023	########	7727-37-9	Nitrogen	Compress	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
434747	Shred Bee	4480 YANK	ROCKLIN	95677	2023	########		Premium F	Premium Peroxide II Sanitizer		12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
434747	Shred Bee	4480 YANK	ROCKLIN	95677	2023	########	1310-73-2	Sodium Hy	Caustic Cl	8 - Corrosives (Liquids	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########			Best Super	9 - Misc. Hazardous M	1000-4999	1000-4999	365	FALSE	TRUE	Solid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########			Miscellane	3 - Flammable and Co	60-119 Gal	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########			Miscellane	8 - Corrosives (Liquids	60-119 Gal	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########			Miscellane	3 - Flammable and Co	60-119 Gal	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########			Miscellane	3 - Flammable and Co	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########			Miscellane	6.1 - Toxic Substances	60-119 Gal	12-59 Gall	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########			Super Turf	9 - Misc. Hazardous M	100-499 Po	100-499 Po	365	FALSE	TRUE	Solid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########			Universal Waste-Empty Aerosol C		12-59 Gall	12-59 Gall	365	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########			Waste Ballast-Non-PCB		100-499 Po	0-99 Poun	365	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	74-86-2	Acetylene	Acetylene	2.1 - Flammable Gase	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	132259-10	Air	Air	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	7440-37-1	Argon Com	Argon Com	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	0	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Calcium C	Wet Glazes		1200-2999	600-1199 (	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Calcium C	Dry Glazes		1000-4999	1000-4999	365	FALSE	TRUE	Solid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	10043-52-	Calcium cl	Calcium chloride		100-499 Po	100-499 Po	365	FALSE	TRUE	Solid, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	124-38-9	Carbon Di	Carbon Di	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Chlorodiflu	R-22	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Diatomace	(Dicalite) DE		1000-4999	500-999 Po	365	FALSE	TRUE	Solid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	68476-34-	Diesel Fue	Diesel Fue	3 - Flammable and Co	600-1199 (	120-599 G	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Dry Glaze \	Debris Cor	9 - Misc. Hazardous M	12-59 Gall	12-59 Gall	265	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	7440-59-7	Helium	Helium	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	7647-01-0	Hydrochlo	Hydrochlo	8 - Corrosives (Liquids	60-119 Gal	60-119 Ga	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	1333-74-0	Hydrogen	Hydrogen	2.1 - Flammable Gase	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	64742-53-	Hydrotreat	76 Transformer Oil		3000-5999	1200-2999	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	7778-54-3	Hypochlor	Hypochlor	5.1 - Oxidizing Substan	1000-4999	500-999 Po	365	FALSE	TRUE	Solid, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Latex Paint	Latex Paint		60-119 Gal	12-59 Gall	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	74-98-6	Liquified P	Liquified P	2.1 - Flammable Gase	120-599 G	120-599 G	265	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	70514-12-	Lubricating	Used lubric	3 - Flammable and Co	60-119 Gal	12-59 Gall	0	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	7727-37-9	Nitrogen	Nitrogen	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	7727-37-9	Nitrogen	Nitrogen G	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Oil Filters	Used Oil Fi	9 - Misc. Hazardous M	100-499 Po	0-99 Poun	365	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	7782-44-7	Oxygen	Oxygen	2.2 - Nonflammable G	2600-1299	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Petroleum	Motor Oil	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	74-98-6	Propane	Liquefied F	2.1 - Flammable Gase	120-599 G	120-599 G	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	14808-60-	Quartz (Si(	Proleague	6.1 - Toxic Substances	5000-9999	1000-4999	365	FALSE	TRUE	Solid, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Silica (Qua	Waste San	9 - Misc. Hazardous M	100-499 Po	0-99 Poun	365	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Silica, Crys	Hydrated Clay		10000-249	1000-4999	365	FALSE	TRUE	Solid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	14808-60-	Silica, Crys	Clay		1000-4999	500-999 Po	365	FALSE	TRUE	Solid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########	144-55-8	Sodium Bi	Sodium Bicarbonate		100-499 Po	100-499 Po	365	FALSE	TRUE	Solid, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Trifluralin,	Snapshot 2	9 - Misc. Hazardous M	1000-4999	1000-4999	365	FALSE	TRUE	Solid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Used Moto	Motor Oil	3 - Flammable and Co	120-599 G	60-119 Ga	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Used Moto	Used Moto	3 - Flammable and Co	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
153384	SIERRA CC	5100 SIERI	ROCKLIN	95677	2023	########		Water, Col	Glaze Rinse Drum (Management S		12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		AQUEOUS	Oil Eater Cleaner & Degreaser		60-119 Gal	60-119 Ga	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########	107-21-1	Ethylene G	Antifreeze 50/50 Mix		120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########	107-21-1	Ethylene G	Waste Antifreeze		120-599 G	120-599 G	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Oil-contair	Used Drained Oil Filters (Metal & F		1000-4999	500-999 Po	365	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Oil-contair	Waste Absorbent Material		100-499 Po	100-499 Po	365	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Petroleum	High Milea	3 - Flammable and Co	120-599 G	60-119 Ga	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Petroleum	0W-20 Syn	3 - Flammable and Co	120-599 G	60-119 Ga	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Petroleum	15W-40 De	3 - Flammable and Co	60-119 Gal	60-119 Ga	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Petroleum	5W-20 Mot	3 - Flammable and Co	600-1199 (	120-599 G	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Petroleum	5W-30 Mot	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Petroleum	5W-30 Syn	3 - Flammable and Co	60-119 Gal	60-119 Ga	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Petroleum	ATF Full Sy	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Petroleum	Delo 400	3 - Flammable and Co	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Petroleum	Synthetic /	3 - Flammable and Co	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Petroleum	Waste Mot	3 - Flammable and Co	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
155775	SPEEDEE (	5490 PACI	ROCKLIN	95677	2023	########		Waste Petr	Waste Mot	3 - Flammable and Co	600-1199 (	600-1199 (	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
73766	TAIGA BUII	4385 PACI	ROCKLIN	95677	2023	########		Diesel Exh	Diesel Exhaust Fluid		120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
73766	TAIGA BUII	4385 PACI	ROCKLIN	95677	2023	########	68476-34-	Diesel Fue	Diesel Fue	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
73766	TAIGA BUII	4385 PACI	ROCKLIN	95677	2023	########	68476-85-	Liquefied F	Liquified P	2.1 - Flammable Gase	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########	74-86-2	Acetylene	Acetylene	2.1 - Flammable Gase	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########		Compress	Compress	3 - Flammable and Co	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########	68476-34-	Diesel Fue	Diesel Fue	3 - Flammable and Co	600-1199 (	120-599 G	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########	107-21-1	Ethylene G	Ethylene Glycol		12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########	8006-61-9	Gasoline	Gasoline	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########	79-14-1	Glycolic ac	Mudslinger	8 - Corrosives (Liquids	12-59 Gall	12-59 Gall	0	FALSE	TRUE	Solid, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########		Hydraulic I	Hydraulic I	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########		Liquid Han	Liquid Hammer Concrete Remove		12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########		Motor Oil	Motor Oil	3 - Flammable and Co	600-1199 (	120-599 G	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########	7727-37-9	Nitrogen	Nitrogen	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########	7782-44-7	Oxygen	Oxygen	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########	74-98-6	Propane	Liquefied F	2.1 - Flammable Gase	600-1199 (	600-1199 (	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########		Transmissi	Transmissi	3 - Flammable and Co	12-59 Gall	12-59 Gall	0	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########		used oil	used oil		120-599 G	120-599 G	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
404967	UNITED RE	4700 PACI	ROCKLIN	95677	2024	########	86290-81-	Waste Gas	Waste Gas	3 - Flammable and Co	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########			Damaged I	8 - Corrosives (Liquids	500-999 Po	100-499 Po	90	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########			Damaged I	2.1 - Flammable Gase	500-999 Po	0-99 Poun	90	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########			Damaged I	3 - Flammable and Co	500-999 Po	0-99 Poun	90	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########			Damaged I	4.1 - Flammable Solids	500-999 Po	100-499 Po	90	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########			Damaged I	9 - Misc. Hazardous M	500-999 Po	100-499 Po	90	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########			Damaged I	2.2 - Nonflammable G	500-999 Po	0-99 Poun	90	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########			Damaged I	5.1 - Oxidizing Substan	500-999 Po	0-99 Poun	90	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########			Damaged I	6.1 - Toxic Substances	500-999 Po	0-99 Poun	90	FALSE	TRUE	Solid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########	74-86-2	Acetylene	Acetylene	2.1 - Flammable Gase	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########		Ammunitic	Ammunitic	1.4 - Explosives with n	0-99 Poun	0-99 Poun	90	FALSE	TRUE	Solid, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########	70343-43-	Argon mixe	Argon mixed with Carbon Dioxide		0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########	107-21-1	Ethylene G	Antifreeze	9 - Misc. Hazardous M	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########	107-21-1	Ethylene G	Antifreeze	9 - Misc. Hazardous M	60-119 Gal	60-119 Ga	90	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########		Lead Acid I	Lead Acid I	8 - Corrosives (Liquids	12-59 Gall	0-11 Gallo	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########		Lead Acid I	Lead Acid I	8 - Corrosives (Liquids	0-11 Gallo	0-11 Gallo	90	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########	7727-37-9	Nitrogen	Nitrogen	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########	7782-44-7	Oxygen	Oxygen Ga	2.2 - Nonflammable G	0-2599 Cu	0-2599 Cu	365	FALSE	TRUE	Gas, Pure	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########		Petroleum	Motor Oil -	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########	6474-25-5	Petroleum	Gasoline F	3 - Flammable and Co	9000-1199	6000-8999	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########		Petroleum	Motor Oil -	3 - Flammable and Co	120-599 G	120-599 G	90	FALSE	TRUE	Liquid	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########	6474-25-5	Petroleum	Transmissi	3 - Flammable and Co	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
405085	UPS - Rock	2275 SIERI	ROCKLIN	95677	2024	########	74-98-6	Propane	Liquefied F	2.1 - Flammable Gase	1200-2999	1200-2999	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
406403	Verizon Wi	4201 MIDA	ROCKLIN	95677	2024	########	68476-34-	Diesel Fue	Diesel Fue	3 - Flammable and Co	120-599 G	60-119 Ga	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
406403	Verizon Wi	4201 MIDA	ROCKLIN	95677	2024	########	7664-93-9	Electrolyte	Lead Acid I	8 - Corrosives (Liquids	60-119 Gal	60-119 Ga	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE
81918	Verizon Wi	5540 3RD S	ROCKLIN	95677	2024	########	68476-34-	Diesel Fue	Diesel Fue	3 - Flammable and Co	120-599 G	120-599 G	365	FALSE	TRUE	Liquid, Pur	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
81918	Verizon Wi	5540 3RD S	ROCKLIN	95677	2024	########	7664-93-9	Electrolyte	Lead Acid I	8 - Corrosives (Liquids	12-59 Gall	12-59 Gall	365	FALSE	TRUE	Liquid, Mix	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE


CA.GOV
California
Department of Conservation
Search
CA Farmland Conservancy
Conservation Districts
Farmland Mapping
Williamson Act
California Important Farmland Finder
CA Department
Find address or place
Most Recent: Placer, 2018
Farmland Type: Urban and Built-Up Land
Year: 2018
Acres (GIS): 33,765.68
County: Placer
Metadata: Link
Farmland Type Description: Urban and Built-Up land is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.
Zoom to
Rocklin
Parkview Ln
Spring View Middle School
Midas Ave
Union Pacific
Pacific St
Grove St
3rd St
2nd St
Emerson St
Maple St
4th St
Railroad Ave
Pine
Rocklin Train Station
B St
600ft
-121.232 38.796 Degrees

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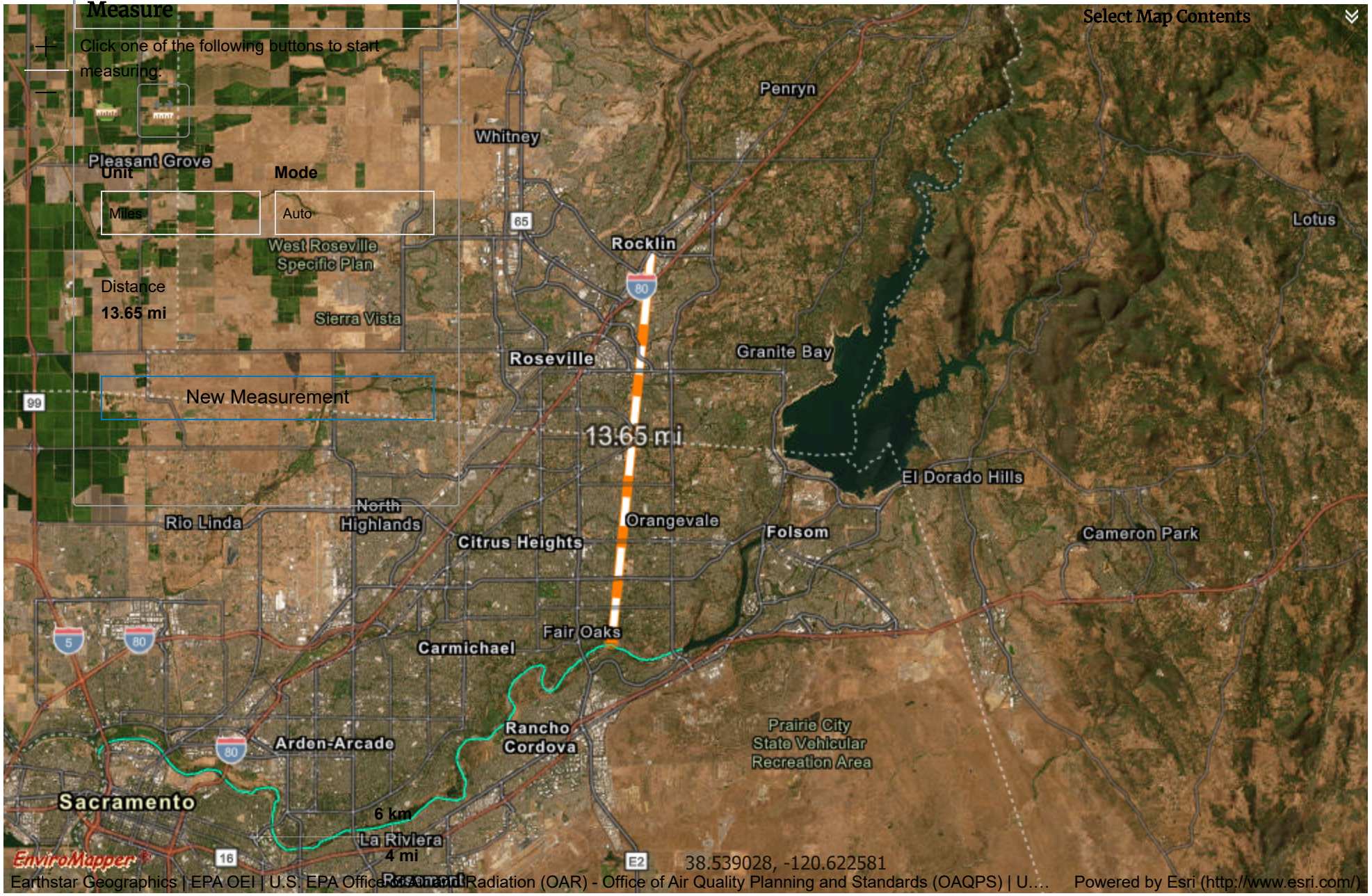


Learn About Environmental Justice

Overview

President Clinton signing the Executive Order 12898 in 1994.

EPA's goal is to provide an environment where all people enjoy the same degree of protection from environmental and health hazards and equal access to the decision-making process to maintain a healthy environment in which to live, learn, and work.

EPA's environmental justice (EJ) mandate extends to all of the Agency's work, including:

- setting standards
- permitting facilities
- awarding grants
- issuing licenses
- regulations
- reviewing proposed actions by the federal agencies

EPA works with all stakeholders to constructively and collaboratively address environmental and public health issues and concerns. The Office of Environmental Justice and External Civil Rights (OEJECR) coordinates the Agency's efforts to integrate environmental justice into all policies, programs, and activities. OEJ's mission is to facilitate Agency efforts to protect environment and public health in minority, low-income, tribal and other vulnerable communities by integrating environmental justice in all programs, policies and activities.

Want to learn more about the EPA's Office of Environmental Justice and External Civil Rights <https://epa.gov/aboutepa/about-office-environmental-justice-and-external-civil-rights>**?**

- Learn about Identifying Communities with Environmental Justice (EJ) Concerns <https://youtu.be/rq5qqbbvfxw>

Read the accomplishment reports to learn more about the progress that the EPA has made in advancing environmental justice principles? Click here to read annual progress reports on the Agency's most recent EJ accomplishments. <https://epa.gov/environmentaljustice/annual-environmental-justice-progress-reports>

Definitions

Environmental justice means the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment so that people:

- are fully protected from disproportionate and adverse human health and environmental effects (including risks) and hazards, including those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic barriers; and
- have equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices.

Meaningful engagement means:

- providing timely opportunities for members of the public to share information or concerns and participate in decision-making processes;
- fully considering public input provided as part of decision-making processes;
- seeking out and encouraging the involvement of persons and communities potentially affected by Federal activities by:
    - ensuring that agencies offer or provide information on a Federal activity in a manner that provides meaningful access to individuals with limited English proficiency and is accessible to individuals with disabilities;
    - providing notice of and engaging in outreach to communities or groups of people who are potentially affected and who are not regular participants in Federal decision-making; and
    - addressing, to the extent practicable and appropriate, other barriers to participation that individuals may face; and
- providing technical assistance, tools, and resources to assist in facilitating meaningful and informed public participation, whenever practicable and appropriate.

Environmental Justice Executive Orders

Executive Order 12898 <http://www.archives.gov/federal-register/executive-orders/1994.html#12898> (Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations) directed federal agencies to develop environmental justice strategies to help federal agencies address disproportionately high and adverse human health or environmental effects of their programs on minority and low-income populations. The Presidential Memorandum <https://epa.gov/environmentaljustice/presidential-memorandum-heads-all-departments-and-agencies-executive-order> accompanying the order underscores certain provisions of existing law that can help ensure that all communities and persons across the nation live in a safe and healthy environment.

Executive Order 14096 <https://www.federalregister.gov/documents/2023/04/26/2023-08955/revitalizing-our-nations-commitment-to-environmental-justice-for-all> (Revitalizing Our Nation's Commitment to Environmental Justice for All) was established to pursue a whole-of-government approach to environmental justice by investing in and supporting culturally vibrant, sustainable, and resilient communities in which every person has safe, clean, and affordable options for housing, energy, and transportation. This order also supplements the foundational efforts of Executive Order 12898.

Executive Order 14008 <https://www.govinfo.gov/content/pkg/fr-2021-02-01/pdf/2021-02177.pdf> (Tackling the Climate Crisis at Home and Abroad) addressed the climate crisis to implement a Governmentwide approach that reduces climate pollution in every sector of the economy, increases resilience to the impacts of climate change, protects public health, conserves our lands, waters, and biodiversity and delivers environmental justice. It also introduced the Justice40 Initiative <https://epa.gov/environmentaljustice/justice40-epa>, a whole-of-government approach which mandates that at least 40% of the benefits of certain federal investments must flow to disadvantaged communities.

Laws and Statutes

The statutes that EPA implements provide the Agency with authority to consider and address environmental justice concerns. These laws encompass the breadth of the Agency's activities including:

- Setting standards
- Permitting facilities
- Making grants
- Issuing licenses or regulations
- Reviewing proposed actions of other federal agencies

These laws often require the Agency to consider a variety of factors that generally include one or more of the following:

- Public health
- Cumulative impacts

- Social costs
- Welfare impacts

Moreover, some statutory provisions, such as under the Toxics Substances Control Act, explicitly direct the Agency to target low-income populations for assistance. Other statutes direct the Agency to consider vulnerable populations in setting standards. In all cases, the way in which the Agency chooses to implement and enforce its authority can have substantial effects on the achievement of environmental justice for all communities.

Integrating Environmental Justice at EPA

Since OEJ was created, there have been significant efforts across EPA to integrate environmental justice into the Agency's day-to-day operations. Read more about how EPA's EJ 2020 Action Agenda <https://epa.gov/environmentaljustice/ej-2020-action-agenda-epas-environmental-justice-strategy> will help EPA advance environmental justice through its programs, policies and activities, and support our cross-agency strategy on making a visible difference in environmentally overburdened, underserved, and economically distressed communities.

Every regional and headquarter office has an environmental justice coordinator who serves as a focal point within that organization. This network of individuals provides outreach and educational opportunities to external, as well as internal, individuals and organizations. To find out more about Agency efforts to address environmental justice, contact an EJ coordinator <https://epa.gov/environmentaljustice/forms/contact-us-about-environmental-justice#local> based on your location or area of interest.

Environmental Justice (EJ) Home <https://epa.gov/environmentaljustice>

Learn About Environmental Justice

Equity Action Plan <https://epa.gov/environmentaljustice/equity-action-plan>

Grants and Resources <https://epa.gov/environmentaljustice/environmental-justice-grants-funding-and-technical-assistance>

National Environmental Justice Advisory Council <https://epa.gov/environmentaljustice/national-environmental-justice-advisory-council>

White House Environmental Justice Advisory Council <https://epa.gov/environmentaljustice/white-house-environmental-justice-advisory-council>

EJ in Your Community <https://epa.gov/environmentaljustice/environmental-justice-your-community>

EJ and National Environmental Policy Act <https://epa.gov/environmentaljustice/environmental-justice-and-national-environmental-policy-act>

EJ and Title VI <https://epa.gov/environmentaljustice/title-vi-and-environmental-justice>

EJ for Tribes and Indigenous Peoples <https://epa.gov/environmentaljustice/environmental-justice-tribes-and-indigenous-peoples>

Equitable Development and EJ <https://epa.gov/environmentaljustice/equitable-development-and-environmental-justice>

Community Voices on EJ <https://epa.gov/environmentaljustice/community-voices-environmental-justice>

Contact Us <https://epa.gov/environmentaljustice/forms/contact-us-about-environmental-justice> to ask a question, provide feedback, or report a problem.

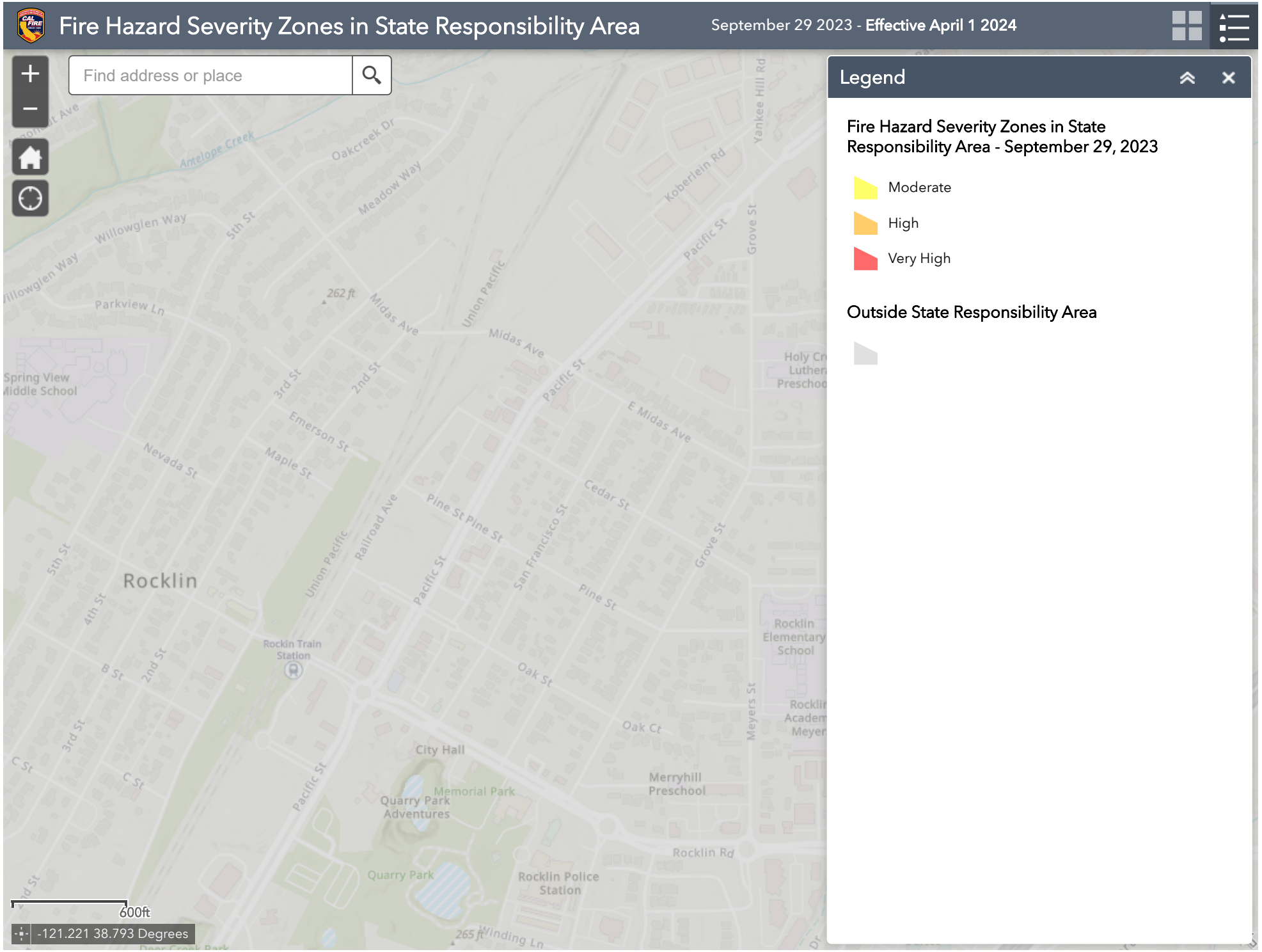
LAST UPDATED ON APRIL 26, 2024

Privacy and Security Notice

<https://epa.gov/privacy/privacy-and-security-notice>

Fire Hazard Severity Zones in State Responsibility Area

September 29 2023 - **Effective April 1 2024**



DEPARTMENT OF TOXIC SUBSTANCES CONTROL
ENVIROSTOR

HAZARDOUS WASTE AND SUBSTANCES SITE LIST (CORTESE)

For additional information and listing of sites, please refer to the California Environmental Protection Agency's

437 RECORDS FOUND EXPORT TO EXCEL

		SITE / FACILITY NAME	ESTOR / EPA ID	PROGRAM TYPE	STATUS	ADDRESS DESCRIPTION	CITY	ZIP	CAI
[REPORT]	[MAP]	VARIAN	43360086	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE	611 HANSEN WAY	PALO ALTO	94304	
[REPORT]	[MAP]	HILLVIEW PORTER PLUME	43360077	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE	HILLVIEW AVENUE AND PORTER DRIVE	PALO ALTO	94304	
[REPORT]	[MAP]	LOCKHEED MISSILES AND SPACE CO BLDG 255	43280130	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE	3170 PORTER DRIVE	PALO ALTO	94304	
[REPORT]	[MAP]	TELEDYNE SINGER	43360073	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE	3176 PORTER DRIVE	PALO ALTO	94304	
[REPORT]	[MAP]	PALOS VERDES SHELF	19460003	FEDERAL SUPERFUND - LISTED	ACTIVE	PACIFIC OCEAN - WHITE POINT OUTFALL	PALOS VERDES	90000	
[REPORT]	[MAP]	JET PROPULSION LABORATORY	19970008	FEDERAL SUPERFUND - LISTED	ACTIVE	4800 OAK GROVE DRIVE	PASADENA	91109	
[REPORT]	[MAP]	GAVILAN PLATEAU MANEUVER AREA	33970011	STATE RESPONSE	ACTIVE	S35, T4 SOUTH, R5 WEST	PERRIS	92057	
[REPORT]	[MAP]	ROSEN'S ELECTRICAL EQUIPMENT	19360068	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	8226 E. WHITTIER BLVD.	PICO RIVERA	90660	
[REPORT]	[MAP]	VENDO COMPANY, THE	10590001	STATE RESPONSE	ACTIVE - LAND USE RESTRICTIONS	7209 NORTH INGRAM AVENUE	PINEDALE	93650	
[REPORT]	[MAP]	INDUSTRIAL WASTE PROCESSING	10330040	FEDERAL SUPERFUND - LISTED	ACTIVE	7140 NORTH HARRISON	PINEDALE	93650	
[REPORT]	[MAP]	DELTA AUTO WRECKERS	07750026	STATE RESPONSE	ACTIVE	6 INDUSTRY ROAD	PITTSBURG	94565	
[REPORT]	[MAP]	HARMON FIELD	54070051	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	1494 SOUTH AIRPORT DRIVE	PIXLEY	93256	
[REPORT]	[MAP]	J C LIBERTY CLEANERS	60003364	STATE RESPONSE	ACTIVE	687 INDIAN HILL BLVD	POMONA	91767	
[REPORT]	[MAP]	A Z DECASING COMPANY	19330371	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE -	1420 SOUTH SIGNAL DRIVE	POMONA	91766	

		SITE / FACILITY NAME	ESTOR / EPA ID	PROGRAM TYPE	STATUS LAND USE RESTRICTIONS	ADDRESS DESCRIPTION	CITY	ZIP	CAI
[REPORT]	[MAP]	BECKMAN INSTRUMENTS, PORTERVILLE PLANT	54360008	FEDERAL SUPERFUND - DELISTED	ACTIVE	167 WEST POPLAR AVENUE	PORTERVILLE	93257	
[REPORT]		LAND USE COVENANT MONITORING	60003566	STATE RESPONSE	ACTIVE	855 EL CAMINO REAL, STE 309	PALO ALTO	94301	
[REPORT]	[MAP]	BUENA VISTA/KLAU MERCURY MINES	60000405	FEDERAL SUPERFUND - LISTED	ACTIVE	12 MILES WEST OF PASO ROBLES, SAN LUIS OBISPO COUNTY.	PASO ROBLES	93447	
[REPORT]		SIMPSON PAPER	60003516	STATE RESPONSE	ACTIVE	1404 W HOLT AVE	POMONA	91768	
[REPORT]	[MAP]	1525 AETNA SPRINGS ROAD	60003205	STATE RESPONSE	ACTIVE	1525 AETNA SPRINGS ROAD	POPE VALLEY	94567	
[REPORT]	[MAP]	PORTERVILLE PCE PLUME	60001216	STATE RESPONSE	ACTIVE	NO ADDRESS-PRELIMINARY SITE SCREENING	PORTERVILLE	93257	
[REPORT]	[MAP]	PORTERVILLE MGP	60002076	STATE RESPONSE	ACTIVE	309 S. MAIN STREET	PORTERVILLE	93257	
[REPORT]	[MAP]	MCDONNELL DOUGLAS - INACTIVE TEST SITE	34370069	STATE RESPONSE	ACTIVE - LAND USE RESTRICTIONS	11505 DOUGLAS RD	RANCHO CORDOVA	95742	
[REPORT]	[MAP]	PURITY OIL SALES - DELTA GUNITE	34170001	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	WHITE ROCK ROAD & KILGORE ROAD	RANCHO CORDOVA	95670	
[REPORT]	[MAP]	AEROJET GENERAL CORPORATION	34370002	FEDERAL SUPERFUND - LISTED	ACTIVE - LAND USE RESTRICTIONS	HIGHWAY 50 AND AEROJET ROAD	RANCHO CORDOVA	95670	
[REPORT]	[MAP]	POINT VICENTE	19970023	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	PALOS VERDES DR. AND HAWTHORNE BLVD.,	RANCHO PALOS VER	90275	
[REPORT]	[MAP]	IRON MOUNTAIN MINE	45100001	FEDERAL SUPERFUND - LISTED	ACTIVE	OFF HWY 299 - 9 MI NW OF REDDING	REDDING	96001	
[REPORT]	[MAP]	FOLSOM PRISON	34920001	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	N OF FOLSOM CITY; ADJ TO AMERICAN RIVER	REPRESA	95671	
[REPORT]	[MAP]	FMC CORPORATION - RICHMOND	07280011	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	855 PARR BLVD	RICHMOND	94801	
[REPORT]	[MAP]	FASS METALS	07330030	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE -	818 W. GERTRUDE AVENUE	RICHMOND	94801	

		SITE / FACILITY NAME	ESTOR / EPA ID	PROGRAM TYPE	STATUS	ADDRESS DESCRIPTION	CITY	ZIP	CAI
					LAND USE RESTRICTIONS				
[REPORT]	[MAP]	PORT OF RICHMOND (SHIPYARD #3)	07370030	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	1312 CANAL BLVD	RICHMOND	94804	
[REPORT]	[MAP]	DREW SALES	07500035	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	1156 CASTRO STREET	RICHMOND	94804	
[REPORT]	[MAP]	HARBOUR WAY SOUTH	07340024	STATE RESPONSE	ACTIVE	738 HARBOUR WAY SOUTH	RICHMOND	94804	
[REPORT]	[MAP]	LIQUID GOLD OIL CORP	07290039	FEDERAL SUPERFUND - DELISTED	ACTIVE - LAND USE RESTRICTIONS	HOFFMAN BLVD & S 47TH ST	RICHMOND	94804	
[REPORT]	[MAP]	BLAIR SOUTHERN PACIFIC LANDFILL	07490012	STATE RESPONSE	ACTIVE	AT THE FOOT OF SOUTH 51ST STREET	RICHMOND	94804	
[REPORT]	[MAP]	ZENECA RICHMOND AG PRODUCTS	07280002	STATE RESPONSE	ACTIVE - LAND USE RESTRICTIONS	1415 SOUTH 47TH STREET	RICHMOND	94804	
[REPORT]	[MAP]	REACTION PRODUCTS	07280013	STATE RESPONSE	ACTIVE	840 MORTON AVENUE	RICHMOND	94806	
[REPORT]	[MAP]	ELECTRO FORMING CO. - RICHMOND	01330044	STATE RESPONSE	ACTIVE	130 NEVIN AVENUE	RICHMOND	94801	
[REPORT]	[MAP]	UNIVERSITY OF CALIFORNIA, RICHMOND SE	07730003	STATE RESPONSE	ACTIVE	1301 SOUTH 46TH STREET	RICHMOND	94804	
[REPORT]	[MAP]	UNITED HECKATHORN	07280015	FEDERAL SUPERFUND - LISTED	ACTIVE - LAND USE RESTRICTIONS	8TH & WRIGHT	RICHMOND	94804	
[REPORT]	[MAP]	RICHMOND TOWNHOUSE APARTMENTS	07990005	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	2887 AND 2989 PULLMAN AVENUE	RICHMOND	94804	
[REPORT]	[MAP]	COOPER CHEMICAL	07280154	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	2801 GIANT ROAD	RICHMOND	94806	
[REPORT]	[MAP]	STRINGFELLOW HAZARDOUS WASTE SITE - PLUME CHARACTERIZATION AND MONITORING	33490001	FEDERAL SUPERFUND - LISTED	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	3450 PYRITE STREET	RIVERSIDE	92509	
[REPORT]	[MAP]	ALARK HARD CHROME	33340002	FEDERAL SUPERFUND - LISTED	ACTIVE	2775 MAIN STREET	RIVERSIDE	92501	
[REPORT]	[MAP]	STRINGFELLOW HAZARDOUS WASTE SITE - SITE OPERATIONS AND MONITORING	60002365	FEDERAL SUPERFUND - LISTED	CERTIFIED / OPERATION & MAINTENANCE	3450 PYRITE STREET	RIVERSIDE	92509	

	SITE / FACILITY NAME	ESTOR / EPA ID	PROGRAM TYPE	STATUS	ADDRESS DESCRIPTION	CITY	ZIP	CAI
[REPORT] [MAP]	PALOS VERDES LANDFILL	19490181	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	25706 HAWTHORNE BLVD.	ROLLING HILLS ESTATES	90274	
[REPORT] [MAP]	S R KILBY PROPERTY	15100009	STATE RESPONSE	ACTIVE	2021 WEST 15TH STREET	ROSAMOND	93560	
[REPORT] [MAP]	GROSSI/CALANDRI PROPERTY	15100008	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	INTERSECTION OF MARIE AVE & W 15TH ST	ROSAMOND	93560	
[REPORT] [MAP]	OSAGE INDUSTRIES, 60TH STREET WEST	15330005	STATE RESPONSE	ACTIVE	60TH STREET WEST T9N, R13W, S10 SE CORNER	ROSAMOND	93560	
[REPORT] [MAP]	JOHN ALEXANDER RESEARCH INC	15330004	STATE RESPONSE	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS	1753 SIERRA HIGHWAY	ROSAMOND	93560	
[REPORT] [MAP]	OSAGE INDUSTRIES, 15TH STREET	15330001	STATE RESPONSE	ACTIVE	2001 15TH STREET, WEST	ROSAMOND	93560	

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PROJECT SEARCH RESULTS

SEARCH CRITERIA: LUFT

42172 RECORDS FOUND | VIEW RESULTS ON MAP | EXPORT TO EXCEL | PAGE 516

		SITE / FACILITY NAME	SITE / FACILITY TYPE	STATUS	ADDRESS (OR PARTIAL ADDRESS)	CITY	ZIP	COU
[REPORT]	[MAP]	TEXACO CENTRAL RIVERSIDE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3498 CENTRAL AVE	RIVERSIDE	92506	RIVI
[REPORT]	[MAP]	ARCO #1941	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	6692 INDIANA AVE	RIVERSIDE	92506	RIVI
[REPORT]	[MAP]	TYLER AUTO SERVICE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	10302 WELLS AVE	RIVERSIDE	92505	RIVI
[REPORT]	[MAP]	EMWD MILLS PUMPING PLANT	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	552 E ALESSANDRO BLVD	RIVERSIDE	92508	RIVI
[REPORT]	[MAP]	MOBIL #18-H59	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	10290 MAGNOLIA AVE	RIVERSIDE	92503	RIVI
[REPORT]	[MAP]	ARLINGTON SNACK AND AUTO	LUST CLEANUP SITE	OPEN - REMEDIATION	8970 ARLINGTON AVE	RIVERSIDE	92503	RIVI
[REPORT]	[MAP]	RVSD CITY FIRE STATION #8	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	11076 HOLE AVE	RIVERSIDE	92505	RIVI
[REPORT]	[MAP]	TEXACO SERVICE STATION	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3483 VAN BUREN BLVD	RIVERSIDE	92503	RIVI
[REPORT]	[MAP]	MOBIL #18-D3H	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3315 14TH ST	RIVERSIDE	92501	RIVI
[REPORT]	[MAP]	SECURITY PACIFIC	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3737 MAIN ST	RIVERSIDE	92501	RIVI

[REPORT]	[MAP]	AUTO TRANS FACTORY	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	6200 RUTLAND AVE	RIVERSIDE	92503	RIVI
[REPORT]	[MAP]	NEWCO	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	7000 JURUPA AVE	RIVERSIDE	92504	RIVI
[REPORT]	[MAP]	MCLANE FOOD SERVICE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	14813 MERIDIAN PKWY	RIVERSIDE	92518	RIVI
[REPORT]	[MAP]	RCR COMPANIES	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	12620 MAGNOLIA AVENUE	RIVERSIDE	92503	RIVI
[REPORT]	[MAP]	RIVERSIDE TRANSIT AGENCY	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	1825 THIRD ST	RIVERSIDE	92507	RIVI
[REPORT]	[MAP]	CERTAIN-TEED CORPORATION	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	2100 AVALON ST	RIVERSIDE	92509	RIVI
[REPORT]	[MAP]	RUBIDOUX FIRE DEPARTMENT	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3590 RUBIDOUX BLVD	RIVERSIDE	92509	RIVI
[REPORT]	[MAP]	E.T. WALL COMPANY	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3230 VINE STREET	RIVERSIDE	92502	RIVI
[REPORT]	[MAP]	TRI CO DISPOSAL/SPECTRUM ENG.	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	9470 MISSION BLVD	RIVERSIDE	92509	RIVI
[REPORT]	[MAP]	14TH STREET GARAGE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	2748 14TH ST	RIVERSIDE	92507	RIVI
[REPORT]	[MAP]	THRIFTY OIL #342 ARCO #9712	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3570 CENTRAL AVE	RIVERSIDE	92506	RIVI
[REPORT]	[MAP]	TOPHAM AND SONS	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3245 MADISON ST	RIVERSIDE	92504	RIVI
[REPORT]	[MAP]	TEXACO MAGNOLIA	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	10300 MAGNOLIA AVE	RIVERSIDE	92505	RIVI
[REPORT]	[MAP]	ANHEUSER BUSCH, INC.	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	1400 MARLBOROUGH AVE	RIVERSIDE	92507	RIVI
[REPORT]	[MAP]	TOSCO/ CIRCLE K STORE #5245	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	6105 CLAY ST	RIVERSIDE	92509	RIVI
[REPORT]	[MAP]	FLABOB AIRPORT	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4130 MENNES AVE	RIVERSIDE	92509	RIVI
[REPORT]	[MAP]	WALL'S HAULING SERVICE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5826 N ROBINSON AVENUE	RIVERSIDE	92503	RIVI
[REPORT]	[MAP]	HUMPHRIES, CLARENCE, REAL PROP	LUST CLEANUP	COMPLETED - CASE CLOSED	11900 MAGNOLIA AVE	RIVERSIDE	92503	RIVI

			SITE					
[REPORT]	[MAP]	CATRANS SAND/SALT FACILITY	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	HWY 50	RIVERTON	95806	EL DOR
[REPORT]	[MAP]	RECLAIM DISTRICT 1500	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	15094-A CRANMORE RD	ROBBINS	95676	SUT
[REPORT]	[MAP]	PRIVATE RESIDENCE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	PRIVATE RESIDENCE	ROBBINS	95676	SUT
[REPORT]	[MAP]	ROBBINS MERCANTILE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4895 DEL MONTE AVE	ROBBINS	95676	SUT
[REPORT]	[MAP]	WAGNER AIRPORT	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	HWY 113 & DEL MONTE	ROBBINS	95676	SUT
[REPORT]	[MAP]	PRIVATE RESIDENCE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	PRIVATE RESIDENCE	ROBBINS	95676	SUT
[REPORT]	[MAP]	ROBBINS SERVICE STATION (FORMER MOBIL)	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	17750 HWY 113	ROBBINS	95676	SUT
[REPORT]	[MAP]	STANGHELLINI RANCH	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	19925 RECLAMATION RD	ROBBINS	95676	SUT
[REPORT]	[MAP]	SUTTER MUTUAL WATER CO	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	15094-B CRANMORE RD	ROBBINS	95676	SUT
[REPORT]	[MAP]	ROY RIEGELS CHEM	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	SACRAMENTO VALLEY BLVD	ROBBINS	95676	SUT
[REPORT]	[MAP]	ROCKLIN MINI MART	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4505 PACIFIC ST	ROCKLIN	95677	PLA
[REPORT]	[MAP]	SS #6008 (FORMER UNOCAL)	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4390 SIERRA COLLEGE BLVD	ROCKLIN	95677	PLA
[REPORT]	[MAP]	JERRY'S AUTO	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4850 PACIFIC ST	ROCKLIN	95677	PLA
[REPORT]	[MAP]	SIERRA COLLEGE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5000 ROCKLIN RD	ROCKLIN	95677	PLA
[REPORT]	[MAP]	DAWSON OIL COMPANY	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4325 PACIFIC STREET	ROCKLIN	95677	PLA
[REPORT]	[MAP]	ROCKLIN MILL/SIERRA PINE LTD	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4300 DOMINGUEZ RD	ROCKLIN	95677	PLA
[REPORT]	[MAP]	SOUTH PLACER MUNI CORP YARD	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5805 SPRINGVIEW DR	ROCKLIN	95677	PLA

[REPORT]	[MAP]	EXXON #7-0147	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	6700 FIVE STAR BLVD	ROCKLIN	95677	PLA
[REPORT]	[MAP]	ARCO #5440 (CASE #2)	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4500 ROCKLIN RD	ROCKLIN	95677	PLA
[REPORT]	[MAP]	ARCO #5440 CASE #1	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4500 ROCKLIN RD	ROCKLIN	95677	PLA
[REPORT]	[MAP]	WEST COAST CABINETS	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3740 CINCINNATI AVE	ROCKLIN	95677	PLA
[REPORT]	[MAP]	QUICK STOP MARKET #103	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	2850 SUNSET BLVD	ROCKLIN	95677	PLA

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PROJECT SEARCH RESULTS

SEARCH CRITERIA: LUFT

42172 RECORDS FOUND VIEW RESULTS ON MAP EXPORT TO EXCEL PAGE 517

		SITE / FACILITY NAME	SITE / FACILITY TYPE	STATUS	ADDRESS (OR PARTIAL ADDRESS)	CITY	ZIP	COU
[REPORT]	[MAP]	J.E. HIGGINS LUMBER CO	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4243 DOMINGUEZ RD	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	SUNSET WHITNEY COUNTRY CLUB	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4201 MIDAS AVE	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	ROCKLIN CITY CORPORATION YD	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	2555 CORPORATION YARD RD	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	7-ELEVEN INC.	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4281 SIERRA COLLEGE BLVD	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	LP CORPORATION - ROCKLIN	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4385 PACIFIC ST	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	CHEVRON STATION 20-1164	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	6555 FAIRWAY DRIVE	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	EXXON 7-0247	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4450 ROCKLIN RD	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	FORMICA CORP.	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3500 CINCINNATI AVE	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	HUNT PROPERTY	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5476 PACIFIC ST	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	ROCKLIN MARKET SITE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4855 PACIFIC ST	ROCKLIN	95677	PLAC

[REPORT]	[MAP]	TOMS SIERRA #23	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4395 ROCKLIN RD	ROCKLIN	95667	PLAC
[REPORT]	[MAP]	PALMER PROPERTY	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5250 PACIFIC ST	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	EXXON #54	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	2801 SUNSET BLVD	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	KEN'S BRAKES	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5110 PACIFIC ST	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	ROCKLIN SERVICE STATION	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4975 PACIFIC ST	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	ROCKLIN ASPHALT PRODUCTS	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	1800 SUNSET BLVD	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	US RENTAL SERVICE #29	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4755 PACIFIC ST	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	REYNOLDS WEST COAST END PLANT	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3939 CINCINNATI AVE	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	UNITED PARCEL SERVICE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	2275 SIERRA MEADOWS DRIVE	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	FOOD & LIQUOR #91	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3800 ROCKLIN RD	ROCKLIN	95677	PLAC
[REPORT]	[MAP]	CREATIVE FENCING	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	670 SAN PABLO AVE	RODEO	94572	CON COS
[REPORT]	[MAP]	YELLOW FREIGHT SYSTEM INC	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	3001 FRANKLIN CANYON RD	RODEO	94572	CON COS
[REPORT]	[MAP]	GOZZANO PROPERTY	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	701 5 SAN PABLO AVE	RODEO	94572	CON COS
[REPORT]	[MAP]	WELLS FARGO BANK	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	190 PARKER AVE	RODEO	94572	CON COS
[REPORT]	[MAP]	TATE'S RODEO SERVICE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	678 SAN PABLO AVE	RODEO	94572	CON COS
[REPORT]	[MAP]	CHEVRON	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	400 PARKER AVE	RODEO	94572	CON COS
[REPORT]	[MAP]	TOSCO - FACILITY #4822	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	401 PARKER AVE	RODEO	94572	CON COS
[REPORT]	[MAP]	UNOCAL CHEMICALS DIVISION	LUST CLEANUP	COMPLETED - CASE	2101 FRANKLIN CANYON RD	RODEO	94572	CON COS

			SITE	CLOSED				
[REPORT]	[MAP]	RODEO MUFFLER	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	650 PARKER AVE	RODEO	94752	CONT COST
[REPORT]	[MAP]	RODEO AUTO SALES	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	375 PARKER AVENUE	RODEO	94572	CONT COST
[REPORT]	[MAP]	WEYERHAEUSER-COMMERCIAL DOOR	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5600 STATE FARM DRIVE	ROHNERT PARK	94928	SONO
[REPORT]	[MAP]	SAFETY KLEEN CORPORATION	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5750 COMMERCE BOULEVARD	ROHNERT PARK	94928	SONO
[REPORT]	[MAP]	SELVAGE, JOHN R.	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4742 SNYDER LANE	ROHNERT PARK	94928	SONO
[REPORT]	[MAP]	CHP ROHNERT PARK	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	6100 LABATH AVENUE	ROHNERT PARK	94928	SONO
[REPORT]	[MAP]	NORTH BAY TRACTOR	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5100 COMMERCE BOULEVARD	ROHNERT PARK	94928	SONO
[REPORT]	[MAP]	SONOMA COUNTY SYNAGOGUE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	4627 SNYDER LANE	ROHNERT PARK	94928	SONO
[REPORT]	[MAP]	PRESS DEMOCRAT PRODUCTION FACILITY	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5505 REDWOOD DR	ROHNERT PARK	94928	SONO
[REPORT]	[MAP]	BOISE CASCADE AKA BMC WEST	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5300 COMMERCE BOULEVARD	ROHNERT PARK	94928	SONO
[REPORT]	[MAP]	TESORO FUEL STATION	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5085 REDWOOD DRIVE	ROHNERT PARK	94928	SONO
[REPORT]	[MAP]	HCDPW ROHNERVILLE MAINTENANCE STATION	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	AIRPORT ROAD	ROHNERVILLE	95540	HUM
[REPORT]	[MAP]	PALOS VERDES SCHOOL DISTRICT MAINT.	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	38 CREST RD W	ROLLING HILLS	90274	LOS ANGE
[REPORT]	[MAP]	LA CO FIRE STATION #106	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	27413 INDIAN PEAK RD	ROLLING HILLS	90274	LOS ANGE
[REPORT]	[MAP]	LA CO FIRE STATION #056	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	12 CREST RD W	ROLLING HILLS	90274	LOS ANGE
[REPORT]	[MAP]	CHANDLER'S SAND & GRAVEL	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	26311 SOUTH PALOS VERDES DRIVE EAST	ROLLING HILLS ESTATE	90274	LOS ANGE
[REPORT]	[MAP]	PENINSULA CAR CARE CENTER	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	627 DEEP VALLEY DR	ROLLING HILLS ESTATES	90274	LOS ANGE

[REPORT]	[MAP]	PALOS VERDES SCHOOL DISTRICT	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	38 CREST RD W	ROLLING HILLS ESTATES	90274	LOS ANGE
[REPORT]	[MAP]	ARCO #6087	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	828 SILVER SPUR RD	ROLLING HILLS ESTATES	90274	LOS ANGE
[REPORT]	[MAP]	UNOCAL #5894	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	5656 CREST RD	ROLLING HILLS ESTATES	90274	LOS ANGE
[REPORT]	[MAP]	GLENDALE FEDERAL PROPERTY	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	601 SILVER SPUR RD	ROLLING HILLS ESTATES	90274	LOS ANGE
[REPORT]	[MAP]	PALOS VERDES AUTO CARE	LUST CLEANUP SITE	COMPLETED - CASE CLOSED	627 DEEP VALLEY	ROLLING HILLS ESTATES	90274	LOS ANGE

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ROCKLIN
CALIFORNIA

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CONSTRUCTION NOISE GUIDELINES

The City of Rocklin has established a noise policy on all construction projects within or near residential areas:

- No noise on WEEKDAYS before 7 a.m. or after 7 p.m.
- No noise on WEEKENDS before 8 a.m. or after 7 p.m.

Failure to comply with these guidelines may result in an issuance of a Stop Work Order.

What are “noise generating activities?”

Operation of Heavy Equipment

- Tractors
- Backhoes
- Graders
- Pile drivers
- Cranes
- Forklifts
- Dump Trucks
- Water trucks

Operation of Light Equipment

- Jackhammers
- Vibratory Compactors
- Generators
- Augers

Use of Hand Tools

- Hammers
- Power Saws

ROCKLIN
CALIFORNIA

Menu

United States Census Bureau

QuickFacts

Rocklin city, California

QuickFacts provides statistics for all states and counties. Also for cities and towns with a ***population of 5,000 or more***.

All Topics	Rocklin city, California
Population estimates, July 1, 2023, (V2023)	NA
PEOPLE	
Population	
Population estimates, July 1, 2023, (V2023)	NA
Population Estimates, July 1, 2022, (V2022)	73,857
Population estimates base, April 1, 2020, (V2023)	NA
Population estimates base, April 1, 2020, (V2022)	71,598
Population, percent change - April 1, 2020 (estimates base) to July 1, 2023, (V2023)	NA
Population, percent change - April 1, 2020 (estimates base) to July 1, 2022, (V2022)	3.2%
Population, Census, April 1, 2020	71,601
Population, Census, April 1, 2010	56,974
Age and Sex	
Persons under 5 years, percent	5.8%
Persons under 18 years, percent	25.4%
Persons 65 years and over, percent	14.0%
Female persons, percent	50.6%
Race and Hispanic Origin	
White alone, percent	70.8%
Black or African American alone, percent (a)	1.5%
American Indian and Alaska Native alone, percent (a)	0.4%
Asian alone, percent (a)	11.0%
Native Hawaiian and Other Pacific Islander alone, percent (a)	0.2%
Two or More Races, percent	11.9%
Hispanic or Latino, percent (b)	14.7%
White alone, not Hispanic or Latino, percent	65.6%
Population Characteristics	
Veterans, 2018-2022	3,222
Foreign born persons, percent, 2018-2022	13.1%
Housing	
Housing units, July 1, 2022, (V2022)	X
Owner-occupied housing unit rate, 2018-2022	66.8%
Median value of owner-occupied housing units, 2018-2022	$637,200
Median selected monthly owner costs -with a mortgage, 2018-2022	$2,897
Median selected monthly owner costs -without a mortgage, 2018-2022	$875
Median gross rent, 2018-2022	$2,109
Building permits, 2022	X
Families & Living Arrangements	
Households, 2018-2022	24,630
Persons per household, 2018-2022	2.86
Living in same house 1 year ago, percent of persons age 1 year+, 2018-2022	84.6%
Language other than English spoken at home, percent of persons age 5 years+, 2018-2022	16.5%
Computer and Internet Use	
Households with a computer, percent, 2018-2022	97.6%
Households with a broadband Internet subscription, percent, 2018-2022	95.7%
Education	
High school graduate or higher, percent of persons age 25 years+, 2018-2022	96.0%
Bachelor's degree or higher, percent of persons age 25 years+, 2018-2022	48.0%
Health	
With a disability, under age 65 years, percent, 2018-2022	5.7%
Persons without health insurance, under age 65 years, percent	3.7%

Economy	
In civilian labor force, total, percent of population age 16 years+, 2018-2022	63.6%
In civilian labor force, female, percent of population age 16 years+, 2018-2022	58.5%
Total accommodation and food services sales, 2017 ($1,000) (c)	115,486
Total health care and social assistance receipts/revenue, 2017 ($1,000) (c)	160,603
Total transportation and warehousing receipts/revenue, 2017 ($1,000) (c)	78,742
Total retail sales, 2017 ($1,000) (c)	972,666
Total retail sales per capita, 2017 (c)	$14,937
Transportation	
Mean travel time to work (minutes), workers age 16 years+, 2018-2022	25.6
Income & Poverty	
Median household income (in 2022 dollars), 2018-2022	$116,006
Per capita income in past 12 months (in 2022 dollars), 2018-2022	$50,978
Persons in poverty, percent	⚠ 4.3%

BUSINESSES

Businesses	
Total employer establishments, 2021	X
Total employment, 2021	X
Total annual payroll, 2021 ($1,000)	X
Total employment, percent change, 2020-2021	X
Total nonemployer establishments, 2021	X
All employer firms, Reference year 2017	1,440
Men-owned employer firms, Reference year 2017	828
Women-owned employer firms, Reference year 2017	S
Minority-owned employer firms, Reference year 2017	S
Nonminority-owned employer firms, Reference year 2017	1,002
Veteran-owned employer firms, Reference year 2017	76
Nonveteran-owned employer firms, Reference year 2017	1,194

GEOGRAPHY

Geography	
Population per square mile, 2020	3,614.4
Population per square mile, 2010	2,915.7
Land area in square miles, 2020	19.81
Land area in square miles, 2010	19.54
FIPS Code	0662364

About datasets used in this table

Value Notes

⚠ Methodology differences may exist between data sources, and so estimates from different sources are not comparable.

Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable. Click the Quick Info ⓘ icon to the left of each row in TAI learn about sampling error.

The vintage year (e.g., V2023) refers to the final year of the series (2020 thru 2023). Different vintage years of estimates are not comparable.

Users should exercise caution when comparing 2018-2022 ACS 5-year estimates to other ACS estimates. For more information, please visit the 2022 5-year ACS Comparison Guidance page.

Fact Notes

(a)	Includes persons reporting only one race
(c)	Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data
(b)	Hispanics may be of any race, so also are included in applicable race categories

Value Flags

-	Either no or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest or upper interval of an open ende
F	Fewer than 25 firms
D	Suppressed to avoid disclosure of confidential information
N	Data for this geographic area cannot be displayed because the number of sample cases is too small.
FN	Footnote on this item in place of data
X	Not applicable
S	Suppressed; does not meet publication standards
NA	Not available
Z	Value greater than zero but less than half unit of measure shown

QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, Stat Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.

About Placer County Transit

Welcome aboard Placer County Transit, where you can ride the bus for **only $1.25** each way or $2.50 for a 24-hour pass offering unlimited rides!

Our goal at Placer County Transit (PCT) is to provide a safe and direct means of transportation service for western Placer County residents. We are committed to providing comprehensive and reliable transit service. We want our passengers to enjoy a comfortable and pleasant ride aboard our buses.

Thank you for riding Placer County Transit.

pct@placer.ca.gov

530-745-7570

11432 F Avenue
Auburn, CA 95603

English

Our goal at Placer County Transit (PCT) is to provide a safe and direct means of transportation service for western Placer County residents. We are committed to providing comprehensive and reliable transit service. We want our

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Placer County Transit

ride aboard our
buses.

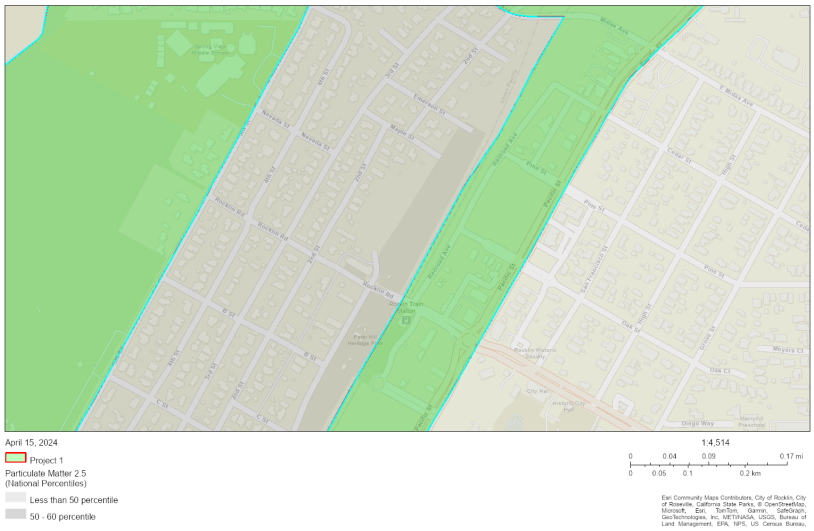
EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Rocklin, CA

Blockgroup: 060610211033
Population: 1,151
Area in square miles: 0.56

A3 Landscape



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	89%
Spanish	5%
Russian, Polish, or Other Slavic	1%
Other Indo-European	2%
Korean	1%
Tagalog (including Filipino)	1%
Total Non-English	11%

COMMUNITY INFORMATION

- Low income: 40 percent
- People of color: 38 percent
- Less than high school education: 10 percent
- Limited English households: 8 percent
- Unemployment: 0 percent
- Persons with disabilities: 12 percent
- Male: 49 percent
- Female: 51 percent
- 76 years — Average life expectancy
- $31,431 — Per capita income
- Number of households: 495
- Owner occupied: 48 percent

BREAKDOWN BY RACE

- White: 62%
- Black: 2%
- American Indian: 0%
- Asian: 5%
- Hawaiian/Pacific Islander: 0%
- Other race: 3%
- Two or more races: 0%
- Hispanic: 28%

BREAKDOWN BY AGE

From Ages 1 to 4	7%
From Ages 1 to 18	22%
From Ages 18 and up	78%
From Ages 65 and up	16%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	74%
Speak Other Indo-European Languages	26%
Speak Asian-Pacific Island Languages	0%
Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

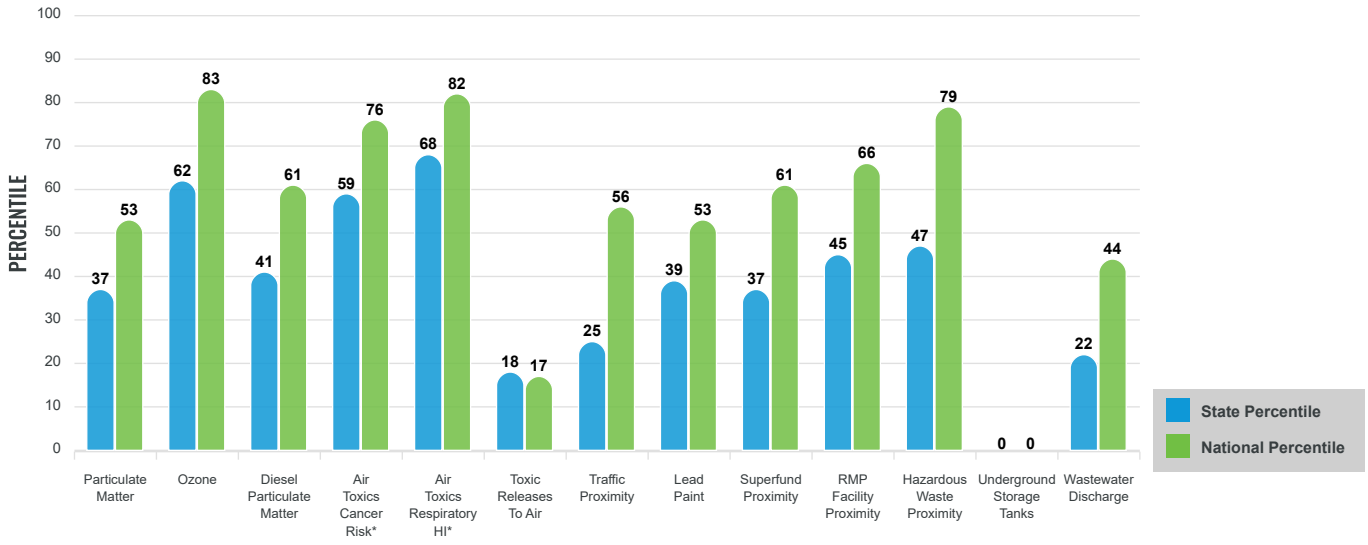
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

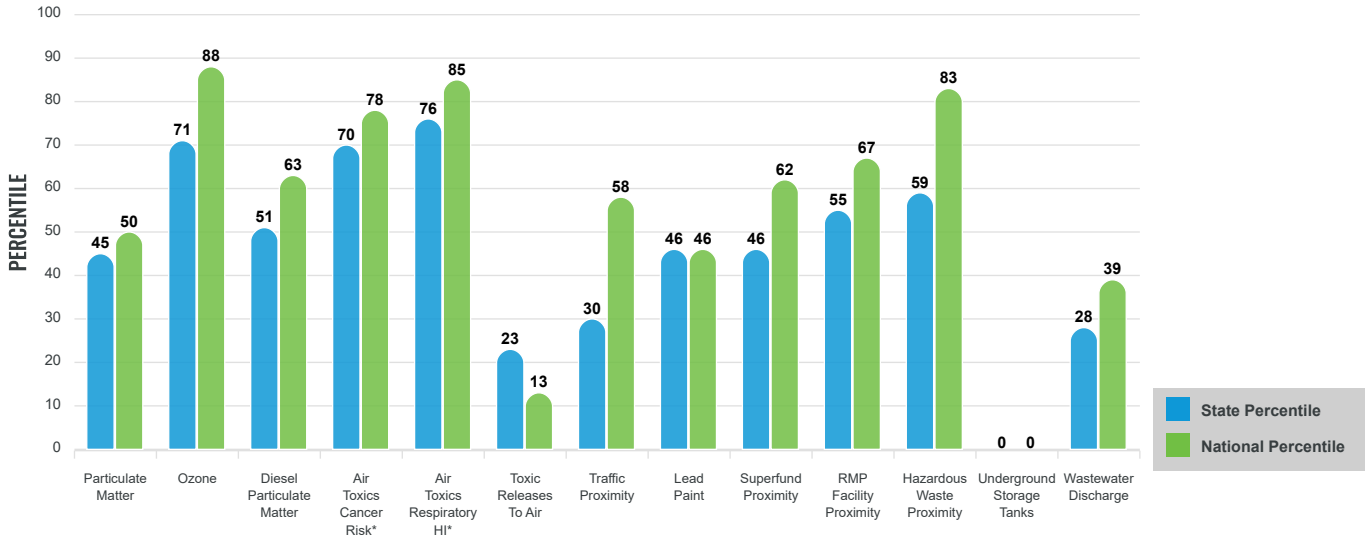
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for Blockgroup: 060610211033

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	7.57	8.65	31	8.08	34
Ozone (ppb)	69	65.9	67	61.6	91
Diesel Particulate Matter (µg/m^3)	0.198	0.26	38	0.261	45
Air Toxics Cancer Risk* (lifetime risk per million)	30	27	42	25	52
Air Toxics Respiratory HI*	0.4	0.34	58	0.31	70
Toxic Releases to Air	9.8	780	14	4,600	8
Traffic Proximity (daily traffic count/distance to road)	57	510	20	210	42
Lead Paint (% Pre-1960 Housing)	0.091	0.31	34	0.3	33
Superfund Proximity (site count/km distance)	0.05	0.17	31	0.13	43
RMP Facility Proximity (facility count/km distance)	0.18	0.57	43	0.43	53
Hazardous Waste Proximity (facility count/km distance)	4	5.9	46	1.9	85
Underground Storage Tanks (count/km^2)	0	1.5	0	3.9	0
Wastewater Discharge (toxicity-weighted concentration/m distance)	4.9E-05	4	18	22	26
SOCIOECONOMIC INDICATORS					
Demographic Index	39%	45%	42	35%	63
Supplemental Demographic Index	16%	15%	61	14%	65
People of Color	38%	61%	24	39%	57
Low Income	40%	28%	74	31%	70
Unemployment Rate	0%	7%	0	6%	0
Limited English Speaking Households	8%	9%	62	5%	82
Less Than High School Education	10%	16%	49	12%	58
Under Age 5	7%	6%	68	6%	70
Over Age 64	16%	16%	61	17%	53
Low Life Expectancy	22%	18%	88	20%	74

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund 0
Hazardous Waste, Treatment, Storage, and Disposal Facilities 0
Water Dischargers 1
Air Pollution 0
Brownfields 0
Toxic Release Inventory 0

Other community features within defined area:

Schools 1
Hospitals 0
Places of Worship 0

Other environmental data:

Air Non-attainment ..... Yes
Impaired Waters ..... Yes

Selected location contains American Indian Reservation Lands* ..... No
Selected location contains a "Justice40 (CEJST)" disadvantaged community ..... No
Selected location contains an EPA IRA disadvantaged community ..... No

Report for Blockgroup: 060610211033

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	22%	18%	88	20%	74
Heart Disease	5	5.2	49	6.1	28
Asthma	10.2	9.5	71	10	61
Cancer	5.7	5.3	63	6.1	39
Persons with Disabilities	11.8%	10.9%	65	13.4%	45

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	10%	13%	65	12%	67
Wildfire Risk	100%	30%	89	14%	97

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	7%	10%	49	14%	36
Lack of Health Insurance	7%	7%	56	9%	48
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	No	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for Blockgroup: 060610211033

Rocklin Unified School District

2615 Sierra Meadows Dr., Rocklin, CA 95677

DEVELOPER FEE SCHEDULE INCREASE

Resolution #21-22-22, Adopted April 20, 2022

Effective June 21, 2022

COMMUNITY FACILITY DISTRICT #1, #2, OR #3

"Infill" Areas

Single Family $4.79 per sq. ft**
Up to and including 3,000 square feet
Multiple Family $4.79 per sq. ft**
No square foot cap – living spaces only

****Whitney Ranch Area:**

$1,500 per single family home PLUS $4.79 per sq. ft.
$1,000 per multiple family home PLUS $4.79 per sq. ft.

COMMERCIAL DEVELOPMENT - $.78 per sq. ft.

SENIOR HOUSING - $.08 per sq. ft.

SELF-STORAGE - $.20 per sq. ft.

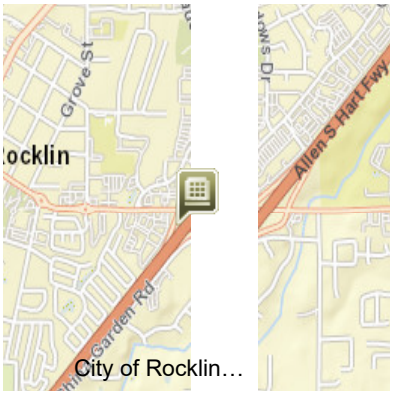
Facilities

Rocklin Library

Other Link View Calendar of Events for Rocklin Library

Features

- Air Conditioned
- Benches
- Chairs
- Clock
- Drinking Fountain
- Internet Workstations
- Large Parking Lot
- Meeting Rooms
- Outdoor Patio
- Photocopier
- Picnic Tables
- Restrooms
- Tables
- WiFi



Rocklin Library

4890 Granite Drive
Rocklin, CA 95677

Contact

Email the Library
916-624-3133

Hours

Mon	Closed
Tue	10:00 AM — 6:00 PM
Wed	10:00 AM — 6:00 PM
Thu	10:00 AM — 6:00 PM
Fri	10:00 AM — 5:00 PM

Amenities

Computers & Technology

- Wi-Fi throughout the building, outdoor space and parking lot
- 10 Internet & Microsoft Office workstations
- 2 AWE Early Literacy computers
- 4 self-checkout machines

- 1 photocopier & 2 printers

Spaces & Equipment

- Reservable community meeting room
- Outdoor spaces: one in the back of the library; the other overlooks the pond
- Friends of the Library Book Sale room
- Bike racks
- 2 exterior automated returns machines for 24/7 returns
- Additional exterior (manual) book drop for 24/7 returns
- Elevator
- Automatic doors at entrance

Other

- First floor service desk accepts Mastercard and Visa credit cards, as well as cash or personal check, to pay fines and fees.
- Large parking lot designated for the library with several ADA parking spaces and reserved parking for returning items (e.g. "Book drop").

Public Transportation Routes

Rocklin Library is accessible off of Bus Route 20 Lincoln/Sierra College and the Taylor Road Shuttle from Placer County Transit.

The library is near also near the Auburn Light Rail route.

Rocklin is served by the Placer County Transit Agency (PCTA) which offers bus service to and from Sacramento. The PCTA also connects with Regional Transit (RT) which is the major public passenger rail transit system serving the Sacramento Metro Area. The Placer Commuter Express is a commuter bus that travels along the I-80 corridor from Colfax to downtown Sacramento.

About the Library

The Rocklin Library is located next to a pond that regularly hosts visitors such as geese, ducks, squirrels, and other local wildlife. Extensive study and workspaces for children and adults can be found throughout the library's two floors, many of which offer views of the pond area. The first floor of the library is organized as a family space, featuring an extensive children's collection and seating spaces along with a train table. Several public computers and work areas can be found on this floor too, along with reservable community room; the room is flexible and able to be configured into two smaller spaces using the movable walls. The upstairs space houses the teen and adult collections, as well as more public computers and reading and work areas.

Senior Librarian: Tony Carmack
Librarians: Felicia Black and Jana Wiersma

History of Rocklin Library

The Rocklin Library opened February 1943 in the lower floor of the City Hall Building. It was open 6 hours per week. In May 1965, the library was moved across the road and hours increased to 24 per week. Through the combined efforts of the Friends of the Rocklin Library, the City of Rocklin, and the County of Placer, plus Federal funding through the California State Library, a new 5,264 square foot branch library was built and dedicated April 28, 1985.

Sat	10:00 AM — 5:00 PM
Sun	Closed
Other	Closed county holidays.

Rating

This facility has not yet been rated.

This facility was located at 5460 Fifth Street in Johnson-Springview Park. The Friends of the Rocklin Library, the City of Rocklin, and the County of Placer partnered again in 2009 to 2010 to expand the library for the growing city. The current location is a leased two story, 16,600 square foot Rocklin Library that opened January 2011 on Granite Drive.

For more information related to the history of Rocklin, visit the Rocklin Historical Society.

Subfacilities

▶ Rocklin Library Meeting Room	View Subfacility

▲ Back to top

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HUMAN SERVICES

News & Updates

Accessing Services During COVID

NEWS

Save the date: Child and Family Resource Fair &

Skip the line, renew your Medi-Cal online

Alert - EBT Theft

Read on...

Placer4MentalHealth Wellness Fair **Read on...**

Read on...

Options to Access Services

Your safety and the safety of our staff are important to us. All of our office locations are open to the public however, most of your needs can be met online or by phone. We appreciate your help to keep us all safe.

- You do not have to come into our office to apply for benefits.
- You can turn in your verifications online or in the drop boxes located in the front of our buildings 24 hours per day, 7 days per week.
- In-person assistance is available Monday through Friday if you are unable to use phone or online options.

To apply for benefits you may submit an application:

- Online - https://benefitscal.com/
- By Fax- (916) 784-6100
- By Mail- P.O. Box 20400, Auburn CA 95604

To get general benefit information, ask case questions, or speak to an Eligibility Specialist, you may call our Call Center at:

1-888-385-5160

You may also use this number to:

- Request forms
- Request a new BIC or EBT card
- Get benefit information or a status update on your case
- Request an application for benefits
- Add someone to your case
- Change your address
- Help with your BenefitsCal.com account

Human Services provides a variety of programs to help Placer County families and individuals have a better future through access to healthy nutrition, healthcare, affordable housing, and training and temporary assistance when times are difficult. We are dedicated to ensuring a better and healthy quality of life for the residents of Placer County. We strive to provide the highest quality of public service to meet the needs of Placer County families and single adults, veterans, seniors and persons with disabilities.

Healthcare Coverage

Healthcare Coverage

Helps pay for health and medical care for children and families, seniors, and adults with disabilities. Find information about healthcare by going to Covered CA, California's healthcare marketplace.

Food & Nutrition Assistance

Cash Assistance

Housing Assistance

The Affordable Care Act provides affordable medical coverage to adults. Medi-Cal provides medical, dental, vision and mental health care to eligible individuals and families at little or no cost. Medical Care Services Program (MCSP) provides medical services to adults that are not eligible to services through Medi-Cal or Medicare Expansion.

Food & Nutrition Assistance

CalFresh - Food Stamps - formerly known as Food Stamps, provides monthly food benefits to assist low income households in purchasing the food they need. If you are finding it difficult to afford the nutritious food that you and your family needs, the CalFresh program may be able to help.

Women, Infants, and Children Program (WIC) - WIC operates under the Public Health Division and is a federally-funded health and nutrition program for women, infants, and children.

Are you receiving Unemployment Insurance Benefits?

Here's a link to information about how to access your UI benefit payment information. UIB Guide for CalFresh.

Cash Assistance

CalWORKs and Employment Services, provides time-limited cash aid and employment services that promote self-sufficiency for families with children. Employment Services can assist you in finding work through the Business Advantage Network. Receive daily job leads and information on job fairs and recruiting events.

General Relief provides time-limited cash aid for those who do not have dependent children. You must apply in person at a Human Services office.

Cash Assistance Program for Immigrants (CAPI) is a 100 percent state-funded program designed to provide monthly cash benefits to aged, blind, and disabled non-citizens who are ineligible for SSI/SSP solely due to their immigrant status.

Housing Assistance

The Housing Choice Voucher Program, formerly known as the Section 8 Voucher Program, provides rental assistance to help low income families, persons with disabilities, and seniors live in affordable, safe, and decent housing.

Contact Us

Human Services

Contact Human Services

Mailing Address
P.O. Box 20400
Auburn, CA 95604

Phone: Toll free 1-888-385-5160

Directory

Human Services Office in Rocklin

Physical Address
1000 Sunset Boulevard
220
Rocklin, CA 95765

Phone 1-888-385-5160
Fax 916-784-6100

Human Services Office in Auburn

Physical Address
11434 B Avenue
Auburn, CA 95603

Phone 1-888-385-5160
Fax 530-889-7608

Human Services Office in North Lake Tahoe

Physical Address
5225 N Lake Boulevard
Carnelian Bay, CA 96140

Phone 1-888-385-5160
Fax 530-546-1912

Calendar

Apr (April)

24

Human Services Offices Closed

May (May)

22

Human Services Offices Closed

View All

More Community Resources

211 Placer
your connecting point

Google **Translate**

Tweets from @211Placer

Follow on Twitter

Nothing to see here - yet

When they Tweet, their Tweets will show up here.

ious

Next

SWIS Facility/Site Activity Details

Western Regional Landfill (31-AA-0210)

Activity
Solid Waste Landfill

Classification
Solid Waste Facility

Category
Disposal

Operational Status
Active

Regulatory Status
Permitted

Ceased Operation Date
1/1/2058

Closure Type
Estimate

Inspection Frequency
Monthly

Max. Permitted Throughput
1,900

Volume Unit Type
Tons per day

Remaining Capacity
29,093,819

Remaining Capacity Date
6/30/2005

Max. Permit Capacity
36,350,000

Capacity Unit Type
Cubic Yards

Total Acreage

281.00

Disposal Acreage

231.00

Permitted Elevation

295

Elevation Type

MSL

Permitted Depth

57

Depth Type

MSL

WDR Landfill Class

II,III

Waste Types

Sludge (BioSolids)
Mixed Municipal
Construction/demolition
Ash

CalRecycle Contact: Lauren Grant (916) 341-6115

Back

WASTEWATER TREATMENT

The South Placer Municipal Utility District (SPMUD) was created in 1956 to provide sewer collection and treatment services for parts of the Loomis Basin. Wastewater collection and treatment for the City of Rocklin is provided by the SPMUD in partnership with the South Placer Wastewater Authority (SPWA). SPMUD operates and maintains the sewer collection system, and provides sewer maintenance and engineering services. Conveyance and treatment facilities are operated by the SPWA. To project future regional wastewater needs, the SPWA had the *South Placer Regional Wastewater and Recycled Water Systems Evaluation* (Evaluation) prepared in June 2007. The Evaluation documents wastewater facilities needed to serve the SPWA's 2005 Service Area Boundary (SAB), which includes the City of Rocklin Planning Area. The Evaluation identified that redevelopment within the City of Rocklin would result in increased system flows, but the increased system flows due to intensification and rezoning have no adverse effects (above and beyond previously identified deficiencies) on the trunk sewer collection system, and no changes are needed to the treatment plant expansion requirements as a result of intensification and rezoning

SPMUD's 1986 *Sewer Master Plan* envisioned that Rocklin would have approximately 52,604 sewered equivalent dwelling units (EDUs) consisting of non-residential and residential development within the City at ultimate buildout. The City of Rocklin is expected to contain 29,283 housing units at buildout as well as industrial, commercial and retail development. SPMUD has completed a new master plan (2009) and information in Rocklin's proposed General Plan Update has been used to determine the trunk sewer sizes needed to serve the area. The City does not need to take actions to ensure the availability of sewer infrastructure. Sizing of sewer infrastructure has been based on plan projections. Figure 4-17 shows the existing sewage collection infrastructure for the City of Rocklin.

The Dry Creek Wastewater Treatment Plant located in the southern part of Roseville, provides wastewater treatment facilities for the SPMUD. This plant serves the Dry Creek Basin, consisting of the cities of Roseville, Rocklin, Loomis and the surrounding unincorporated areas. The plant operates under a Federal NPDES permit and discharges its treated effluent into Dry Creek under standards established by the Central Valley Regional Water Quality Control Board.

The Dry Creek Wastewater Treatment Plant's current design capacity is 18 million gallons per day (mgd). The plant's flows average 12 million gallons per day (mgd) Average Dry Weather Flow (ADWF). Average Wet Weather Flows (AWWF) is 30 mgd. The Dry Creek Wastewater Treatment Plant provides tertiary level wastewater treatment using conventional secondary treatment, as well as full nitrification, filtration, chlorination and disinfection.

The Pleasant Grove Wastewater Treatment Plant (PGWWTP) was constructed in 2005 to provide sewer treatment and conveyance service to the western portions of Rocklin, Roseville, and Placer County. PGWWTP's initial design capacity is 10.5 mgd ADWF and 30 mgd AWWF. Construction included new sewerage transmission facilities and advanced secondary treatment. The plant discharges its effluent into the Pleasant Grove Creek.

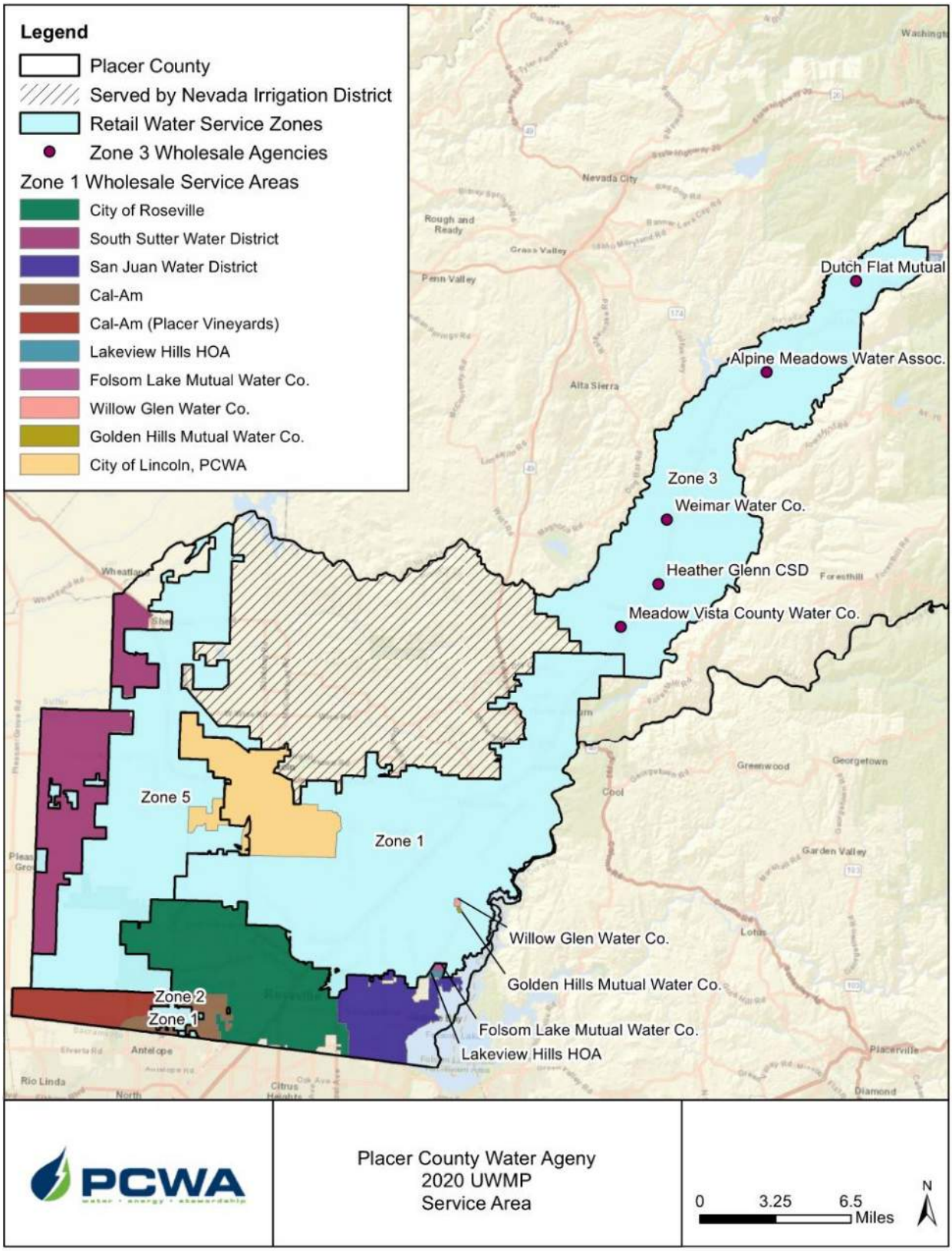


Figure 3-1. PCWA's Service Area

3.3 Service Zone Descriptions

3.3.1 Zone 1

Zone 1 is the largest of the four zones, extending from the City of Auburn to the City of Lincoln and south to the Sacramento County line. PCWA provides retail service to most of Zone 1 and provides wholesale service to the City of Lincoln, Cal-Am, and small water purveyors. PCWA also provides untreated water service to Christian Valley Park Community Service District which operates its own water treatment plant (WTP).

Water for Zone 1 is delivered by contract from Pacific Gas and Electric Company's (PG&E) Drum-Spaulding hydroelectric system and from PCWA's MFP. PCWA operates four WTPs in Zone 1. The Zone 1 service area has 17 storage tanks with about 60 million gallons (MG) of storage capacity and 496 miles of treated water pipe. A graphical depiction of Zone 1 canals and supply infrastructure can be found in **Figure 3-2.**

Zone 1 is broken into Upper Zone 1 and Lower Zone 1. Upper Zone 1 consists of the City of Auburn and surrounding communities. Due to its location, Upper Zone 1 can only be supplied PG&E contract water. PG&E diverts water from the Bear and Yuba Rivers and delivers that water to PCWA through the Bear River Canal, Wise Canal, and South Canal. PCWA then treats this supply at the Auburn and Bowman WTPs prior to direct deliveries to its customers. PCWA also delivers untreated water to treatment plants in Lower Zone 1. The Auburn and Bowman WTPs have capacities of 8 million gallons per day (MGD) and 7 MGD, respectively. The Upper Zone 1 is comprised of five subareas including Auburn/Bowman, City of Auburn, City of Auburn Airport, Newcastle/Ophir, and unincorporated area in Newcastle.

Lower Zone 1 includes the lower portion of the watershed below Auburn, including the communities of Horseshoe Bar/Penryn, unincorporated area in Loomis Basin, Town of Loomis, Bickford Ranch, Granite Bay, City of Rocklin, Whitney Ranch, Lincoln, Roseville, and Sunset Industrial Area. The primary water supply for Lower Zone 1 is PG&E contract water from the Drum-Spaulding hydroelectric system. PCWA also uses water from MFP pursuant to its own water rights. PCWA pumps MFP water near Auburn into the Auburn Tunnel, which connects to the Auburn Ravine where it can be distributed to Zone 5 irrigation water customers. Currently, water pumped from the American River to the Auburn Tunnel can be released directly into the auburn ravine, supplying water to Zone 5 irrigation customers. Water pumped from the American River can also be pumped out of the Auburn Tunnel using either one or both of the Ophir Pump Stations. Water pumped at the Ophir Pump Station flows directly into the PG&E South Canal, or into a transfer basin that flows to the South Canal. Water from the transfer basin can also be pumped directly to the Foothill WTP, or the future Ophir WTP. The Lower Zone 1 WTPs are the Foothill and Sunset plants which have capacities of 60 MGD and 5 MGD, respectively.

3.3.2 Zone 2

Zone 2 consists of 38 active residential accounts south of the City of Roseville in a community known as Bianchi Estates. PCWA supplied water to Bianchi Estates from two wells until 2003, at which time it was converted to surface water. This development receives treated retail water wheeled through the City of Roseville's system pursuant to an agreement between PCWA and Roseville. As Zone 2 is no longer served by its wells, PCWA considers it part of Zone 1 for this UWMP, as it was for the 2015 UWMP.

This section describes the public services that serve the City of Rocklin General Plan Update Planning Area. These services include fire protection and emergency medical services, law enforcement services, schools, and parks and recreation. Each subsection includes descriptions of existing service provider(s), facilities, service standards, and potential impacts on each service resulting from implementation of the proposed project. Key issues include increased demand for fire, police, and school services, provision of adequate fire flow, and increased demand for parks and recreation. Relevant state and local plans are identified. General Plan policies and mitigation measures that would serve to reduce impacts are also identified. This section is based on available information from City websites as well as consultation with the service providers. Abbreviated citations for each information source are provided in the text, with full references provided at the end of this section.

Other utilities and services such as wastewater, solid waste, and energy and communication services are discussed in Section 4.13, Utilities and Service Systems. Water supply and water infrastructure are discussed in Section 4.14, Water Resources.

4.12.1 FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

4.12.1.1 EXISTING SETTING

CITY OF ROCKLIN FIRE DEPARTMENT

The City of Rocklin Fire Department (RFD) provides fire suppression, emergency medical, and special operations/rescue services to the City of Rocklin. The RFD has 39 full-time personnel including administration, prevention, and suppression staff, as well as an additional volunteer firefighting and support force. The RFD has a mutual aid agreement with the Western Placer County Fire Chief's Association. All Placer County fire agencies are signatory agencies to the agreement, with the closest to Rocklin being Roseville, Lincoln, South Placer, Loomis, the California Department of Forestry and Fire Protection (Cal-Fire), Penryn, Newcastle, and Auburn. In addition, the RFD has automatic aid agreements with Roseville, Loomis, South Placer, and CalFire.

The RFD responded to 3,536 calls for service in 2007, up 143 calls from 2006 and 239 calls from 2005. **Table 4.12.1-1** below shows the number and type of calls to which the RFD responded from 2000 to 2007.

TABLE 4.12.1-1
ROCKLIN FIRE DEPARTMENT RESPONSES 2000–2007

Type of Call	2000	2001	2002	2003	2004	Type of Call*	2005	2006	2007
Structure Fire	223	272	260	313	298	Fire	179	174	187
Vehicle Fire	57	49	63	55	68	Rupture	2	7	2
Grass Fire	79	122	94	92	112	EMS	2,187	2,286	2,378
Refuse Fire	15	8	17	9	24	Haz Cond	64	65	58
Medical Aid	1,369	1,537	1,727	1,986	1,996	Pub Ser	305	311	316
Vehicle Accident	171	177	248	237	214	Good Intent	340	348	390
Public Service	300	388	519	357	309	False Call	212	197	202
Totals	2,214	2,553	2,928	3,049	3,021	Severe Weather	6	0	2
						Other	2	5	1
						Totals	3,297	3,393	3,536

Note: **Change in format due to change in Incident Reporting Software.*

Source: *City of Rocklin 2008c*

Facilities

The RFD currently operates three fire stations, as shown in **Figure 4.12-1**. The location and operational characteristics of each fire station is provided below (City of Rocklin 2008d; Shelton 2008):

- Station #1, County Station #23 is located at 4060 Rocklin Road, adjacent to Memorial Park and City Hall. There are 3 personnel at this station per shift, with three shifts, each rotating after a 48-hour tour of duty. Equipment at this station includes a staffed engine, a reserve engine, a brush engine, a utility/air unit, and several staff vehicles.

- Station #2, County Station #24 is located at 3401 Crest Drive. There are 3 to 4 personnel at this station per shift, with three shifts, each rotating after a 48-hour tour of duty. Equipment at this station includes a staffed truck, a reserve engine, a brush engine, a grass unit, a staffed Battalion Chief vehicle, a utility unit, and a training truck.

- Station #3, County Station #25 is located at 2001 Wildcat Boulevard. There are 3 personnel at this station per shift, with three shifts, each rotating after a 48-hour tour of duty. Equipment at this station includes a staffed engine, a brush engine, and a grass unit.

A fourth station (Station #4, County Station #26) is planned, but is currently being postponed until adequate funding for construction and staff needs is identified.

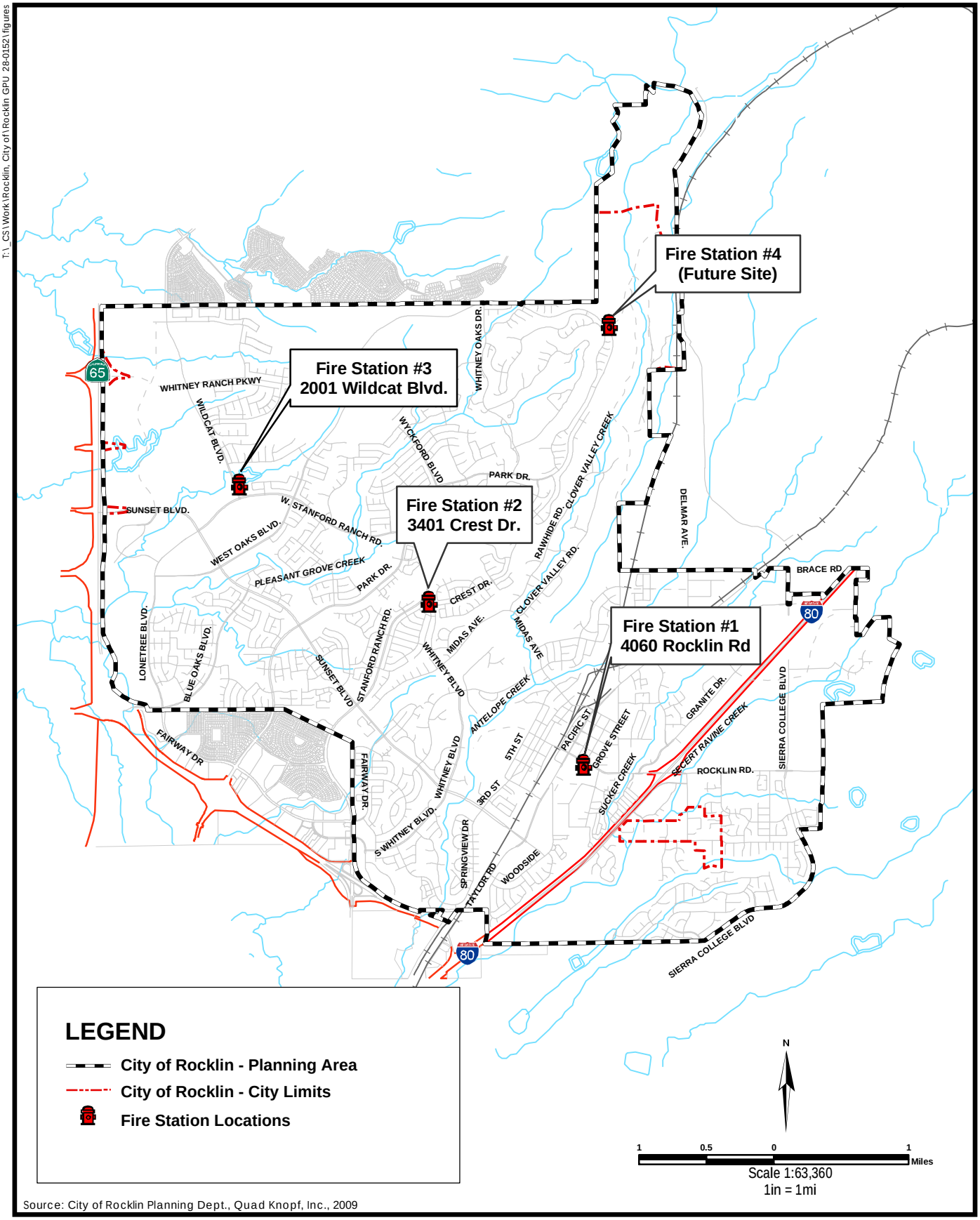


Figure 4.12-1
RFD Fire Station Locations

Response Times and Service Standards

The RFD's current average response time for all incidents is 5 minutes, 31 seconds.

ISO Rating

The Insurance Services Office (ISO) is an independent organization that serves insurance companies, fire departments, insurance regulators, and others by providing information about risk. ISO's Public Protection Classification (PPC) service gauges the quality of local fire departments by collecting information on a community's public fire protection and then analyzing the data using a Fire Suppression Rating Schedule (FSRS). ISO then assigns a PPC from 1 to 10. Class 1 represents the best public protection, and Class 10 indicates no recognized protection. A community's PPC depends on the following criteria (ISO 2008):

- Fire alarm and communications systems, including telephone systems, telephone lines, staffing, and dispatching systems;
- The fire department, including equipment, staffing, training, and geographic distribution of fire companies; and
- The water supply system, including condition and maintenance of hydrants, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires.

The RFD currently has an ISO Public Protection Classification rating of 3 (City of Rocklin 2008d).

Funding

The Fire Department is primarily funded through General Fund revenues, with some fee-based revenue, grants, and educational reimbursements through Sierra College. The City of Rocklin charges a construction tax that is used for the acquisition of fire equipment, as well as parks, open space, bike trails, and public buildings, needed as a result of increased development in the city (City of Rocklin 2008a, pg. 23). Additional funds for recently annexed areas are collected through Community Facilities District (CFD) #1. The Fire Department also charges fees for some services, including fire inspections, false alarm response, and fire and rescue services (City of Rocklin 2008a, pg. 37).

Emergency Medical Services

Ambulance service is provided by American Medical Response (AMR) ambulance, a private provider, through contract. AMR provides ambulance services to Rocklin, Roseville, Auburn, Lincoln, and portions of rural Placer County. In Rocklin, AMR's 9-1-1 response time standard is 8 minutes, 90 percent of the time (SSVEMSA 2008b).

SIERRA-SACRAMENTO VALLEY EMERGENCY MEDICAL SERVICES AGENCY

The Sierra-Sacramento Valley Emergency Medical Services Agency (SSVEMSA) is a Joint Powers Agency (JPA) that was founded in 1975 and serves as the regional emergency medical services (EMS) agency for the five counties of Placer, Yolo, Nevada, Sutter, and Yuba. The Governing Board of Directors for the JPA consists of a county supervisor from each member county. The

SSVEMSA is designated as the local EMS agency for each of the member counties under the authority of the Government Code, State of California (Section 6500, et seq.).

Planning, development, and implementation of all EMS components, including regional trauma system planning, has been delegated to the SSVEMSA with the exception of disaster planning and ambulance ordinance responsibilities. Nevada, Placer, and Yolo counties have separately contracted with the SSVEMSA to perform ambulance ordinance responsibilities. The SSVEMSA has direct responsibility for the following (SSVEMSA 2008a):

- Qualification, accreditation, authorization of all pre-hospital care personnel;
- EMS system design; and
- Compliance with local and state regulations.

4.12.1.2 REGULATORY FRAMEWORK

STATE

California Fire Code

The 2007 California Fire Code (Title 24, Part 9 of the California Code of Regulations) established regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout the State of California (CBSC 2008, pg. 3). The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas. The City has adopted the California Fire Code as part of its building regulations (Rocklin Municipal Code, Chapter 15.04).

California Health and Safety Code

Additional state fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which include regulations for building standards, fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise buildings, childcare facility standards, and fire suppression training.

California Occupational Safety and Health Administration

In accordance with the California Code of Regulations, Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Fighting Equipment," the California Occupational Safety and Health Administration (Cal-OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

LOCAL

City of Rocklin Municipal Code

The City of Rocklin Municipal Code, Chapter 8.20, Section 8.20.010, authorizes the Fire Department to clean up or abate the effects of any hazardous substance or waste deposited on property or within facilities in the city. In addition, the code states that any person who intentionally or negligently causes such a deposit will be liable for the payment of all costs incurred by the City as a result of such cleanup or abatement activity.

The City of Rocklin Municipal Code, Chapter 8.12, Section 8.12.030, authorizes the City Council, upon recommendation of the Fire Chief, to adopt standards for the maintenance and control of weeds on vacant parcels. In addition, the code states that the standards shall be reviewed and may be amended from time-to-time in response to environmental or geographical conditions, and that the standards shall be effective upon adoption by the City Council. As previously mentioned, Chapter 15.04, Section 15.04.110 adopts the California Fire Code. Section 15.04.120 amends the Fire Code as it applies to the city regarding sprinkler systems, open burning, and the location of aboveground storage tanks.

4.12.1.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. A fire protection and emergency services impact is considered significant if implementation of the project would:

1. Create substantial adverse physical impacts associated with the provision of new or physically altered fire related facilities or services, the construction and/or provision of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.

2. Expose people or structures to significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

METHODOLOGY

Evaluation of potential fire protection and emergency medical service impacts was based on information provided by the RFD, as well as review of the applicable fire codes and regulations, the existing City of Rocklin General Plan and Municipal Code, and other relevant literature. A detailed list of reference material used in preparing this analysis can be found at the end of this section.

While the major fire threat in the city is related to urban development, there are areas in Rocklin that are subject to a threat of wildfire. These areas include Clover Valley, areas at the southern end of China Garden Road, portions of Whitney Oaks, the Croftwood/Dias Lane area, Whitney Ranch, open space easements, and recreational properties. Wildland fire hazards and the General Plan Update's environmental impacts associated with wildland fires are discussed in Section 4.7, Human Health/Hazards, of this Draft EIR.

PARKS

ABOUT

The City of Rocklin maintains 37 developed parks and another 200 + acres of open space for its residents. A wealth of recreational opportunities throughout Rocklin complement the finest schools, businesses, and homes. You'll find many diverse recreational opportunities strategically located and easily accessible throughout the city.

PARK PROJECTS

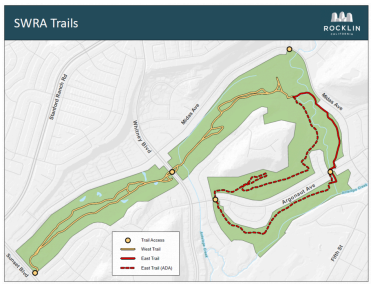
Check back regularly to view progress on current park projects.

ROCKLIN
CALIFORNIA

Menu

SUNSET WHITNEY RECREATION AREA

Get the latest updates on improvements to the Sunset Whitney Recreation Area.



DOG PARK

RRUFF Dog Park

RRUFF Dog Park is located within Johnson-Springview Park and open every day for park-goers and their pets from dawn to dusk.

RRUFF Dog Park is the home for many dog training classes, including Canine Companions for Independence and Guide Dogs for the Blind. Its three distinct areas for small dogs, large dogs, and special needs dogs make it the ideal off-leash dog park for dogs to stretch their legs and socialize.

5480 5th St, Rocklin, CA 95677
View map

The shaded special needs dog area is paved around artificial turf.

ROCKLIN
CALIFORNIA

Menu

Quarry Park is a central gathering place and picturesque setting for community events, concerts, quiet walks through nature, and active play. Quarry Park is also home to an amphitheater, trails, open space, and wildlife.

FIND A PARK

PARK RENTALS

The City of Rocklin has three community park locations with pavilions available to rent for your next event:

- Johnson-Springview Park
- Margaret Azevedo Park
- Whitney Park

TRAILS AND BIKEWAYS

Map your route and explore the City's trails and bike routes on this interactive map.

HISTORIC SITES TOUR

BE SMOKE-FREE
in Rocklin City Parks

An ordinance fully prohibiting smoking in all city parks, recreation areas and city owned property became effective on July 13, 2017. The no-smoking restriction includes electronic cigarettes and vaping devices.

The ordinance clarifies previous similar “park rules,” is easier to understand and, if necessary, enforce.

WI-FI IN THE PARKS

The City of Rocklin, in partnership with Astound Broadband, provides free wireless internet in the City’s five community parks:

ROCKLIN
CALIFORNIA

Menu

Building Energy Efficiency Standards

2022 Building Energy Efficiency Standards

2022 Building Energy Efficiency Standards

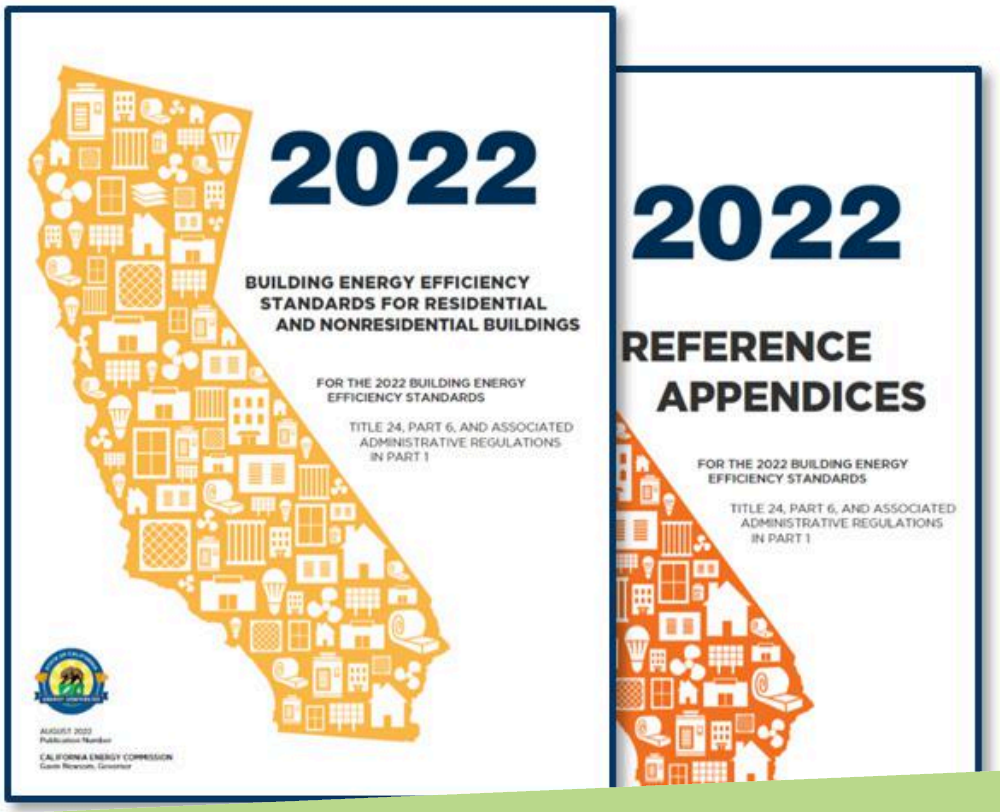
The 2022 Energy Code encourages efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, strengthens ventilation standards, and more. Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code.

Updated Regulatory Advisory: Low-Rise Multifamily Compliance Documents for the 2022 Energy Code

The 2022 Building Energy Efficiency Standards (Energy Code) introduce new requirements for low-rise multifamily (LRMF) buildings. These include requirements to register LRMF compliance documents with a California Energy Commission (CEC)-approved residential data registry when field verification and diagnostic testing (FV&DT) will be required to demonstrate compliance with the Energy Code.

On February 14, 2024, CalCERTS was approved to register all LRMF compliance documents listed in Appendix A of the 2022 Energy Code Data Registry Requirements Manual. For projects that include energy efficiency measures requiring FV&DT (i.e., HERS field verification), permit applications submitted after February 14, 2024, must include only certificates of compliance (LMCCs) that have been registered with a CEC-approved registry, per Title 24, section 10-103(a)1B. The downloadable, fillable versions of the LMCCs are no longer available and should not be accepted with permit applications submitted after February 14, 2024.

A new regulatory advisory has been issued to clarify enforcement guidance given previously. The November 18, 2022, advisory is no longer in effect. CEC staff recommends authorities having jurisdiction take various steps, as specified in the February 15, 2024, advisory, to ensure permits for LRMF buildings under the 2022 Energy Code are not delayed and that new projects are properly registered with an approved residential registry.



2022 Energy Code for Residential and Nonresidential Buildings

2022 ENERGY CODE >

Expand All

Supporting Documents – Appendices, Compliance Manuals, and Forms +

Software – Compliance Software, Manuals, and Tools +

Acceptance Testing and Home Energy Rating System +

Rulemaking +

Local Ordinances +

SUPPORTING CONTENT

News Release: 2022 Energy Code Adoption

Energy Commission Adopts Updated Building Standards to Improve Efficiency, Reduce Emissions From Homes and Businesses

2022 Building Energy Efficiency Standards Summary

A summary describing what was adopted within the 2022 Energy Code and the benefits.

Online Resource Center

Documents and training information to help building communities and enforcement agencies comply with the Building Energy Efficiency Standards.

RELATED LINKS

Regulatory Advisories

CONTACT

Building Energy Efficiency Standards - Title 24
title24@energy.ca.gov
Toll-free in California: 800-772-3300
Outside California: 916-654-5106

For requests to print the 2022 Energy Code contact bsorequests@energy.ca.gov or 916-654-5200

SUBSCRIBE

Building Energy Efficiency Standards

Email *

Email

SUBSCRIBE

CATEGORIES

Topic
Efficiency

Division
Efficiency

Program

Building Energy Efficiency Standards

CONTACT

California Energy Commission
715 P Street
Sacramento, CA 95814

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Language Services

CAREERS

Come be part of creating a clean, modern and thriving California.

Learn more about Careers

CAMPAIGNS

Register to Vote

Be Counted, California

Energy Upgrade California

Save Our Water

South Placer Municipal Utility District Fee Schedule

Updated for Fiscal Year 2024/25

Fee Description	Fee Amount
Monthly Service Charge (Ordinance 23-01)	$38.94 / EDU
Monthly PRSC Newcastle residents (Resolution 13-11)	$54 / EDU
Building Sewer Inspection/Food Service Establishment Tenant Improvement Inspection Fee	$435
Building Sewer Inspection (Repairs)	$215
Residential Ejector Pump Submittal Review (Includes plan review and inspection)	$580
Accessory Dwelling Unit (ADU) Submittal Review (Includes plan review and inspection)	$465
Reconnect Fee	$600
Access Permit Fee	$700
Project Plan Check & Inspection Processing Fee	$2,170 Deposit + District Costs
Tenant Improvement Processing Fee (includes plan review)	$370 Deposit + District Costs
Participation Fee per EDU (Ordinance 17-03)	$14,728
Local Participation Fee per EDU (Sewer Code Chapter 2)	$4,926
Regional Participation Fee per EDU (SPWA Treatment)	$9,802*
Project Related Participation Fee per EDU - PRPF (NSD) (Resolution 13-11/10-09 - Year 11) Adjusts 10/1/24	$1,200
Out-of-Area Service Agreement Processing Fee	$1,000
Annexation Single Parcel/Single Home	$2,010
Annexation Large Annex (up to 50 acres)	$7,160
Annexation Large Annex (More than 50 acres)	$8,660
Warranty TV/Flush Fee (6" - 15" diameter)	$3.60/ft + District costs
Warranty TV/Flush Fee (> 15" diameter)	$5.05/ft + District costs
Inspection Overtime Fee (Weekday - 3 hr max)	$840
Inspection Overtime Fee (Night/Saturday - 8 hr max)	$1,955
Tap - Mainline	$2,805
Tap - Manhole	$3,280
One-Time Discharge Permit	$1,045
Wastewater Discharge Permit (Initial Permit)	$760
Wastewater Discharge Permit (Renewal)	$255
Document Copy Fees	
~ Copy of 8.5 x 11 - 11 x 17	$0.25
~ Copy 24 x 36	$15
~ Copy GIS Document	$80
~ Copy Electronic Files onto CD	$80
Standard Specifications (Binder)	$80 + shipping if mailed
Sewer System Management Plan (SSMP) (Binder)	$80 + shipping if mailed
Credit Card Transaction Charge (Resolution 21-06/Policy 3170) NOT Applicable to Monthly Service Charges	2.5%

*Assumed SPWA Regional Fee based on approval of the Capacity Fee Study at the June 27, 2024 SPWA Board Meeting.

Water Connection Charges (Effective 1/1/2024)
Lower Zone 6 - Foothill/Sunset/Ophir & Auburn/Bowman Drinking Water Systems

Lower Zone 6 Base Rate Increased 0.07% per ENR CCI (Section 40700(c) of Rules & Regulations) from $22,805 to $22,821

Base Rate WCC for 1.0 UOC:

Component	Amount
Treatment	$10,572
Transmission	$7,834
Storage	$3,538
Groundwater	$688
Planning	$189
Total WCC	**$22,821**

The Applicant's WCC = $22,821 x Assessed UOC.

Notes and Definitions:

- WCC = Water Connection Charge
- GPD = Gallons per Day
- GPM = Gallons per Minute
- MDD = Maximum Daily Demand (in GPD)
- T&M = Time & Materials
- Unit of Capacity (UOC) is defined as 1,150 GPD MDD.
- The charge for meters larger than 4" will be determined by special agreement.
- Multiple dwelling is defined as two or more dwellings established on a parcel of land for residential use, see Section 40702 of Rules & Regulations.
- Total Residential Multiple Dwelling WCC = Indoor Usage WCC + Outdoor Usage WCC.
  - Indoor Usage WCC = 0.4 UOC x Number of Units x Base Rate WCC.
  - Outdoor Usage WCC is determined by meter size and estimated MDD in accordance with non-residential assessment.

Meter Set Fee:

Meter Size	5/8"	3/4"	1"	1-1/2"	2"	3"	4"
Meter Set Fee	$407	$437	$485	$681	T&M est. $2,500	T&M est. $2,890	T&M est. $4,450

Footnote:
(1) Fire service connection bypass meter (5/8") is $407 fee.

Residential Assessment of UOC & WCC:

Lot Size (Square Feet)	Assessed UOCs	Assessed WCC	Assessed Meter Size(2)
MDU (1)	0.4	$9,128	N/A
≤ 2,900	0.4	$9,128	5/8"
2,901 ≤ 4,400	0.6	$13,693	5/8"
4,401 ≤ 5,500	0.7	$15,975	5/8"
5,501 ≤ 7,000	0.9	$20,539	5/8"
7,001 ≤ 10,000	1.0	$22,821	5/8"
10,001 ≤ 17,000	1.2	$27,385	3/4"
17,001 ≤ 35,000	1.5	$34,232	3/4"
35,000 <	2.5	$57,053	1"

Footnotes:
(1) Multi-Dwelling Unit (MDU) UOC assessment is per unit and for indoor water use only. A separate metering for outdoor water use is required.
(2) Assessed meter sizes are for monthly billing purposes only. Residential meters may be upsized up to a 1" meter to accommodate fire sprinkler systems requirements. The meter set fee of actual meter size installed shall be used when upsized for fire sprinkler systems.

Non-residential Assessment of UOC & WCC:

Meter Size	Assessed UOCs	Allowable MDD	Max Flowrate (GPM)	Assessed WCC
5/8"	1.0	1,150	20	$22,821
3/4"	1.5	1,725	30	$34,232
1"	2.5	2,875	50	$57,053
1-1/2"	5.0+	5,750	100	$114,105
2"	8.0+	9,200	160	$182,568
3"	16.0+	18,400	320	$365,136
4"	25.0+	28,750	500	$570,525

Footnotes:
(1) The WCCs and UOC shown for 1–1/2" and larger meters (> 5.0 UOC) are minimums; see Section 40704 of Rules & Regulations.
(2) For 1–1/2" and larger meters, the Applicant shall submit MDD estimate to determine assessed UOC.
(3) Customer can be assessed additional WCC for exceeding the Allowable MDD estimate in accordance with Section 40706 of Rules & Regulations.