Section 7. Safety & Noise

Public Health and Safety

Introduction

Jurisdictions planning for future development and conservation must consider a wide range of public safety issues. Safety hazards can be natural in origin, such as seismic and geologic hazards, flooding, and wildland fire hazards. Others may be the result of natural hazards that are exacerbated by human activity and alteration of the natural environment, such as urban fires and development in sensitive areas such as floodplains and areas subject to erosion. Other hazards are manmade, including the introduction of hazardous materials. Many of these hazards can be avoided through careful planning and site design.

This section inventories and assesses the major hazards confronting Loomis, including seismic and geologic hazards, wildland and urban fires, flooding, and hazardous materials incidents. This section also assesses the noise environment of Loomis, which contributes to the health and safety of the community.

Seismic and Geologic Hazards

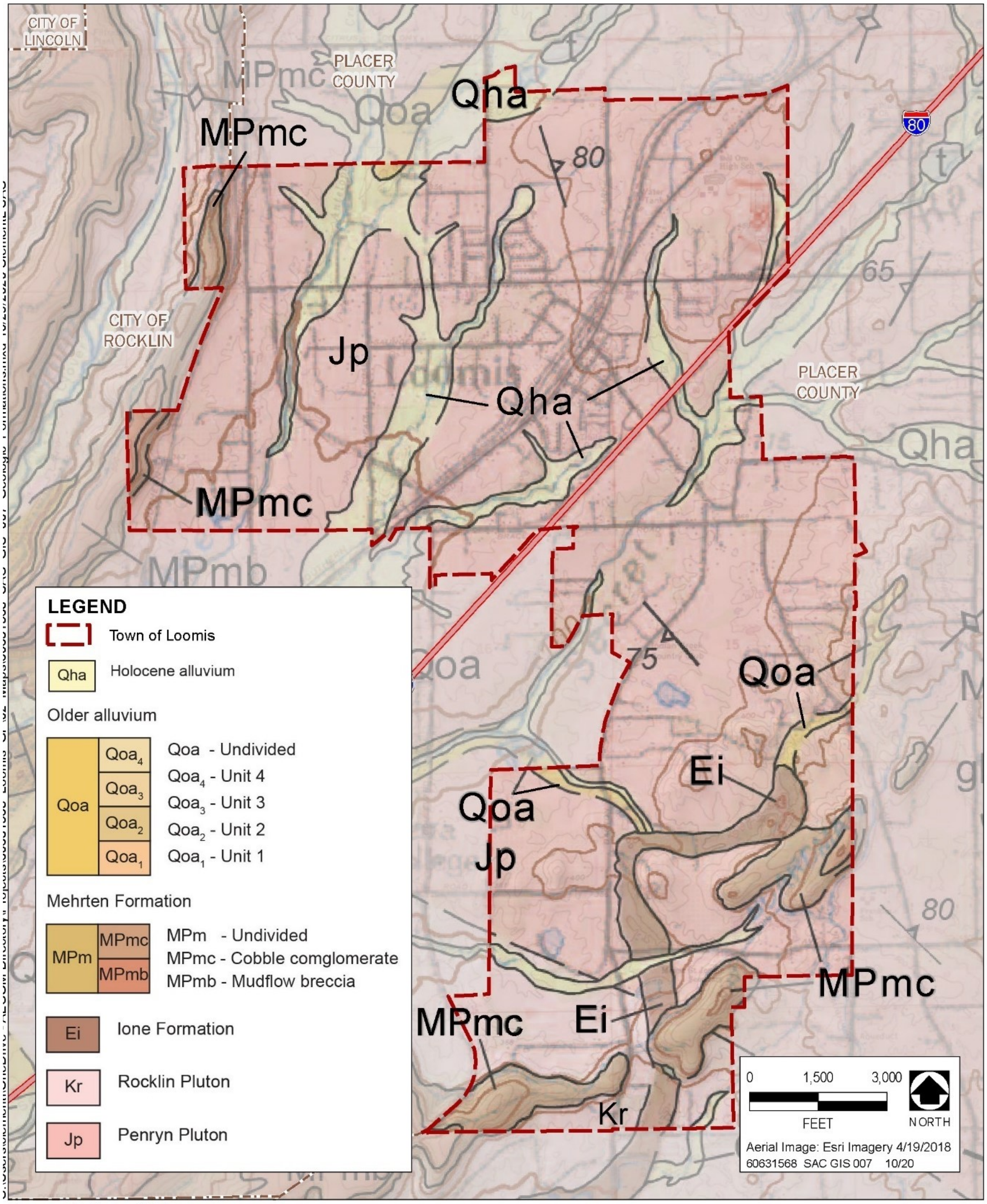
Seismic and geologic concerns can present a variety of hazards for people and structures. These hazards include surface fault rupture, strong seismic ground shaking, liquefaction, lateral spreading, subsidence, landslides, seiches, soil erosion, and expansive/unstable soils. Each of these potential hazards are addressed below.

Regional and Local Geology

The Planning Area is located along the western margin of the Sierra Nevada foothills, on the western side of the Sierra Nevada geomorphic province. The western slope of the Sierra Nevada dips gently westward and extends beneath sediment of the Great Valley province. The Planning Area is located within the Penryn and Rocklin Pluton—Lower Cretaceous age (approximately 145.5 to 99.6 million years Before Present [B.P.]) formations composed of quartz diorite (see Figure 7-1) (Gutierrez 2011). Plutonic rocks are igneous in nature; they formed from magma that cooled deep underground and intruded into the surrounding rock formations.

Scattered outcrops of the late Pliocene–early Miocene age (approximately 9 million years B.P.) Mehrten Formation are exposed at the surface in the northwestern and southeastern portions of the Planning Area. The Mehrten Formation consists predominantly of volcanic mudflow and ash deposits; however, it also includes occasional beds of andesitic boulders, cobbles, and gravels in a sandstone matrix (i.e., alluvial deposits).

The Ione Formation outcrops at the surface at the southeastern edge of the Planning Area. This formation occurs as a 200-mile-long series of isolated exposures along the western foothills of the Sierra Nevada, from Oroville south to Friant in Fresno County. The Ione Formation consists of quartzose sandstone, conglomerate, and claystone that is generally soft and deeply eroded. Locally, it contains beds of kaolinite clay. The Ione formed from fluvial, estuarine, and shallow marine deposits of Eocene age (approximately 35 to 55 million years B.P.).



Source: Gutierrez 2011

Geologic Formations

Town of Loomis General Plan and EIR

Figure 7-1. Geologic Map

Two small areas of undivided Older Alluvium, which is of early to late Pleistocene-age (11,700 to 2.6 million years B.P.), are present in the Planning Area south of Interstate (I-)80. The Older Alluvium comprises alluvial fan, stream terrace, basin, and channel deposits. The topography in these two areas is gently rolling with little or no original alluvial surfaces preserved.

Finally, Holocene-age (the last 11,700 years) alluvial deposits are present along streambeds in the Planning Area, primarily associated with Antelope Creek, Sucker Ravine, and Secret Ravine.

Regional and Local Faulting

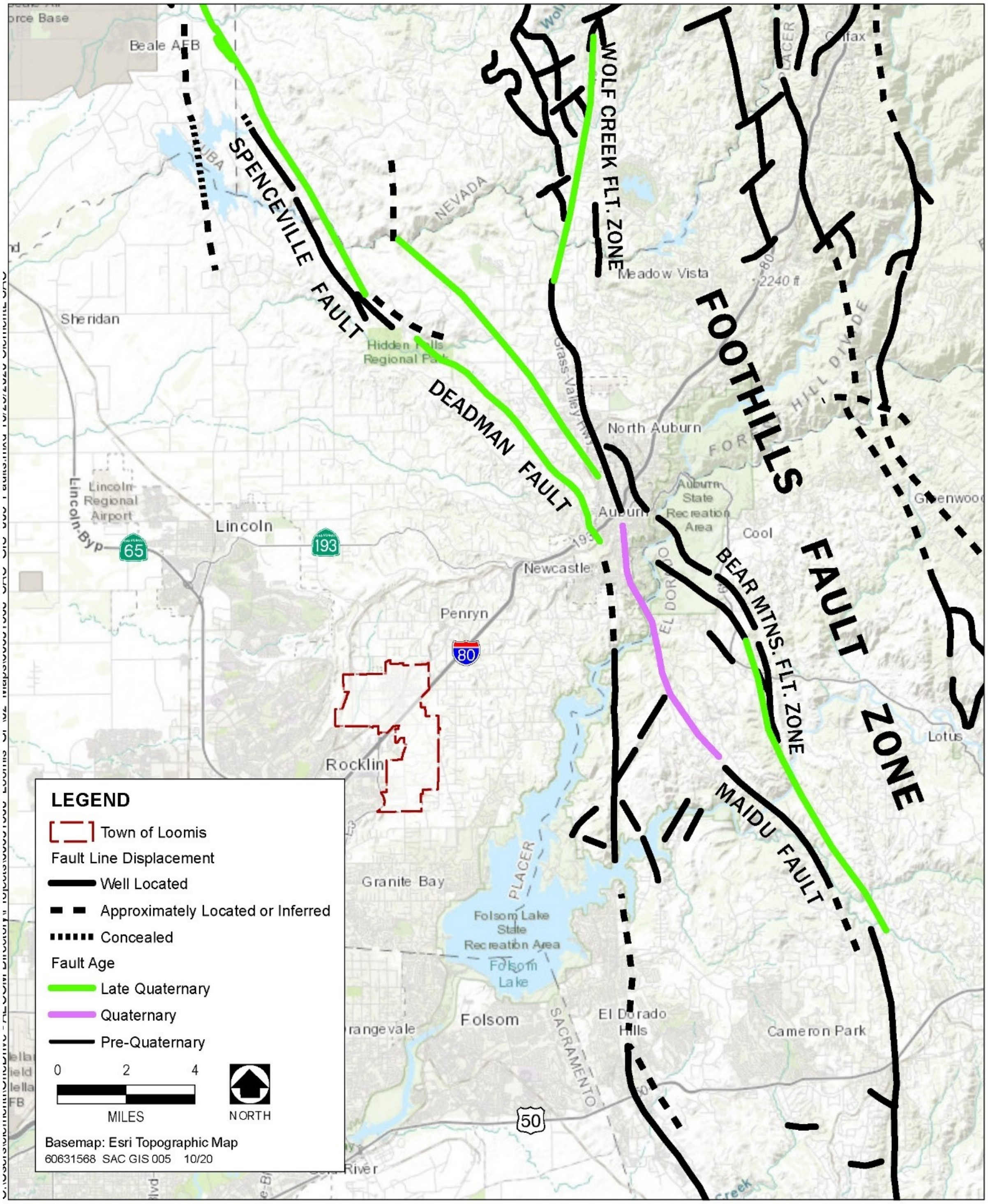
The nearest major fault system near Loomis is the Foothills Fault System, which traverses Amador, El Dorado, and Placer counties in a path more than 200 miles long and 6 miles wide (see Figure 7-2). The Foothills Fault System is a broad zone of northwest-trending east-dipping normal faults formed along the margin of the Great Valley and the Sierra Nevada geologic provinces, on the western flank of the Sierra Nevada and southern Cascade mountain ranges. The Bear Mountains Fault Zone, which is part of the Foothills Fault System, includes several potentially active faults, including the Spenceville, Deadman, and Dewitt Faults. The Deadman Fault is approximately 6 miles northeast of the Planning Area. The potentially active Wolf Creek Fault Zone (also part of the larger Bear Mountains Fault Zone) is approximately 12 miles to the northeast.

Geologists have determined that the greatest potential for surface fault rupture and strong seismic ground shaking is from active faults; that is, faults with evidence of activity during the Holocene epoch. Faults classified as “potentially active” (where there is evidence that movement has occurred during the Quaternary period, which is currently defined as the last 2.6 million years), have a lower potential for surface fault rupture and strong seismic ground shaking.

No active faults are known to exist in Placer County, and no Alquist-Priolo Special Studies Zones are designated in the county. The nearest known active fault that has been mapped by the California Geological Survey is the Dunnigan Hills Fault, well to the west of the Town on the opposite side of the Sacramento Valley. Investigations performed for the proposed Auburn Dam indicated that, in the vicinity of Folsom Lake (east of the Planning Area), the Foothill Fault System may be capable of producing a magnitude 6.5 Richter Scale event (U.S. Geological Survey Auburn Project Review Team 1996). In 1975, a magnitude 5.7 earthquake was recorded on the Cleveland Hills Fault within the Foothill Fault System south of Lake Oroville, although the most likely cause of the earthquake was later determined to be a result of reservoir-induced stress.

Because the Spenceville, Deadman, and Dewitt Faults, the Wolf Creek Fault Zone, and the Bear Mountains Fault Zone east of Folsom Lake, have shown evidence of activity in the last 700,000 years, they are considered potentially active. There is no evidence of activity along the Melones Fault (approximately 15 miles east of the Planning Area) during the Quaternary period. The last seismic event recorded in the area with a magnitude of 4.0 or greater was in 1907, with an epicenter between Auburn and Folsom, possibly associated with the Bear Mountain Fault.

An inactive, inferred local fault was mapped approximately 3,000 feet southeast of the Planning Area’s southern boundary in 1974 (Gutierrez 2011); this fault is not included in the California Geological Survey Fault Activity Map of California (Jennings and Bryant 2010). The potential for seismic events originating from this fault is considered low (see Figure 7-1, Geologic Map).



Source:Jennings and Bryant 2010 Fault Activity Map of California

Regional Faults

Town of Loomis General Plan and EIR

Figure 7-2. Regional Faults

Seismic Hazards

The Planning Area is located within the Penryn and Rocklin Plutons—rock formations that are composed of quartz diorite (similar to granite), which intruded into the surrounding Sierra Nevada batholith. During seismic events, this material tends to react as a uniform block, which has the effect of reducing ground movement, acceleration, and the likelihood of ground rupture. Consequently, the Planning Area is in a lower risk category in terms of potential damage from an earthquake on the potentially active faults to the east.

Typical seismic hazards include surface rupture, groundshaking, and various types of ground failure (such as liquefaction, lateral spreading, subsidence, and landslides). The potential for these hazards to occur in the Planning Area is described below.

Surface Rupture

Surface rupture is the actual cracking or breaking of the ground along a fault during an earthquake. Structures built over an active fault can be torn apart if the ground ruptures. Surface ground rupture along a fault generally is limited to a linear zone a few yards wide. The Alquist-Priolo Earthquake Fault Zoning Act was enacted to prohibit structures designed for human occupancy from being built across the traces of active faults, thereby reducing the loss of life and property from an earthquake.

- There are no Alquist-Priolo Earthquake Fault Zones delineated by California Geological Survey, nor are there any other known faults within the Planning Area. Therefore, the likelihood of surface rupture in the Planning Area is considered low.

Groundshaking

Groundshaking is the vibration that radiates from the earthquake source. The severity of groundshaking and its potential to cause damage to buildings is determined by several factors:

- The nature of the underlying soil and geology;
- The location of the earthquake source;
- The earthquake magnitude;
- The duration and character of the ground motion;
- The structural characteristics of a building; and
- The quality of workmanship and materials used in buildings.

Portions of the Planning Area are located on Holocene-age, unconsolidated alluvial deposits, which can increase the potential for groundshaking damage. As earthquake waves pass from more dense rock to less dense alluvial material, they tend to reduce velocity, but increase in amplitude (i.e., size). A bigger earthquake wave causes stronger shaking. As a result, structures located on these types of materials may suffer greater damage. "Poor ground" can be a greater hazard for structures than close proximity to the fault or the earthquake's epicenter. The potential for groundshaking may be considered highest on the Holocene-age alluvial deposits along the creeks and ravines in the northern portion of the Planning Area (see Figure 7-1).

Earthquakes can be measured in several ways. Earthquakes create certain types of waves with different velocities, which can be recorded on instruments called seismometers. For purposes of geotechnical reports and compliance with the California Building Standards Code (CBC), scientists use computer models to project the anticipated amount of ground shaking by calculating the peak horizontal ground acceleration. The California Geological Survey Probabilistic Seismic Hazards Assessment Model (CGS 2008) indicates there is a 1-in-10 probability that an earthquake within 50 years would result in a peak horizontal ground acceleration of approximately 0.139*g* (where *g* is a percentage of gravity), which indicates that a low level of seismic ground shaking is anticipated in the Planning Area. The lack of nearby active faults and historic records suggest that the probability of large magnitude events occurring in the Planning Area is very low. Furthermore, the potential for structural damage from seismic hazards is minimized for all types of new development, which must be constructed in accordance with applicable CBC requirements (see the "Regulatory Background" subsection below for details).

Older buildings constructed before building codes were in effect are most likely to suffer damage in an earthquake. Many of Loomis's buildings are one or two stories high, and of wood frame construction, which is considered relatively resistant to earthquake damage. However, the Town also includes older buildings constructed with unreinforced masonry, which are highly susceptible to damage from severe groundshaking (Town of Loomis 1998). The downtown area in particular includes a high percentage of older buildings with brick facades, indicating that this portion of the community is at relatively higher risk.

Liquefaction

Liquefaction is restricted to certain geologic and hydrologic environments, primarily Holocene-age loose (unconsolidated), water-saturated, fine grained sand and silt in areas with high groundwater levels. The process of liquefaction involves seismic waves passing through saturated granular layers, distorting the granular structure, and causing the particles to collapse. This causes the granular layer to behave temporarily as a viscous liquid rather than a solid, resulting in liquefaction. Liquefaction can cause the soil beneath a structure to lose strength, which may result in the loss of foundation-bearing capacity. This loss of strength commonly causes the structure to settle or tip. Loss of bearing strength can also cause light buildings with basements, buried tanks, and foundation piles to rise buoyantly through the liquefied soil.

Because the Planning Area is composed of solid, Jurassic-age bedrock, the potential for liquefaction is generally low. Although the Holocene-age alluvial deposits present along the ravines and creeks (i.e., Antelope Creek, Secret Ravine, and Sucker Ravine) are more susceptible to liquefaction, these deposits are underlain by bedrock at a shallow depth, and given that the potential for strong seismic ground shaking is low, liquefaction is unlikely to represent a hazard in the Planning Area. There are no liquefaction Seismic Hazard Zones delineated by California Geological Survey in the Planning Area.

Subsidence

Seismically-induced subsidence is the compaction of soils and alluvium caused by groundshaking. It occurs irregularly and is largely a function of the underlying soils. Depending on the event, the amount of compaction can vary from a few inches to several feet. Because the Planning Area is composed of solid, Jurassic-age bedrock, the potential for subsidence is generally low. Although the Holocene-age unconsolidated alluvial deposits along Antelope Creek, Secret Ravine, and Sucker Ravine are more susceptible to subsidence, significant subsidence problems have not been identified in the Planning Area. Furthermore, given the low probability of strong seismic ground shaking, seismically-induced settlement is unlikely to represent a substantial hazard in the Planning Area.

Lurch Cracking and Lateral Spreading

Lateral spreading is lateral ground movement, with some vertical component, as a result of liquefaction. In effect, the soil rides on top of the liquefied layer outward from under buildings, roads, pipelines, transmission towers, railroad tracks, and other structures such as bridges. Damage is usually greatest to large or heavy structures on shallow foundations, and takes the form of cracking, tilting, and differential settlement. Where gentle slopes exist such as on stream or slough banks, liquefaction may cause lateral spreading landslides. Whole buildings can be moved downslope by this type of ground failure. Where the condition is known to exist, structural and foundation design can usually minimize or eliminate liquefaction hazard to new construction. Lateral spreading can also occur on relatively flat sites with slopes less than 2 percent, under certain circumstances, and can cause ground cracking and settlement. Lurching is the movement of the ground surface toward an open face when the soil liquefies. An open face could be a graded slope, stream bank, canal face, gully, or other similar feature. The potential for these hazards is greatest on Holocene-age unconsolidated alluvial deposits where the groundwater table is high. In the Planning Area, this would include areas adjacent to Antelope Creek, Secret Ravine, and Sucker Ravine. However, given the low probability for strong seismic ground shaking or liquefaction, seismically-induced lateral spreading or lurching is unlikely to represent a substantial hazard in the Planning Area.

Seiches and Tsunamis

Seiches are earthquake-generated waves within enclosed or restricted bodies of water. However, because no sizable lakes or reservoirs are present in the Planning Area, and the location of highest probability of impact within Placer County are shore areas of Lake Tahoe over 50 straight-line miles away, there are no seiche hazards. A tsunami is a series of waves in a water body resulting from the displacement of a large volume of water. Tsunamis are generally caused by earthquakes or undersea volcanic eruptions. Because the Planning Area is approximately 100 miles from the Pacific Ocean, tsunamis do not represent a hazard.

Landslides

Landslides may be triggered by numerous processes including oversaturated soils (after heavy rains) or by earthquakes. Landslide potential is highest in steeply-sloped areas, particularly those areas underlain with saturated and unconsolidated soil. As shown in Figure 7-3, the steepest slopes in Loomis are located west of Antelope Creek (west of Sierra College Boulevard), and in the southern portion of the Planning Area. Some slopes exceed 45 percent in these ~~is~~ areas. However, the underlying geology of the area is generally quartz diorite with outcrops of Mehrten volcanics; these are solid geologic foundation materials not highly susceptible to landslides. Most other portions of the Planning Area are relatively level or gently sloping, and thus are not susceptible to landslides. There are no landslide Seismic Hazard Zones delineated by California Geological Survey in the Planning Area.

Soil Hazards

Soils in the Planning Area are shown on Figure 7-4. Table 7-1 provides data on the soil types found in the Planning Area based on the Natural Resources Conservation Service (NRCS 2020) soil survey data.

Erosion

Erosion is the detachment and movement of soil materials through natural processes or human activities. In general, rates of erosion can vary depending on the soil's capacity to drain water, slope angle and length, extent of groundcover, and human influence. Human activities, such as earthmoving activities during construction, can expose soil to water erosion during the winter rainy season. Stormwater runoff can transport sediment into storm drains and local waterbodies, which can in turn degrade existing water quality and impair beneficial uses designated in the Basin Plan. In extreme cases of erosion, watercourses can be downcut and gullies develop that can eventually undermine adjacent structures or vegetation.

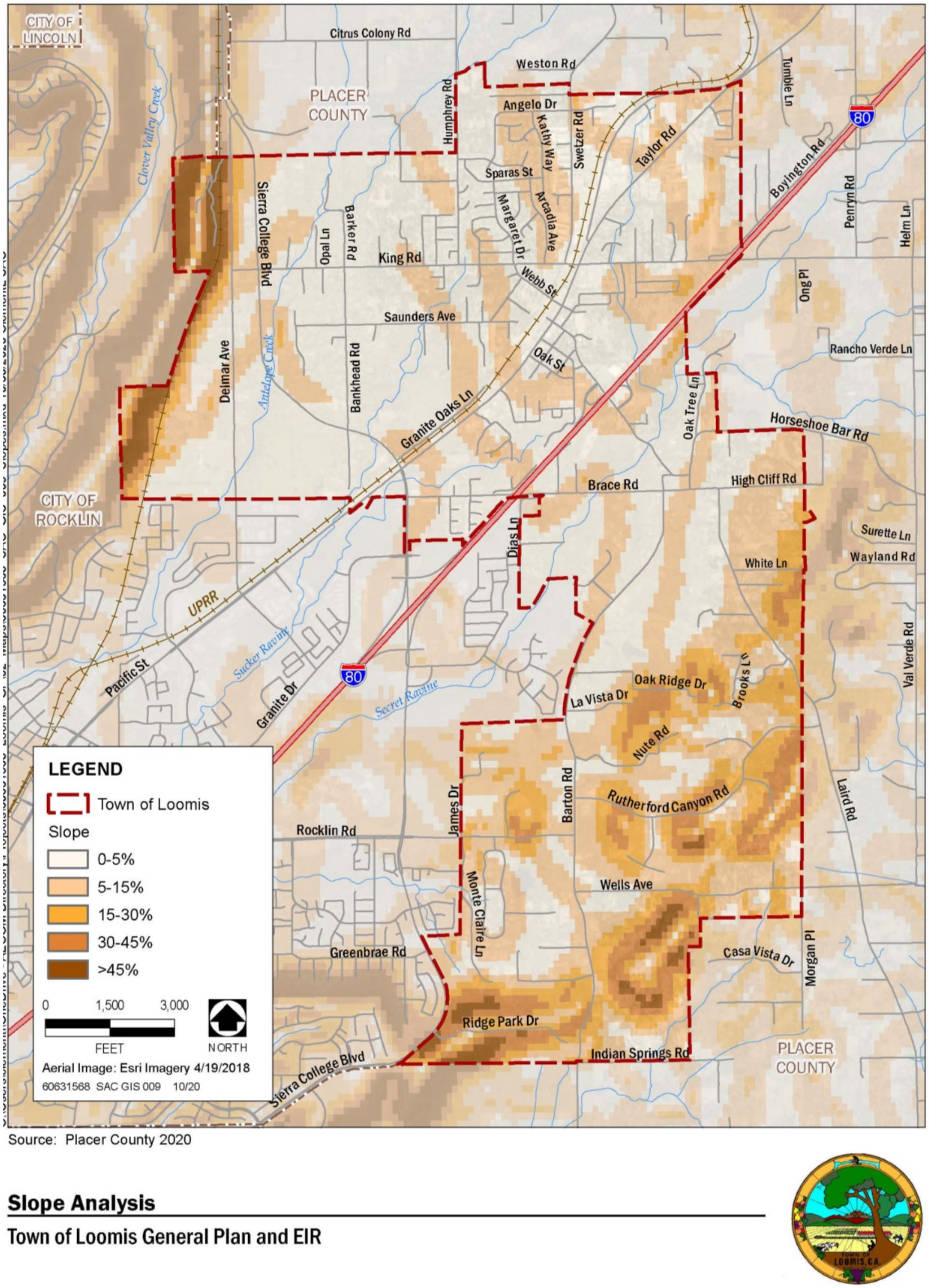
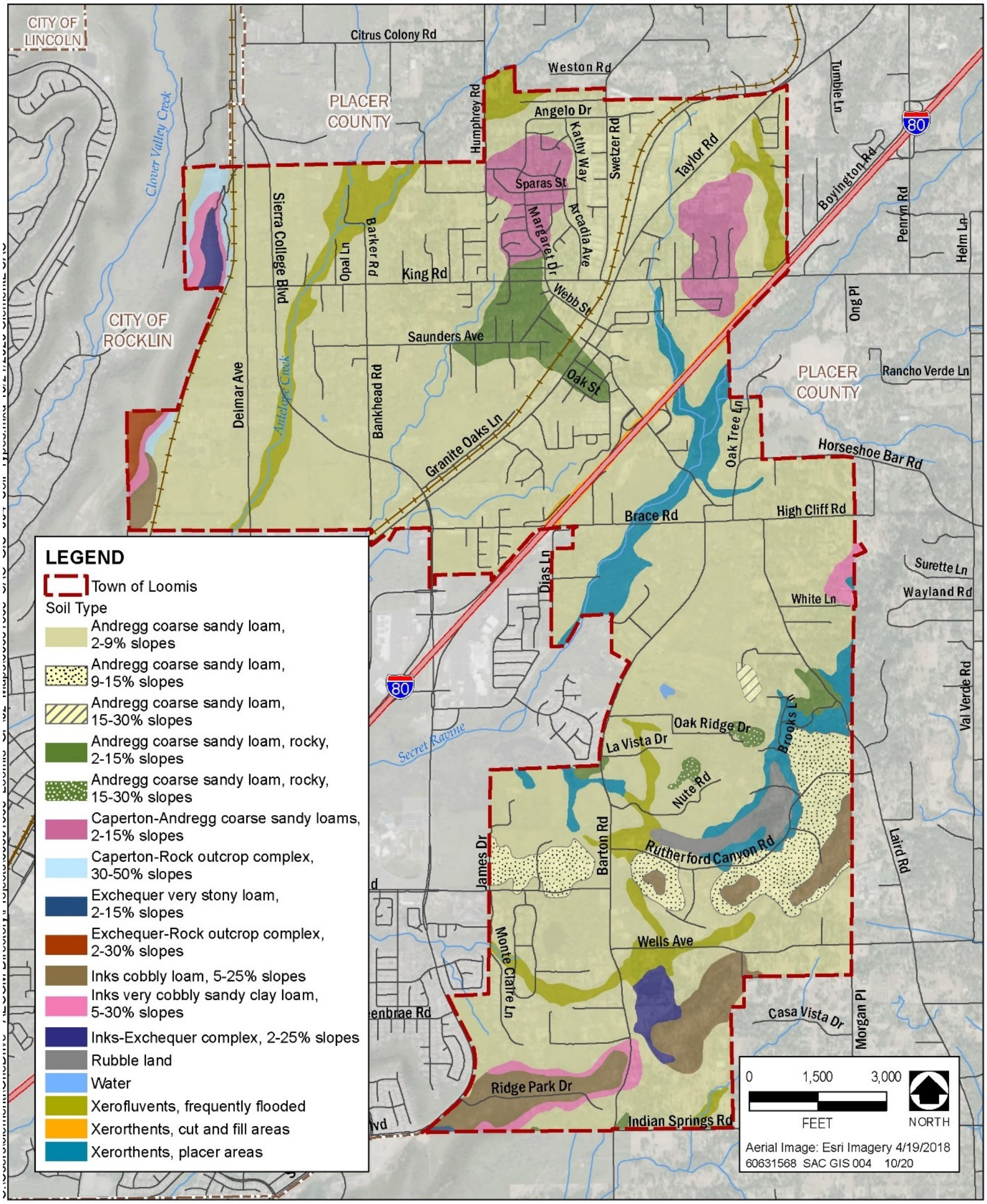


Figure 7-3. Slopes in the Planning Area



Source: USDA NRCS, May 2020 (SSURGO)

Soil Types

Town of Loomis General Plan and EIR

Figure 7-4. Soils in the Planning Area

Table 7-1. Soil Characteristics in the Planning Area

Soil Type	Shrink-Swell Potential[1]	Permeability[2]	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard[3]	Wind Erosion Hazard[4]	Hydrologic Group (Runoff Potential)[5]	Limitations for Development
Andregg coarse sandy loam, 2–9% slopes	Low	High	Well drained	Very limited	Low	3	B	*Dwellings and Local Roads and Streets:* Not limited *Small Commercial Buildings:* Somewhat limited (slope)
Andregg coarse sandy loam, 9–15% slopes	Low	High	Well drained	Very limited	Low	3	B	*Dwellings and Local Roads and Streets:* Somewhat limited (slope) *Small Commercial Buildings:* Very limited (slope)
Andregg coarse sandy loam, 15–30% slopes	Low	High	Well drained	Very limited	Low	3	B	*Dwellings, Small Commercial Buildings, and Local Roads and Streets:* Very limited (slope)
Andregg coarse sandy loam, rocky, 2–15% slopes	Low	High	Well drained	Very limited	Low	3	B	*Dwellings and Local Roads and Streets:* Somewhat limited (slope) *Small Commercial Buildings:* Very limited (slope)
Andregg coarse sandy loam, rocky, 15–30% slopes	Low	High	Well drained	Very limited	Low	3	B	*Dwellings, Small Commercial Buildings, and Local Roads and Streets:* Very limited (slope)
Caperton-Andregg coarse sandy loams, 2–15% slopes	Low	High	Somewhat excessively drained	Very limited	Moderate	3	D	*Dwellings and Local Roads and Streets:* Somewhat limited (slope, shallow depth to bedrock) *Small Commercial Buildings:* Very limited (slope, shallow depth to bedrock)
Caperton-Rock outcrop complex, 30–50% slopes	Low	High	Somewhat excessively drained	Very limited	Moderate	5	D	*Dwellings and Small Commercial Buildings:* Very limited (slope, shallow depth to bedrock)

Soil Type	Shrink-Swell Potential[1]	Permeability[2]	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard[3]	Wind Erosion Hazard[4]	Hydrologic Group (Runoff Potential)[5]	Limitations for Development
Exchequer very stony loam, 2–15% slopes	Low	High	Somewhat excessively drained	Very limited	Low	7	D	*Dwellings, Small Commercial Buildings, and Local Roads and Streets:* Very limited (shallow depth to bedrock, large stones)
Exchequer-Rock outcrop complex, 2–30% slopes	Low	High	Somewhat excessively drained	Very limited	Low	7	D	*Dwellings, Small Commercial Buildings, and Local Roads and Streets:* Very limited (slope, shallow depth to bedrock, large stones)
Inks cobbly loam, 5–25% slopes	Low	Moderately high	Well drained	Very limited	Moderate	7	D	*Dwellings, Small Commercial Buildings, and Local Roads and Streets:* Very limited (slope, shallow depth to bedrock, large stones)
Inks very cobbly sandy clay loam, 5–30% slopes	Low	Moderately high	Well drained	Very limited	Low	7		*Dwellings and Local Roads and Streets:* Somewhat limited (slope, shallow depth to bedrock) *Small Commercial Buildings:* Very limited (slope, shallow depth to bedrock)
Inks-Exchequer complex, 2–25% slopes	Low	Moderately high	Well drained	Very limited	Low	6	D	*Dwellings and Local Roads and Streets:* Somewhat limited (slope, shallow depth to bedrock, large stones) *Small Commercial Buildings:* Very limited (slope, shallow depth to bedrock, large stones)
Rubble land	Low	Very high	Excessively drained	Very limited	NR	NR	NR	*Dwellings and Small Commercial Buildings:* Very limited (large stones, slope) *Local Roads and Streets:* Very limited (low strength, large stones, slope)

Soil Type	Shrink-Swell Potential[1]	Permeability[2]	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard[3]	Wind Erosion Hazard[4]	Hydrologic Group (Runoff Potential)[5]	Limitations for Development
Xerofluvents[6], frequently flooded	Moderate	High	Somewhat poorly drained	Very limited	Moderate	3	B	*Dwellings, Small Commercial Buildings, and Local Roads and Streets:* Very limited (Flooding, shrink-swell potential)
Xerorthents[7], cut and fill areas	NR	NR	Well drained	NR	NR	NR	NR	NR
Xerorthents[7], placer areas	NR	NR	Well drained	NR	NR	NR	NR	NR

Notes: NR = not rated

[1] Based on percentage of linear extensibility, shrink-swell potential ratings of "moderate" to "very high" can result in damage to buildings, roads, and other structures.

[2] Based on standard NRCS saturated hydraulic conductivity (Ksat) class limits. Ksat refers to the ease with which pores in a saturated soil transmit water.

[3] Based on the erosion factor "Kw whole soil," which is a measurement of relative soil susceptibility to sheet and rill erosion by water.

[4] Soils assigned to wind erodibility group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.

[5] Hydrologic soil groups are based on estimated runoff potential: Group A = high infiltration rate and low runoff potential, Group B = moderate infiltration rate and moderate runoff potential, Group C = slow infiltration rate and high runoff potential, Group D = very slow infiltration rate and very high runoff potential.

[6] These soils are found as narrow stringers of recent alluvium adjacent to stream channels; they consist of stratified gravelly clay or sandy loams that generally grade to sand and gravel with increasing depth.

[7] Xerorthents are materials that have modified by human activity. In cut-and-fill areas the soil has been rearranged and may include artificial fill. In placer areas, the soil consists of stony, cobbly and gravelly material commonly adjacent to streams that have been placer mined.

Source: Natural Resources Conservation Service 2020

Most soils can be categorized into hydrologic soil groups (which apply only to surface soil layers) based on runoff-producing characteristics. Hydrologic soil groups are factored into calculations of erosion potential when drainage plans are prepared. The Andregg soils, which comprise most of the Planning Area, have low water erosion hazard, a moderately high wind hazard, and a moderate runoff potential. The remaining soils in the Planning Area contain greater amounts of cobbles and rocks and are located on sloped areas; these soils have a low wind erosion hazard, a low to moderate water erosion hazard, but a high runoff potential (see Table 7-1) (NRCS 2020).

Unstable Soils

Soil properties influence the development of building sites, including the site selection, structure design, construction, performance after construction, and site and structure maintenance.

Shrink-swell potential is the relative change in volume that occurs with changes in moisture content. In other words, the extent to which the soil shrinks as it dries out or swells when it gets wet. Shrinking and swelling is influenced by the amount of clay in the soil. Shrinking and swelling of soils can cause damage to building foundations, roads, and other structures. Damage, such as cracking of foundations, results from differential movement and from the repetition of the shrink-swell cycle. Hazards from construction in areas with moderate to high shrink-swell potential can be remediated by removing the clay layer in the soil and replacing it with compacted artificial fill, or by soil treatment with lime. As shown in Table 7-1, Planning Area soils have a low clay content and a low shrink-swell potential (NRCS 2020).

The NRCS (2020) soil database indicates the limitations of soils with respect to dwellings, local roads and streets, and small commercial buildings. The rating system indicates the extent to which the soils are limited by the soil features that affect building site development. NRCS soil limitations are based on the soil properties that affect the capacity of the soil to support a load without movement, and on the properties that affect excavation and construction costs. Hazards from unstable soils can also result from low bearing strength. In addition, subsidence and liquefaction can occur from the weight of construction equipment in areas where a clay layer is present at a shallow depth, combined with a shallow groundwater table. However, as shown in Table 7-1, these hazards are not present in the Planning Area. The NRCS has rated most Planning Area soils with limitations related to a shallow depth to bedrock, slope, and large stones (see Table 7-1).

Soil Suitability for Septic Systems

A conventional septic system consists of a septic (holding) tank and a leachfield (generally consisting of perforated pipe on top of gravel). Effluent filters through the gravel and into the soil below. For a septic system to function properly, soils must percolate (or "perc")—that is, a certain volume of wastewater must flow through the soil in a certain time period, as determined by a licensed engineer. Wastewater is "treated" as soil bacteria feed on the waste material and in the process, break down the material into more basic elements that are dispersed into the lower layers of the soil horizon. If wastewater percolates through the soil too quickly, the bacteria do not have enough time to digest the material. On the other hand, if wastewater percolates through the soil too slowly, the bacteria are killed by the lack of oxygen.

Soils in the Planning Area consist of a shallow layer of silt, sand, or cobbles, underlain by bedrock. These shallow soils have a high to moderately high permeability (i.e., a low water holding capacity) and thus tend to "perc" too quickly, rendering them unsuitable for septic systems. Based on a review of NRCS (2020) soil data, all of the soils in the Planning Area are rated as very limited for conventional septic systems. However, in most instances, a licensed engineer can design an alternative septic system that is suitable for single-lot residential use even where soil conditions are not optimal.

Naturally Occurring Asbestos

Certain areas of Placer County, such as Iowa Hill, are known to contain naturally-occurring asbestos (NOA). Asbestos is the common name for a group of silicate minerals that can separate into thin but strong and durable fibers. If these fibers are inhaled, they can cause lung cancer and mesothelioma. The presence of asbestos in nature is related to the chemistry of rocks in an area and the different geologic processes that have acted on those rocks through time. NOA is found primarily in ultramafic rocks and serpentinite, but has also been reported in mafic metavolcanic rocks, and metamorphosed or altered gabbro. Also, soils derived from weathering of ultramafic rocks and serpentinite may contain NOA (Higgins and Clinkenbeard 2006). As described previously, the geologic formations in the Town consist of quartz diorite, volcanic ash and mudflow deposits, quartzose sandstone and claystone, and alluvial deposits. As a result, NOA does not represent a hazard in the Town.

Wildland & Urban Fire Hazards

Loomis faces two types of fire hazards that threaten lives and property: urban and wildland fires. Wildland fires may also result in the loss of natural vegetation, loss of agricultural crops, and soil erosion. The threat posed by each type of fire hazard is described below.

Wildland Fires

The outbreak and spread of wildland fires within the Planning Area is a potential danger, particularly during the dry summer and fall months. Various factors contribute to the intensity and spread of wildland fires: humidity, wind speed and direction, vegetation type, the amount of vegetation (fuel), and topography. Wildland fires can be caused by lightning strikes, malfunctioning equipment and vehicle engines, arson, or simple carelessness.

Based on wildfire hazard mapping conducted by the California Department of Forestry and Fire Protection (CAL FIRE 2020), the Planning Area is located with a Local Responsibility Area. Therefore, the primary responsibility for firefighting efforts lies with local agencies; in this case, the South Placer Fire District (which consolidated with the Loomis Fire Protection District in 2017). No Very High Fire Severity Zones have been designed by California Department of Forestry and Fire Protection (CAL FIRE) in the Planning Area. Rural areas immediately adjacent to the north and east of the Planning Area are located within a State Responsibility Area, meaning that CAL FIRE is primarily responsible for fire-fighting efforts, and these areas have been identified by CAL FIRE as moderate fire hazard severity zones.

The rural portions of the Planning Area, along with the adjacent rural areas to the north and east in Placer County, all consist of extensive grasslands and oak woodlands in rolling terrain, and are subject to hot, dry summers with frequent wind gusts. Grassland fires are not as potentially intensive as mountainous brush and tree fires (which are generally classified as High or Very High Fire Hazard Severity Zones). Because the topography, climate, and vegetation of the rural portions of the Planning Area are the same as those designated by CAL FIRE as Moderate Fire Hazard Severity Zones to the north and east, the Town of Loomis, in conjunction with Placer County (2016), has determined that these rural portions of the Planning Area should also be considered as Moderate Fire Hazard Severity Zones. Finally, the Town has designated a small portion of the Planning Area south of Brace Road, southwest of Secret Ravine, as a High Fire Hazard Severity Zone (see Figure 7-5).

California Public Resources Code Section 4291 requires property owners to maintain a minimum of 100 feet of defensible space around structures. A description of the specific vegetative management actions required within the 100-foot zone is available from CAL FIRE (https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/defensible-space/). Loomis Municipal

Code Section 13.34.050 states that on sites in heavily wooded and/or vegetated areas of the Planning Area identified by the fire district as being fire-prone, fire prevention will be addressed by providing fire-resistant landscaping buffers between development areas and naturally vegetated areas. Outdoor burn permits, for burning of vegetative materials, are required between April 15 and December 1 of each year (Loomis Municipal Code Section 7.08.010). Roadway widths and turning radii requirements in the planning area have been designed to allow for appropriate emergency access; these requirements are set forth in the Town of Loomis Land Development Manual (2004), which has been adopted in Loomis Municipal Code Section 9.04.010. Peaking factors in terms of water supply for firefighting efforts are addressed in Section 5, “Public Services and Facilities.”

Although small grass fires are common in the Planning Area, they have historically been limited in size by prompt emergency response. In 2002, the Planning Area was affected by the Sierra Fire, which burned 900 acres, including six structures.

Urban Fires

Urban fires are primarily those associated with structures and the activities in and around them. Most urban fires are caused by human activity. Over the years, development standards have become more stringent to reduce the frequency and severity of such events. Building codes now require fire walls for adjacent structures. Local ordinances often prohibit the use of fire-prone materials, such as shake-shingle roofs. Electrical standards have also changed to reduce fire risk inside structures. Smoke detectors are now commonly required.

Urban fire hazards are greatest in areas containing older buildings that do not meet current building code requirements. Earthquakes or floods may rupture buried natural gas lines, while high winds or accidents could cause overhead electric lines to break. Either condition could result in a fire. In recent years, electric utility providers have taken the step of temporarily de-energizing the power grid during high wind events, particularly in the fall months when the fire danger is greatest, in order to avoid fires from overhead power lines and transformers.

Once an urban fire starts, fast emergency response is critical to ensure that the fire does not spread. Urban fires by their nature occur in areas with a high density of human occupation and property. Therefore, the threat to life and property is high.

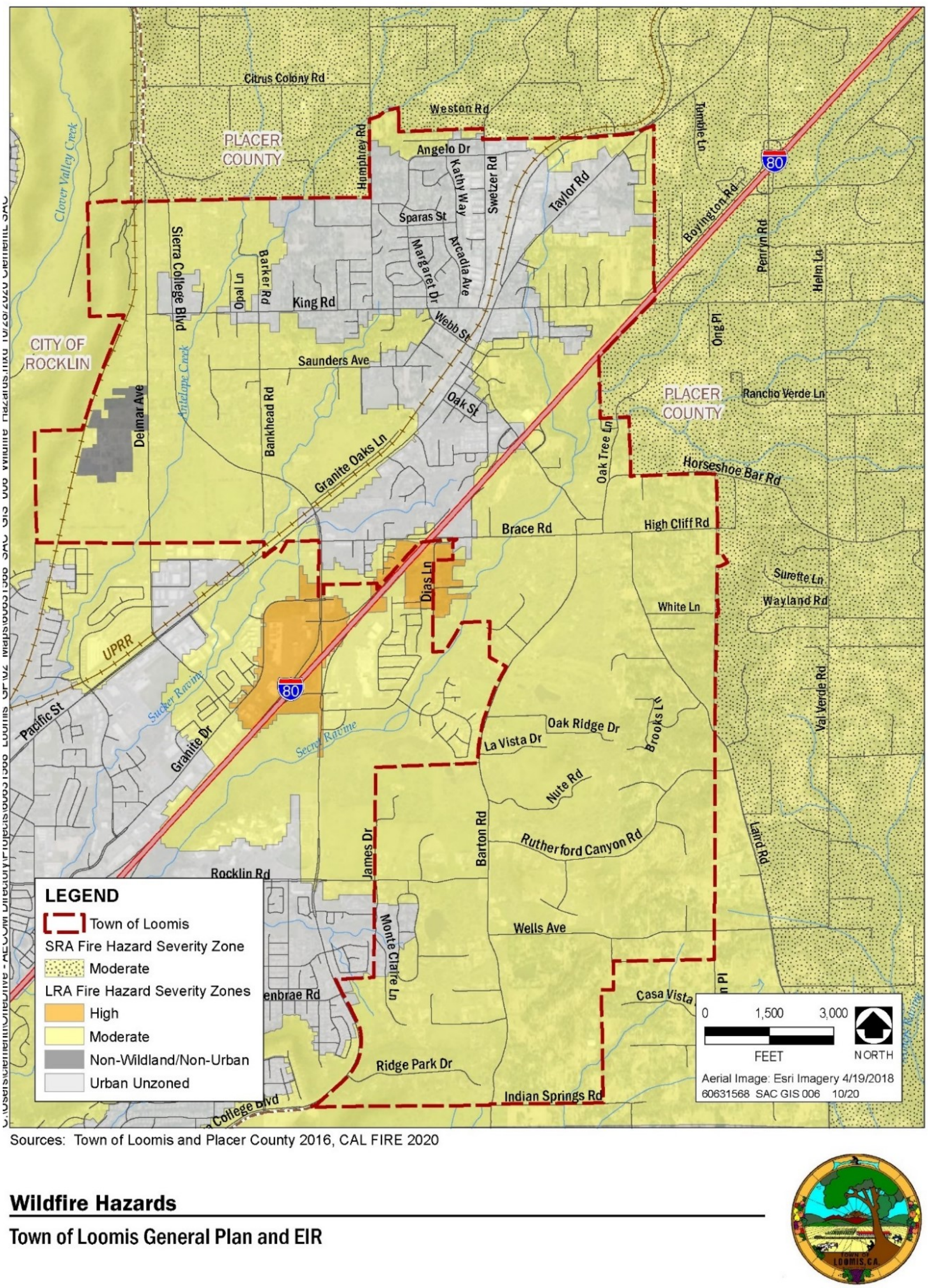


Figure 7-5. Wildland Fire Hazards

Evacuation Routes

Evacuation routes are necessary for the safe and effective community response to a wild land fire or any other incident that may require an evacuation of the community. An Evacuation Warning means that an event is approaching, and residents and employees should be prepared to leave. Mandatory evacuation is reserved for incidents of extreme severity or imminent loss of life. Mandatory evacuation involves the complete removal of all civilians from a given area.

The Planning Area encompasses the north and south sides of I-80, which is the primary evacuation route for planning area residents and workers. Barton Road, a two-lane arterial, is the primary north-south roadway that serves the Planning Area south of I-80. Brace Road, Rutherford Canyon Road, Wells Avenue, and a variety of other east-west roadways provide evacuation routes south of I-80. North of I-80, Sierra College Boulevard (north-south) and King Road (east-west) both provide direct freeway access. Union Pacific Railroad tracks bisect the Planning Area in a northeast-southwest direction, on the west side of I-80. The railroad tracks serve as a barrier to evacuation in the event of an emergency for the northwestern portion of the planning area; the only roadways west of I-80 that include railroad crossings are Sierra College Boulevard and King Road. Residents and workers must cross the railroad tracks at one of these two locations in order to reach I-80.

Significant loss of life has occurred during wildland fires in several areas of the state when only one evacuation route has been available. California Government Code Section 65302(g)(5) requires the General Plan Safety Element to identify residential developments in any identified hazard area that do not have at least two emergency evacuation routes. All newer residential subdivisions are required by law to have at least two points of ingress and egress. However, there are single-family residences in rural portions of the Planning Area that have only one point of ingress/egress, where those residences are located on a “dead-end” street.

Flooding Hazards

Flood Protection

The Placer County Flood Control District collaborates with Placer County communities and cities, including Loomis, to protect lives and property from the effects of flooding. The Placer County Flood Control District implements regional flood control projects, develops and implements master plans for selected watersheds in the county, provides technical support and information on flood control; operates and maintains an Alert flood warning system; reviews proposed development projects to ensure they meet Placer County Flood Control District flood control standards; develops hydrologic and hydraulic models for county watersheds; provides technical support for Office of Emergency Services activities; and manages the annual stream channel maintenance program within the Dry Creek Watershed.

The Placer County Flood Control District is collaborating with Federal Emergency Management Agency (FEMA) through the Cooperating Technical Partners Program to maintain up-to-date floodplain mapping and other flood hazard information within Placer County. The main objective of the program is to provide new or improved 1 percent annual chance floodplain, or 100-year, mapping of major creeks within developing areas of the county, including the Town of Loomis. Updated floodplain mapping for the Planning Area was completed and approved by FEMA in 2018.

The Planning Area is located within the Dry Creek Watershed (hydrologic unit code [HUC] Code 10). The most recent update to the Dry Creek Watershed Flood Control Plan was prepared by the Placer County Flood Control District in 2011. The Dry Creek Flood Control Plan identifies known flood hazard locations and causes, and includes potential projects that could be implemented to improve flood control throughout the watershed. The Dry Creek Flood Control Plan includes identification of bridges and culverts that require flood control improvements, options for regional flood control detention basins, channel improvement and restoration opportunities, and non-structural flood hazard reduction measures such as low impact development (LID) features. The Dry Creek Flood Control Plan assigns responsibilities to the Town of Loomis for continuing its capital improvement program, specifically the replacement of undersized culverts and stream crossings. The Antelope Creek Flood Control Project, one of the high-priority flood control projects recommended in the Dry Creek Watershed Flood Control Plan, will provide substantial mitigation for increases in urban runoff and peak flood flow increases due to new and existing development in the watershed. A portion of the Antelope Creek Flood Control Project has been implemented, at the upstream end of the creek. The downstream portion of the project is pending, depending on the availability of funding.

Storm drain development criteria in the planning area are based on the Placer County Flood Control District's Stormwater Management Manual (1990). The Placer County Flood Control District's Stormwater Management Manual requires that new storm drain facilities be designed to convey the runoff from a 10-year storm event.

Effects of Flooding

Flooding can cause widespread damage to affected areas. Buildings and vehicles can be damaged or destroyed, while smaller objects can be buried in flood-deposited sediments. Floods can also cause drowning or isolation of people or animals. In addition, floodwaters can break utility lines, interrupting services and potentially affecting health and safety, particularly in the case of broken sewer or gas lines.

The secondary effects of flooding are due to standing water, which can result in crop damage, septic tank failure, and well water contamination. Standing water can also damage roads, foundations, and electrical circuits.

Storm Drainage

Flooding and drainage problems in the Planning Area are caused either by creek overflow or by storm drain problems. The Planning Area is located in the Dry Creek Watershed (HUC Code 10) within the larger Lower American River Watershed (HUC Code 8). Three tributaries to Dry Creek flow through the Planning Area: Antelope Creek, Sucker Ravine, and Secret Ravine. Antelope Creek drains western Loomis and joins Dry Creek south of Loomis. Sucker Ravine flows into Secret Ravine downstream of Loomis. Secret Ravine flows into Miners Ravine and on to Cirby Creek in Roseville. Cirby Creek discharges into Dry Creek. Dry Creek flows through Placer and Sacramento counties to the Natomas East Main Drainage Canal/Steelhead Creek in Sacramento, from which the water is eventually discharged into the Sacramento River.

The Planning Area drainage system relies in large part on natural water courses and to a lesser extent on pipe and channel storm drain systems. Loomis has a limited number of storm drain facilities. The Town of Loomis Drainage Master Plan maintains the concept of open drainage ditches and cross culverts, and focuses on small-scale improvements to address problem areas.

Much of the Planning Area relies on natural drainage courses, overland flow, swales, and roadside ditches to dispose of local runoff. These are supplemented with culverts under roads and cross culverts under driveways. Large storms result in an increase in water flow rates and water volume and can cause temporary local flooding in all drainage ways, both natural and manmade. All of the storm drains in the Planning Area discharge into one of the aforementioned three Dry Creek tributaries.

Flood Hazard Zones

Loomis is a participant in the National Flood Insurance Program (NFIP). For a community to participate in the NFIP, it must adopt and enforce floodplain management regulations that meet or exceed the minimum NFIP standards and requirements contained in the Code of Federal Regulations Chapter 44.

These standards are intended to prevent loss of life and property, as well as economic and social hardships that result from flooding. The Town's Floodplain Management Regulations are contained in Loomis Municipal Code Chapter 11.08, Flood Damage Prevention.

Flooding has historically been a relatively minor hazard in the Planning Area, primarily due to its relatively elevated location within the middle Dry Creek watershed. The lower portions of the Dry Creek watershed, south of the Planning Area, have historically been hit hard by flooding, particularly in the Roseville area (where tributaries of Dry Creek converge) and in the flatlands in the Rio Linda area.

The Flood Insurance Rate Map (FIRM) produced by FEMA in 2018 identifies special flood hazard areas in the Planning Area, focusing on areas that could be inundated in the event of a 100-year flood (which statistically has a 1 percent chance of occurring in any given year). Residential, commercial, and industrial properties located in a 100-year flood zone require flood insurance. The locations of 100-year and 500-year flood plains generally occur along Secret Ravine, Antelope Creek, Sucker Ravine, and their tributaries (see Figure 7-6). No 200-year flood zones or California Department of Water Resources (DWR) awareness floodplains have been mapped in the Planning Area (DWR 2008).

Local Flooding Concerns

As discussed in the Town of Loomis Drainage Master Plan (West Yost Associates 2008), a few inadequately-sized culverts and bridges create impediments to the passage of high water flow in streams and gullies, and result in flooding hazards in the Planning Area. Undersized infrastructure typically results in short-term back-ups behind the culvert or bridge, with pooling water in such areas, in effect, an unintended detention basin.

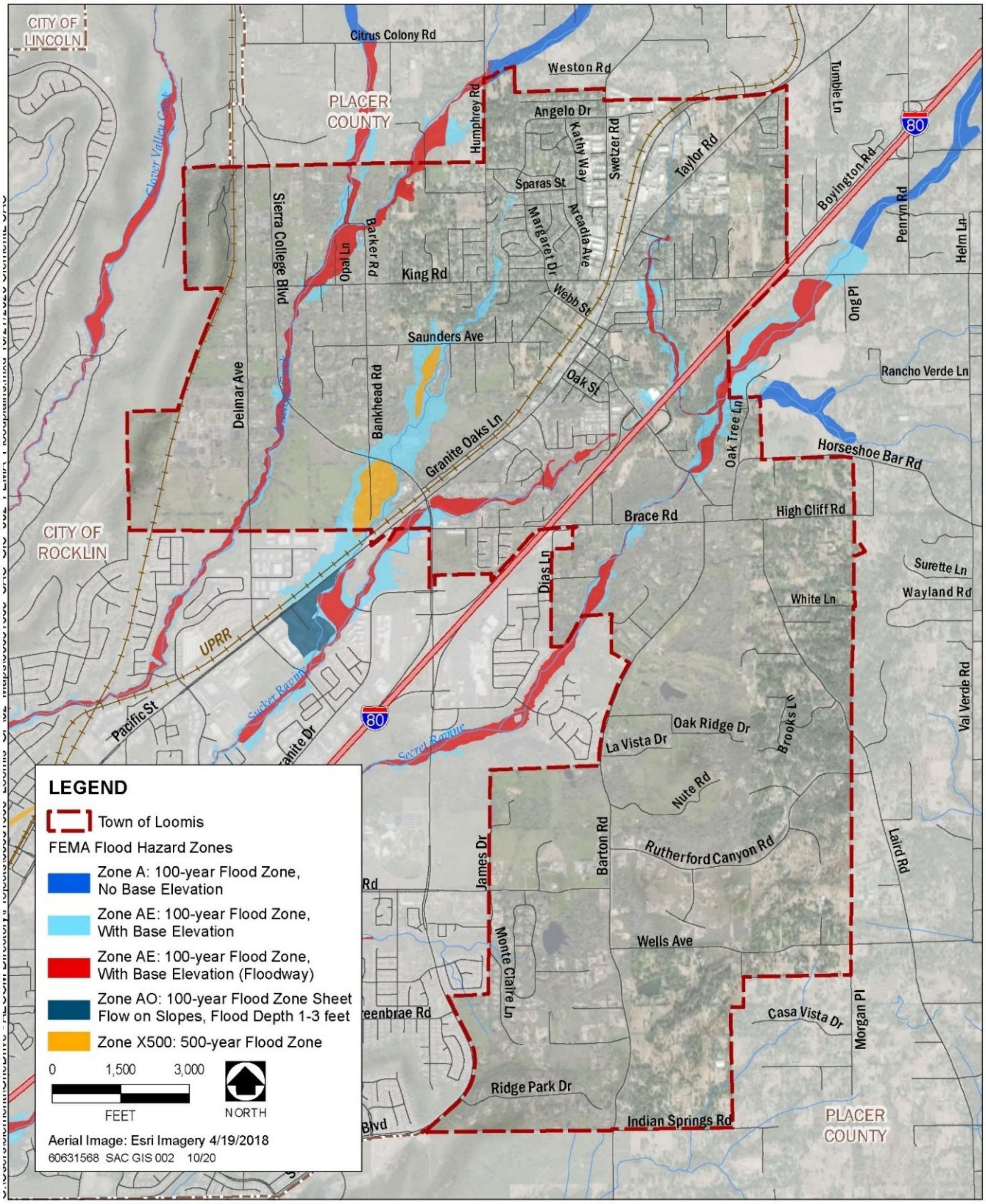
Areas of potential concern in Loomis could include culverts under I-80; the Horseshoe Bar Road crossing over Secret Ravine; the railroad and Taylor Road crossing of Sucker Ravine; and various crossings of Antelope Creek and its tributaries at King Road and Sierra College Boulevard. The Brace Road bridge crossing over Secret Ravine is identified in the Dry Creek Watershed Flood Control Plan as a priority replacement project. Most storm drains are adequately sized to carry runoff. Various culverts and storm drains throughout the Planning Area are also subject to potential flooding in the event that they become clogged with debris during heavy rains.

Flooding has previously affected several homes in the planning area in 1986, 1995, and 2005, along Sucker River, Secret Ravine, and Antelope Creek. These homes are located within the FEMA 100-year floodplain and were built prior to 1997, when Loomis became a participant in the NFIP and adopted the required floodplain management regulations.

The Town of Loomis Master Plan EIR identifies drainage problems associated with the culvert under the southbound freeway ramp of I-80 into a poorly maintained swale near South Walnut Street. Other similar deficiencies are likely elsewhere, as discussed in more detail in the Dry Creek Watershed Flood Control Plan.

Dam Inundation

Loomis is not in the dam inundation area for any major stream or river in the region. There are no dams or reservoirs (except small local detention facilities) upstream of Loomis on any tributary of Antelope Creek or Secret Ravine. Loomis is not subject to potential damage from dam inundation.



Source: FEMA Effecive Floodplains April 2020

Floodplains

Town of Loomis General Plan and EIR

Figure-7-6. Flood-Hazard Zones in the Planning Area

Climate Change – Flooding and Wildland Fires

An emerging issue related to planning for public health and safety is accounting for the potential effects of climate change in the given geographical scope. Climate change is a shift in normal weather conditions over time. A growing body of scientific research has linked climate change to an increase in the concentration of greenhouse gas (GHG) emissions in the Earth's atmosphere. Some GHGs occur naturally and are responsible for the "greenhouse effect" that provides a habitable climate on Earth. However, a significant amount of GHGs are created through human activities and are resulting in atmospheric levels of GHGs in excess of natural conditions. In the United States, approximately 80 percent of all GHG emissions come from the use of petroleum and natural gas (Sacramento Area Council of Governments [SACOG] 2015). The Greenhouse Gas Emissions subsection provided in Section 3, "Natural Resources," of this Background Report provides the most recent State and local emissions inventories identifying the principal sources of GHG emissions generated by human activities by sector, or type of activity, as well as the relevant regulatory framework addressing GHG emissions reduction efforts.

Scientists use a variety of different numerical models (called Global Climate Models) to simulate the Earth's physical processes. These models use mathematical equations to predict how the atmosphere, oceans, ice, land surface, and natural and human-caused emissions of GHGs will interact globally in the climate system over the next centuries.

The California Energy Commission and the University of California, Berkeley (2021) developed a climate change modeling tool called Cal-Adapt, as part of recommendations of the 2009 California Climate Adaptation Strategy. Cal-Adapt produces peer-reviewed, scientific climate projections for the entire state of California. The data is available to the public at https://cal-adapt.org/, and is continuously updated as the science of climate change evolves.

California Government Code Section 65302(g)(4) requires cities and counties to address the potential effects from climate change as part of the public safety element of their respective general plans. The Town of Loomis is situated in the urbanized western Placer County region. The Vulnerability Assessment Report prepared for Placer County in 2018 identifies the natural hazards in Placer County that could be affected by climate change based on modeling from Cal-Adapt.

Table 7-2 presents a summary of the types of climate change hazards that may occur in the Town of Loomis, and the resulting potential impacts to people and the natural environment.[1]

[1] Table 7-3 does not include climate change hazards from severe winter weather or avalanches, which would not represent hazards for the Town of Loomis due to its low elevation.

Table 7-2. Projected Effects of Climate Change Pertaining to the Town of Loomis

Hazard	Climate Change Influence	Result
Drought	Climate change is projected to result in statewide droughts that are more frequent and more intense. California's climate varies between extremely dry and extremely wet periods, driven by the presence or absence of a few large winter storms or "atmospheric rivers." There will likely be more years with extreme levels of precipitation, both high and low; more years with very low levels of precipitation would cause more droughts that last longer and are more intense, as compared to historical norms. Drought conditions will likely be made worse by changes to Placer County's snowpack. Snowpack refers to the total amount of snow and ice that accumulates on the ground. Usually, this snow melts slowly over the year, helping to provide a consistent supply of water during dry months. However, because of climate change, less precipitation is expected to fall as snow and instead will fall as rain due to warmer temperatures, leading to a reduced snowpack. This may make water levels particularly low in late summer and early autumn, which are also often the hottest parts of the year.	Drought results in less water available for human consumption, industrial processes, and agricultural irrigation. It also decreases the amount of water available to plants and animals, threatens endangered species and ecosystems, and increases wildfire hazards.
Extreme Heat1	Climate change is expected to cause warmer temperatures overall, as well as an increase in extreme heat events. Depending on the location of interest within Placer County, as well as level of global GHG emissions, the number of extreme heat days is expected to rise from a historical annual average of 4 days, to 22–32 days by the middle of the century, and to 33–62 days by the end of the century. An increase in the average daily high temperatures is also anticipated. These projected high temperatures are substantially greater than historical norms.	Extreme heat has a direct adverse effect on humans, plants, and animals, including heat-related illness and increased vulnerability to cardiovascular and respiratory disorders in humans; contributes to the spread of wildfires; increases the need for water consumption throughout the human, plant, and animal ecosystems; and results in greater energy loads for air conditioning systems.
Wildfire	Wildfires in Placer County occur most often in late summer and autumn, when temperatures are high and several months have passed without significant precipitation, creating large amounts of dry plants that can act as fuel. Warmer temperatures and an increase in drought conditions created by climate change are likely to create more fuel for fires in the state's wildlands. The timing of wildfire events is also expanding throughout more of the year. The biggest increase in wildfires in Placer County is projected to occur along the western slope of the Sierra Nevada and areas closer to Lake Tahoe. Another wildfire hazard is the presence of small rural roadways with low carrying capacity, which can reduce wildfire evacuation and impede firefighting access. The Town of Loomis is composed primarily of grasslands and oak woodlands, which are relatively less prone to wildfires because of the lower fuel loads.	Wildfires result in the destruction of plant and animal ecosystems, as well as direct animal mortality, and can cause property damage and loss of life.

Hazard	Climate Change Influence	Result
Flooding	Climate change is projected to cause more years with particularly intense storm systems that result in high rainfall amounts over a short period, and could overtop the capacity of local streams and drainage systems. Flooding may also occur more frequently when: (1) increased drought causes the soil to dry out and become hard, making it more difficult for rainfall to penetrate the soil; (2) the heat from increased wildfires bakes the surface layers of the soil resulting in decreased rainfall penetration; and (3) loss of vegetation (from wildfires and pests) results in fewer tree roots and less leaf litter, which in turn increases stormwater runoff.	Flooding on roadways and bridges impedes evacuation, flooding at residences and businesses results in loss of human life and property damage, and flooding on agricultural land results in crop damage or loss.
Fog	There has been a 50 percent reduction in days with fog in the Central Valley since the 1980s. Increasing temperatures caused by climate change likely makes it harder for the air to become cool enough to create fog. In addition, since particles of pollutants in the air help water vapor to condense, a reduction in air pollution may also be causing or contributing to the decreased days with fog.	Loss of fog events can benefit humans by reducing traffic accidents on roadways; however, it may harm plants that depend on the cool, moist environment.
Human Health Hazards	Diseases such as hantavirus pulmonary syndrome, Lyme disease, and West Nile fever are carried by animals such as mice and rats or insects such as ticks and mosquitos. Climate change is projected to cause warmer temperatures in both winter and spring. Since many of the organisms that carry diseases are more active during warmer weather, the time during which these diseases can be transmitted may increase.	Increased favorability for disease transmission could result in an increased number of people affected by diseases. Note that Placer Mosquito and Vector Control District, an independent special-district governed by California Mosquito and Vector Control Law and a seven-member Board of Trustees, including a representative of the Town of Loomis, provides year-round services and information to the residents of Placer County to reduce vector populations, including but not limited to mosquitos, ticks, yellow jackets and rats, promote awareness of vectors and vector-borne diseases, and decrease associated health risks to residents in Placer County.
Pests and Diseases in Agriculture and Forestry	Because climate change is expected to result in an increase in average temperatures, the threat of agriculture and forestry infestation from pests and diseases can be higher, because many pests and organisms that carry diseases are most active during warmer months. For example, the bark beetle is one of the worst pests threatening California forests, and has contributed to the death of 1.5 million trees in Placer County's forests alone. The dead trees deplete forest ecosystems, create more fuel for wildfires, and are a safety risk for people and property. Climate change is likely to worsen bark beetle infestations because the warmer temperatures and shorter periods of cold weather create a longer period for bark beetles to cause tree damage and to reproduce. Drought and extreme heat also stress and weaken trees, making them more susceptible to bark beetle infestation.	Increased pests and diseases in agriculture and forestry could reduce forest tree cover and lower crop productivity.

Hazard	Climate Change Influence	Result
Landslides2	Climate change is expected to cause an increase in intense levels of precipitation, and heavy rainfall or snowfall could increase the number of landslides or make landslides larger than normal, as well as increase the potential for erosion. Vegetation, which helps to hold hillsides together, can be stripped away by climate exposures such as increased wildfires, droughts, or disease/pest infestations. Without vegetation to help stabilize the slope, hillsides may be more likely to slide and erosion may be more likely to occur.	An increase in landslides could result in increased temporary losses of roadway access, and increased loss of property damage and human life. Increased erosion could result in increased degradation of water quality.
Severe Weather	Climate change is expected to cause an increase in intense rainfall, which is usually associated with strong storm systems. This means that Loomis could see more intense storms in the coming years and decades, which could also include more high wind events. Future wet seasons will have more precipitation as rain than snow, primarily due to higher temperatures. Higher extreme rainfall will result in more surface runoff and less groundwater recharge.	Increased short-term precipitation could result in increased flooding and increased high-wind events could result in increased wildfires (from downed power lines) and property damage (from falling tree limbs).

Notes:
[1] Defined as temperatures that are hotter than 98 percent of the historical high temperatures for the area, as measured between April and October of 1961 to 1990.
[2] Landslide hazards are limited in the Town of Loomis. Most portions of the Town are relatively level or gently sloping. In areas with steeper slopes, the underlying geology generally consists of stable bedrock.
Sources: California Energy Commission et al. 2018, Placeworks 2018, Placer County 2020, SACOG 2015 and 2020

In 2020, Placer County adopted the *Placer County Sustainability Plan*, which outlines various programs and policies to be undertaken by the community and the County to achieve GHG emission reductions. The Sustainability Plan includes a summary of the results of the *Vulnerability Assessment Report* (Placeworks 2018). While the Placer County Sustainability Plan does not specifically address the Town of Loomis, the plan includes climate adaptation strategies to protect against hazards in the region, several of which are applicable to the Town of Loomis. Many of the regional hazards and anticipated effects of climate change encompass those that are expected to affect the Town of Loomis, and many of the identified climate adaptation and resiliency actions could apply to Loomis.

Hazardous Materials

Hazardous materials are defined as those that are a potential threat to human health, having the capacity to cause serious illness or death. This section discusses the types of hazardous materials typically found in the Planning Area.

Recorded Hazardous Material Sites

A search of the State Water Resources Control Board's GeoTracker database (SWRCB 2020) and the California Department of Toxic Substances Control's EnviroStor database (DTSC 2020) found no open, active records of known hazardous material sites within the Planning Area. The GeoTracker database listed one open case related to a potential hazards material leak from 2009, but it is inactive (meaning that no regulatory oversight activities are being conducted), and no details are available. The EnviroStor database listed one open, inactive case related to hazardous materials cleanup from agricultural chemicals related to a former orchard, for a proposed residential development; remedial action work is pending. One other open EnviroStor database record dates back to 2007, with no details available and no pending actions. Eleven hazardous materials sites have been remediated. No Federal (Superfund) sites are located within or adjacent to the Planning Area (U.S. Environmental Protection Agency 2020). The database search included Federal Superfund sites, State response sites, voluntary cleanup sites, school cleanups, evaluation sites, military evaluations, tiered permit sites, and corrective action sites.

Household Products

By far the most common hazardous materials are those found or used in the home. Waste oil is a common hazardous material that is often improperly disposed of and can contaminate surface water through runoff. Other household hazardous wastes (used paint, pesticides, cleaning products and other chemicals) are common and often improperly stored in garages and homes. Because of their prevalence and proximity to residents, household products constitute the most pervasive health hazard facing residents.

Mine Tailings

Historic mining operations often left dredge tailings, or discarded rock and material, either near the mine site in the case of dredge or hardrock mining, or washed downstream as a result of upstream hydraulic mining. Dredge mining was common in the 19th century along the creeks in the Loomis area, and dredge tailings can still be found. Historic hydraulic operations have scarred hillsides in Loomis, leaving them susceptible to erosion.

Mine tailings can be contaminated with mercury or cyanide, both of which are used in the process of gold refining. However, most gold was not refined in the immediate Loomis area and the potential for such contamination in dredge materials is considered low.

Agricultural Pesticide Use

Loomis includes many agricultural operations. Orchards in particular are often sprayed with various pesticides, which can persist in the soil~~s~~ over a period of many years. Denuded vegetation can suggest evidence for soil contamination. Potential contaminants can include dichlorodiphenyltrichloroethane (DDT), lead, and arsenic. In such areas, it is prudent to conduct soil testing (and conducting soil clean-up steps, if necessary) before allowing more intensive development.

Asbestos

Asbestos is the name given to a number of naturally occurring, fibrous silicate minerals. Asbestos is commonly used as an acoustic insulator, thermal insulation, fireproofing, and in other building materials. Asbestos is made up of microscopic bundles of fibers that may become airborne when asbestos-containing materials are damaged or disturbed. When these fibers get into the air, they may be inhaled into the lungs, where they can cause significant health problems.

The Planning Area contains many older structures with the potential to contain asbestos. Pre-1979 construction often included asbestos and it should be assumed that the demolition of older structures in the Town may present this hazard. Proper asbestos abatement and disposal procedures should be undertaken whenever the demolition of older structures is considered. As described earlier, no areas that are likely to contain naturally occurring asbestos have been identified in the Planning Area (Higgins and Clinkenbeard 2006).

Lead

Lead is a highly toxic metal that was used until the late 1970s in a number of products, most notably paint. Lead may cause a range of health effects, from behavioral problems and learning disabilities to seizures and death. Primary sources of lead exposure are deteriorating lead-based paint, lead-contaminated dust, and aerially-deposited lead from vehicle emissions in soil within 30 feet of major (i.e., state and federal) highways. Lead is also present in the yellow paint that was used in striping roadways.

In addition to roadways and bridges, demolition of residential, commercial, and industrial structures in the Planning Area containing lead-based paint require specific remediation activities regulated by federal, State, and regional and local laws. The debris produced during the removal of yellow pavement markings may need to be disposed of as a state or federal hazardous waste if the concentrations of lead exceed applicable hazardous waste thresholds.

Hazardous Materials Transport

The Union Pacific Railroad and I-80 are major transcontinental transportation routes that traverse Loomis. Trains and trucks commonly carry a variety of hazardous materials, including gasoline and various crude oil derivatives, and other chemicals known to cause human health problems. When properly contained, these materials present no hazard to the community. But in the event of an accident or derailment, such materials may be released, either in liquid or gas form. In the case of some chemicals (such as chlorine), highly toxic fumes may be carried far from the accident site. Standard accident prevention and hazardous materials recovery procedures are enforced by Federal and State agencies and followed by private transportation companies, and are included in the State Health and Safety Codes.

Hazardous Waste Management Plan

Counties are required by state law to prepare hazardous waste management plans. Placer County's plan addresses the treatment, storage and disposal of such materials. The primary goal of the plan is to protect public health by promoting the safe use and disposal of hazardous waste. To accomplish this, the plan provides for the reduction of hazardous waste through source reduction, recycling, and on-site handling and treatment methods. Public education and community involvement are key features for achieving this goal.

Critical Facilities

Critical facilities are those that must remain operational after an emergency event, in order for the community to respond effectively. Examples of critical facilities include hospitals, fire stations, electrical power plants, and community facilities. Schools are often important staging and evacuation areas. There are relatively few critical facilities in the Planning Area; the nearest hospitals, for example, are in Roseville and Auburn.

There are no critical facilities located in flood hazard zones. There is one critical facility, the Placer County Sherriff's Office of Loomis, along the urban fringe in a moderate fire hazard severity zone. Figure 7-7 shows the location of critical facilities in the Planning Area in relation to identified flood and wildfire hazard zones. The critical facilities identified in Figure 7-7 include the Placer County Sherriff's Office of Loomis, South Placer Fire Protection District Station 18, and three schools.

Fuel pipelines can also be considered critical infrastructure. Pacific Gas & Electric Company (PG&E) provides natural gas service to the Loomis area. The system receives gas from PG&E's regional transmission system, with a local transmission pipeline that runs along Taylor Road through the Town of Loomis. In addition, Kinder Morgan operates a petroleum pipeline that parallels the railroad alignment through the Town of Loomis.

Airports and Airstrips

There are no public airports or private airstrips in or near the Planning Area. The Holsclaw short takeoff and landing short take-off and landing (STOL) airstrip, formerly located in Loomis immediately south of I-80 on Holsclaw Road, no longer exists.

Military Facilities

There are no military facilities in or near the Planning Area.

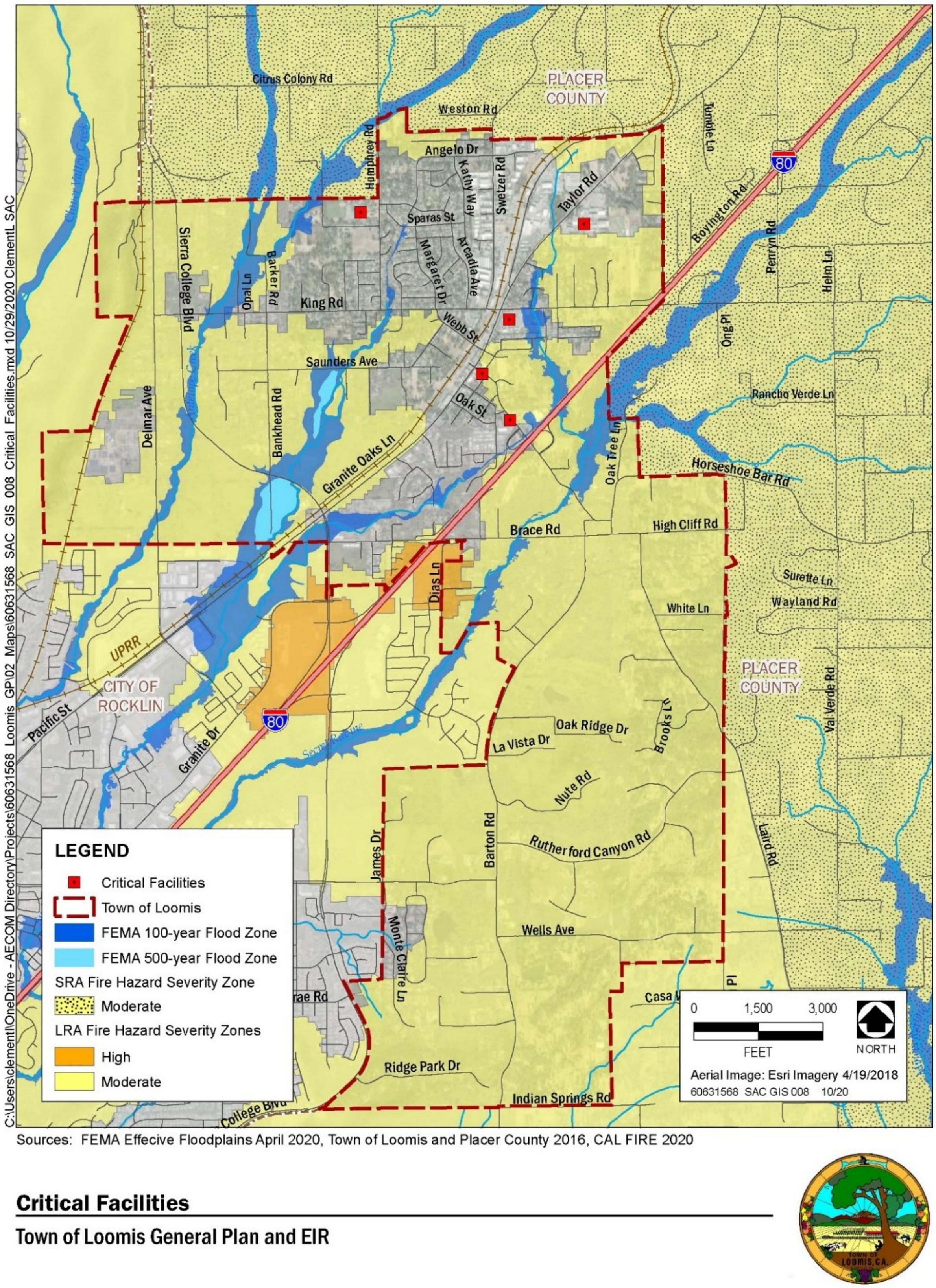


Figure 7-7. Critical Facilities in the Planning Area

Noise Sources & Standards

The State Office of Planning and Research Noise Element Guidelines require that major noise sources be identified and quantified through the preparation of generalized noise contours for current and projected conditions. Significant noise sources in the Loomis area include traffic and railroad operations. Industrial operations are an additional, but less intrusive, noise source in Loomis. There are no airports in the area that could be a source of noise.

Overview of Noise & Sound Measurement

Noise is usually defined as "unwanted sound." It consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

Sound intensity is measured in units called decibels (dB). When this basic unit is adjusted to correct for the relative frequency response of the human ear, the resulting unit is the "A-weighted" decibel (dBA). A-weighting de-emphasizes low frequencies to better correlate with the response of the human ear to sound. The zero on the dBA scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Unlike linear units (inches or pounds), the decibel scale is logarithmic. When measured on this scale, therefore, sound intensity increases or decreases exponentially with each decibel of change. While ten decibels is ten times more intense than one decibel, twenty decibels is one hundred times more intense and thirty decibels is a thousand times more intense. The decibel scale increases as the square of the change in sound pressure energy. A sound as soft as human breathing is about 10 times greater (10 dBA) than the faintest sound audible to the human ear (just above zero dBA). The decibel system of measuring sound provides us with a simplified relationship between the physical intensity of sound and its perceived loudness to the humanear.

Because of the physical characteristics associated with sound transmission and reception, a doubling of noise energy normally results in about a 3 dBA increase in noise levels while a 10 dBA increase in noise level is generally required to perceive a doubling of noise. A 1 to 2 dBA change in ambient noise levels generally is not audible even to sensitive receptors.

Sound levels corresponding to typical noise sources are provided in Table 7-3. For a single point source, sound level decays approximately six decibels for each doubling of distance from the source. Noise originating from a linear, or "line" source, such as a traffic or rail corridor, will typically decrease by about three decibels for each doubling of distance, provided the surrounding environment is "hard" (free from "soft," sound-absorbing objects such as vegetation). Noise from a line source in an environment that is relatively flat and well-vegetated will decrease by about 4.5 decibels for each doubling of distance.

The time of day when a sound is emitted is an important factor in determining whether or not it is considered a nuisance. Sounds that may be barely noticeable at midday may be seriously disruptive at midnight. A number of measurement scales that attempt to account for this time factor have been developed. Two of the more commonly used scales of this type are the Community Noise Equivalent Level (CNEL) and the day-night sound level (L_{dn}). The L_{dn}, which was developed by the Environmental Protection Agency, is a 24-hour average sound level in which a 10 dBA penalty is added to any sounds occurring between the hours of 10:00 pm and 7:00 a.m. The CNEL scale, which is used in California Airport Noise Regulations, is similar except that an additional 5 dBA penalty is added for the evening hours from 7:00 p.m. to 10:00 p.m.

Table 7-3. Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
n/a	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	n/a
Gas Lawn Mower at 1 m (3 ft)	--90--	n/a
Diesel Truck at 15 m (50 ft), at 80km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
n/a	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol, September 2013

Noise Compatibility Standards

CA Government Code §65302(f) provides noise compatibility guidelines for various land uses, as shown by Figure 7-8. The compatibility table illustrates the range of community noise exposure in terms of what is considered "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable." For the most sensitive uses, such as single-family residences, 60 dBA L_{dn} is recommended as the maximum normally acceptable level, which is the level below which no special sound attenuation measures are required. These guidelines are recommended by the State to assist communities in determining whether or not noise poses a conflict with land development. The following summarizes other pertinent federal and state noise guidelines:

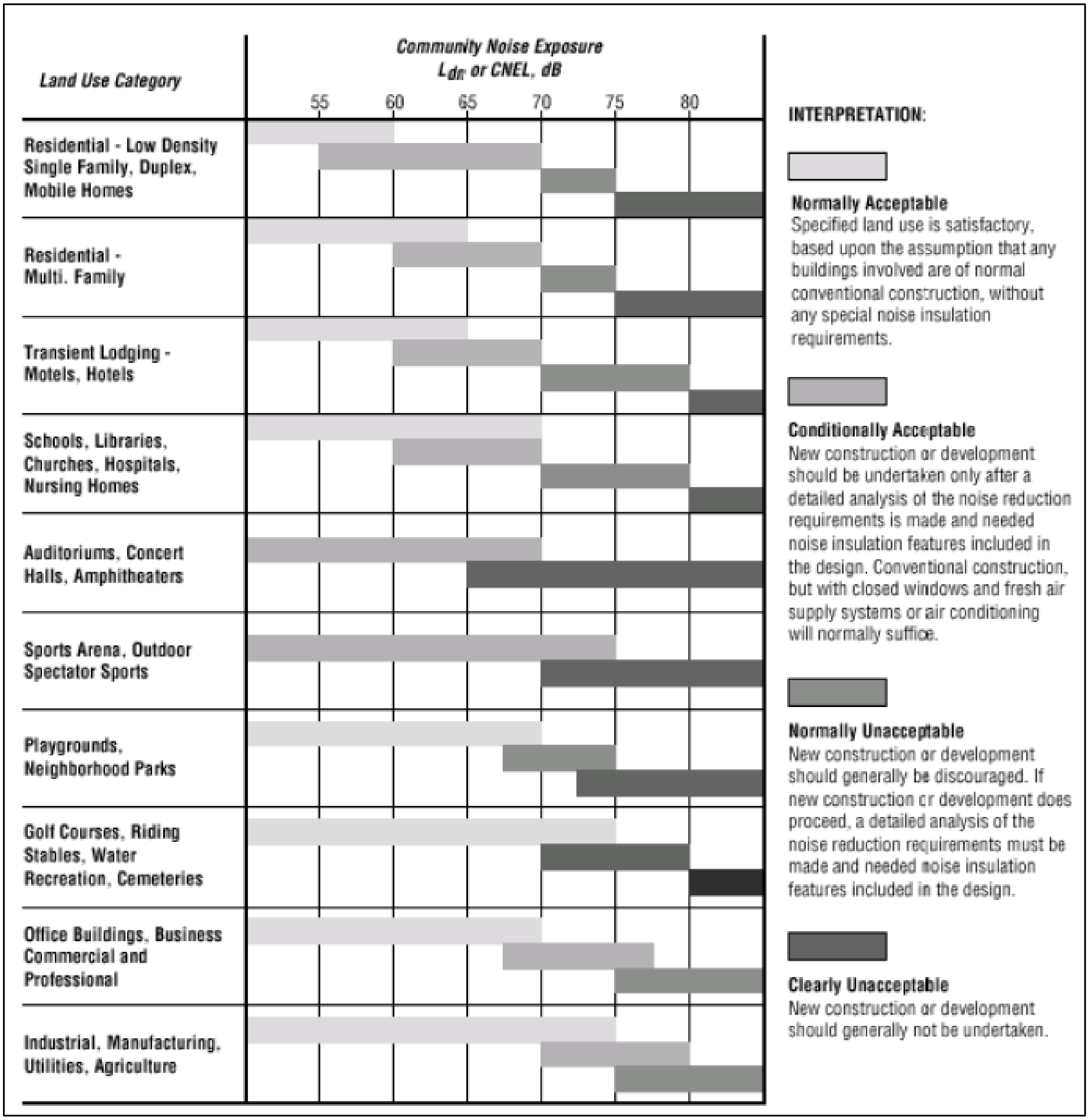


Figure 7-8. Noise Land Use Compatibility Standards

Noise Insulation Standards

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations, establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

The Federal Housing Administration establishes a 65 dBA L_{dn} standard for outdoor activity areas adjoining residential dwellings, and a 45 dBA L_{dn} standard for the interior of single-family residences. If exterior levels are between the 65 dBA L_{dn} standard and 75 dBA L_{dn}, acoustical analysis is required to ensure that the interior standard is met. Residential development is unacceptable where exterior noise levels exceed 75 dBA L_{dn}.

Local Standards

Loomis' current noise element sets an exterior standard of 65 dBA L_{dn} and an interior standard of 45 dBA L_{dn}. This is less stringent than those provided in the State Guidelines. However, the Town's current guidelines are consistent with the FHA standards described above.

Existing Noise Sources & Sound Levels

Noise modeling techniques and measurements were used to develop generalized L_{dn} or L_{eq} noise contours in the planning area for existing conditions. This method uses source-specific data including traffic mixture, speed limits and traffic volumes, all of which were obtained from either Caltrans, or Fehr & Peers Associates. Noise contours along roadways were modeled using the Federal Highway Administration's Highway Traffic Noise Prediction Model (FHWA-RD-77-108, 1978), with California vehicle noise emission levels (CALVENO) developed by Caltrans.

The resulting noise contours (Figure 7-9) are based on average annual conditions. Local topography and intervening structures at specific locations would alter the contours, which should be considered generalizations. Table 7-4 shows the model results for the distance to the 60, 65 and 70 dBA L_{dn} contours associated with traffic on major roads traversing the Town.

Table 7-4 serves as a guide when applying traffic noise exposure contour information to areas with varying topography. The table is used by adding the correction factor to the predicted noise level for a given location. The factors included in this table present conservative (worst-case) results, and complex situations should be evaluated by an acoustical consultant when the potential for a significant noise impact exists.

Roadways

Roadway traffic is the primary source of noise in the Loomis community. Interstate 80 carries by far the most traffic through the area and is consequently the major noise contributor. The 60 dBA L_{dn} contour from this roadway ranges from 1,650 to 1,750 feet from centerline. However, this distance is likely much less than modeled, because of topographic attenuation (see Table 7-3) and intervening buildings.

Taylor Road and Sierra College Boulevard are the only other roadways in the Town that carry sufficient traffic to produce audible noise at a significant distance. The 60 dBA L_{dn} contour for these roads typically ranges from 200 to 400 feet, and less where there are intervening structures. Horseshoe Bar Road, King Road and Rocklin Road carry moderate traffic (4,000-5,000 average daily traffic [ADT]), but not sufficient to produce far-reaching noise contours. The noise model predicts that the 60 dBA L_{dn} contour would be less than 100 feet from the center of those roadways. Please refer to Figure 7-2 and Table 7-4 for more detailed information.

Table 7-4. Existing Traffic Noise Levels

Roadway	Segment	Traffic (ADT)	Distance to L_{dn} Contour from Centerline (feet)		
			70 dB	65 dB	60 dB
Bankhead Road	King Rd to Saunders Ave	409	2	4	8
Bankhead Road	Saunders Ave to Sierra College Blvd	673	2	5	11
Barton Rd	Brace Rd to Gold Trail Way	1,935	9	19	41
Barton Rd	Gold Trail Way to Rocklin Rd	2,500	10	23	49
Barton Rd	Rocklin Rd to Indian Springs Rd	7,952	23	49	105
Brace Rd	Sierra College Blvd to I-80 Bridge	4,521	13	27	59
Brace Rd	I-80 Bridge to Laird Rd	3,555	13	29	61
Del Mar Ave	King Rd to N. Town Limit	212	2	4	8
Del Mar Ave	S. Town Limit to King Rd	719	4	8	17
Horseshoe Bar Rd	Taylor Rd to I-80 Bridge	16,536	20	43	93
Horseshoe Bar Rd	I-80 Bridge to Horseshoe Bar Rd	9,578	14	30	64
Horseshoe Bar Rd	Brace Rd to N. Town Limit	6,427	20	42	91
Humphrey Rd	Arcadia Ave to N. Town Limit	1,232	5	10	21
Humphrey Rd	King Rd to Arcadia Ave	2,721	6	13	28
King Rd	Del Mar Ave to Bankhead Rd	2,988	12	25	55
King Rd	Bankhead Rd to Humphrey Rd	3,188	10	22	46
King Rd	Humphrey Rd to Taylor Rd	5,521	14	31	67
King Rd	Taylor Rd to Bush Ln	5,629	15	31	68
King Rd	Bush Ln to I-80 Bridge	5,684	18	39	84
Laird Rd	Brace Rd to White Ln	4,673	13	28	60
Laird Rd	White Ln to S. Town Limit	4,412	12	27	58
Rippey Rd	Taylor Rd to N. Town Limit	802	4	9	18
Rocklin Rd	James Dr to Barton Rd	13,479	32	69	149
Saunders Ave	Bankhead Rd to McAllen Ln	378	2	3	7
Saunders Ave	McAllen Ln to Webb St	919	3	6	13
Sierra College Blvd	N. Town Limit to King Rd	12,179	43	93	201
Sierra College Blvd	King Rd to Bankhead Rd	11,372	41	89	192
Sierra College Blvd	Bankhead Rd to Brace Rd	13,019	38	82	176
Sierra College Blvd	Brace Rd to N. Granite Dr	22,010	45	96	207

Roadway	Segment	Traffic (ADT)	Distance to L_{dn} Contour from Centerline (feet)		
			70 dB	65 dB	60 dB
Swetzer Rd	King Rd to N. Town Limit	6,261	16	34	73
Taylor Rd	S. Town Limit to Sierra College Blvd	11,463	29	62	134
Taylor Rd	Sierra College Blvd to Circle Dr	11,045	28	61	131
Taylor Rd	Circle Dr to Horseshoe Bar Rd	10,775	15	32	70
Taylor Rd	Horseshoe Bar Rd to King Rd	18,753	22	47	101
Taylor Rd	King Rd to N. Town Limit	8,881	13	28	61
Webb St	King Rd to Taylor Rd	4,121	8	17	37
Wells Ave	Barton Rd to Rickety Rack Rd	3,497	13	28	61
Wells Ave	Rickety Rack Rd to Morgan Place	3,372	13	28	59
I-80	Sierra College	85,500	401	863	1,859

Source: Traffic volumes from Caltrans and Fehr and Peers (2020).
ADT = average daily traffic
db = decibel
ldn =
Note: * All noise levels reported at 50 feet from roadway centerlines, except for Interstate 80 (100 feet).

Union Pacific Railroad

The Union Pacific Railroad operates two rail lines through the Town. The westbound rail line parallels Taylor Road, and cuts through the center of the community. The eastbound line travels northward, along the western edge of the planning area, about 1.5 miles west of downtown Loomis.

Noise measurements were conducted on both lines to determine the contribution of freight and passenger rail operations to the noise environment. The goal of the noise measurements was to determine the typical sound exposure levels (SEL), accounting for travel speed, warning horns, locomotive noise, and other factors contributing to noise generation. The average SEL for the westbound line as collected at Site LT-1 was 110 dBA at 50 feet from the track centerline (includes use of warning horns). The average SEL for the eastbound line was 98 dBA at 50 feet (no warning horn usage). Saxelby Acoustics observed approximately 10 daily eastbound trains and 7 westbound trains during the noise measurement survey.

Union Pacific officials will not release the precise number of daily trains that travel through Loomis but estimated that about 12 to 15 trains is typical. This number is consistent with a 1996 Surface Transportation Board ruling that limits the number of trains passing through Reno, Nevada, to 15 as a condition of the recent Union Pacific/Southern Pacific merger (Mike Furtney, Union Pacific, 1998). For the purpose of this analysis, an average of 15 trains is assumed, evenly distributed between east and westbound freight.

Amtrak operates two eastbound and two westbound passenger trains daily that pass through Loomis. All four passenger trains pass through the Town during the day or early evening. However, the noise levels generated by passenger trains do not substantially contribute to overall day/night noise levels when compared to freight activity.

To determine the distance to noise contours, it is necessary to calculate the L_{dn} for typical rail operations. This is accomplished by using the recorded SEL values and the known number of trains. The L_{dn} may be calculated as follows:

$$L_{dn} = SEL + 10logN - 49.4 \text{ dB, where:}$$

SEL is the mean SEL of the event, N is the sum of the number of day and evening trains per day plus 10 times the number of nighttime (10 pm to 7 am) trains per day, and 49.4 is a constant which represents ten times the logarithm of the number of seconds per day. Based on this information, the calculated noise contour distances from each rail line are shown in Table 7-5. These contours are depicted graphically in Figure 7-9.

Table 7-5. Approximate Distance to Railroad Noise Contours

Train Source	L_{dn}, at 100 feet	Distance to L_{dn} contour (feet)		
		70	65	60
Union Pacific (freight) -with warning horns	71.2 dBA	120	259	558
Union Pacific (freight) - without warning horns	61.9 dBA	29	62	134

Assumes 7.5 freight trains daily, evenly distributed between daytime and nighttime hours.
L_{dn} = day/night average sound level with a penalty for noise occuring during nightttime hours.

Figure 7-9. Existing Noise Contours

To be updated

Community Noise Survey

A community noise survey was conducted to document ambient noise levels at various locations throughout the Town. Short-term noise measurements were conducted at six locations throughout Loomis on July 13-16, 2020. In addition, four continuous 24-hour noise monitoring sites were also conducted to record day-night statistical noise level trends. The data collected included the hourly average (L_{eq}), median (L50), and the maximum sound level (L_{max}) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 7-6 and Table 7-7. Figure 7-10 shows the locations of the noise monitoring sites. Detailed results of noise monitoring can be found in Appendix A. It should be noted that field work was conducted during COVID-19 restrictions. However, it is not expected that reduced traffic would have resulted in more than a 1-2 dBA reduction in measured noise levels.

Table 7-6. Existing Short-Term Community Noise Monitoring Results

Site	Location	Time[1]	Measured Sound Level, dBA			Notes
			L_{eq}	L_{50}	L_{max}	
ST-1	H. Clarke Powers Elementary School	11:31 am	57	42	73	Primary noise source is Humphrey Ave.
ST-2	Del Oro High School	11:09 am	67	59	83	Primary noise source is traffic on Taylor Rd.
ST-3	Sierra College Blvd. and King Rd.	11:52 am	71	67	82	Primary noise source is Sierra College Blvd. Train horn audible in background.
ST-4	Saunders Rd.	12:10 pm	54	42	72	Background noise due to Sierra College Blvd./ Taylor Rd. Natural sounds such as birds and insects. L_{max} due to passing mail truck on Saunders Rd.
ST-5	Barton Rd. – Indian Creek Country Club	9:41 am	66	53	82	Primary noise source is traffic on Barton Rd. Secondary Noise sources include activity at the Indian Creek Driving Range, HVAC noise from the Secret Ravine Winery, and natural sounds such as bird and insect noise.
ST-6	Barton Rd. and Wells Ave.	9:19 am	70	65	83	Primary noise source is Barton Rd. Secondary noise source is Wells Ave.

[1] All community noise measurement sites have test durations of 10:00 minutes
Source: Saxelby Acoustics, 2020.

Table 7-7. Existing Continuous 24-Hour Ambient Noise Monitoring Results

Site	Location	L_{dn} (dBA)	Measured Hourly Noise Levels, dBA Low-High (Average)					
			Daytime (7:00 am – 10:00 pm)			Nighttime (10:00 pm – 7:00 am)		
			L_{eq}	L50	L_{max}	L_{eq}	L50	L_{max}
LT-1	UPRR at Webb St.	73	75	55	93	56	51	72
LT-2	UPRR at Gayaldo Park	66	58	43	70	60	43	73
LT-3	Interstate 80	75	71	69	85	68	61	84
LT-4	Sierra College Boulevard	64	62	58	80	56	48	74

Source: Saxelby Acoustics, 2020.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 812, 820, and 831 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using an LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

Railroad Vibrations

Saxelby Acoustics performed measurements of train vibrations near site long term site 2 (LT-2). Vibration measurements were conducted using a BRC vibration sensor and Larson Davis model 831 sound meter. Velocity measurements were calibrated in the field using an IMI 699B02 vibration shaker. Based upon the vibration measurements, freight and Amtrak trains were found to generate maximum levels of vibration of 72-73 VdB at a distance of 120 feet from the center of the UP railroad line.

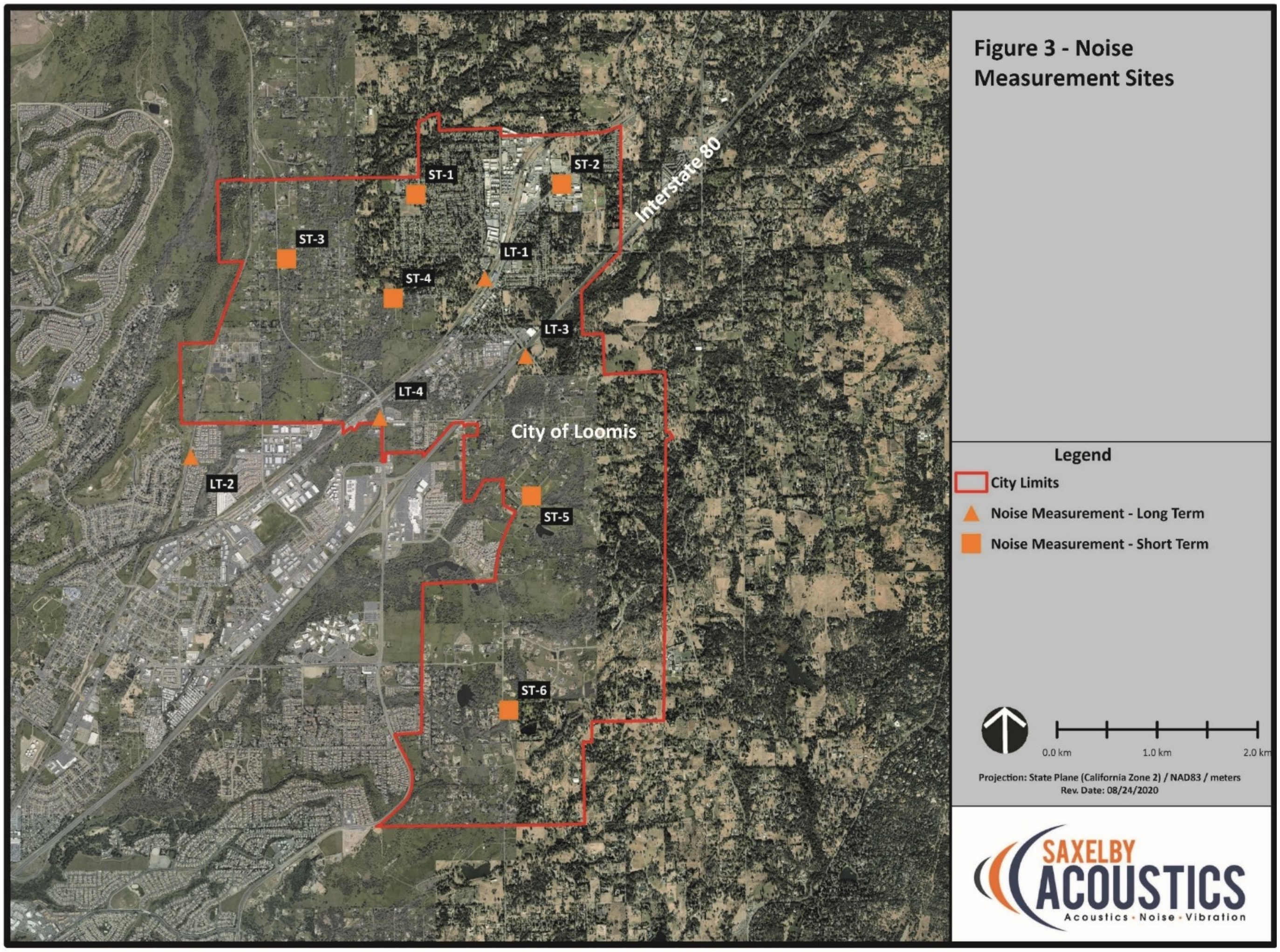


Figure 7-10. Noise Measurement Sites

Stationary Noise Sources

Industrial and commercial operations can be significant sources of noise, depending on the type and hours of operation. Stationary noise sources of concern typically include generators, pumps, air compressors, outdoor speakers, motors, heavy equipment, and similar machinery. These are usually often associated with trucking companies, tire shops, auto mechanic shops, metal shops, shopping centers, drive-up windows, car washes, loading docks, gravel operations, athletic fields, and electric generating stations.

Many facilities of this type exist in Loomis. However, none have been identified in the existing environmental documents on file with the Town as substantial noise sources causing significant public disruption.

Existing or planned commercial/industrial operations may result in noise impacts when they are adjacent to noise sensitive land uses. Typical commercial and industrial noise sources include loading dock operations, parking lot activity, onsite equipment (including heating and air conditioning), and heavy truck idling.

Currently, potential noise impacts of this type are most common near the Taylor Road corridor, where residential development often backs against commercial and industrial uses. Industrial parcels along Swetzer Court also back against homes along Kathy Way and Arcadia Avenue, resulting in similar noise impacts to residents in that area. On occasion, there have been complaints regarding excessive industrial-related noise, typically involving the use of heavy equipment or trucks during nighttime hours.

From a land use planning perspective, fixed-source noise control issues focus upon two goals:

1. To prevent the introduction of new noise-producing uses in noise-sensitive areas; and
2. To prevent encroachment of noise sensitive uses upon existing noise-producing facilities.

The first goal can be achieved by applying noise level performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards.

Typical noise levels associated with various types of stationary noise sources are shown in Table 7-8.

Table 7-8: Typical Stationary Source Noise Levels

Use	Noise Level at 100 feet, L_{eq} [1]	Distance to Noise Contours, feet			
		50 dB L_{eq} (No Shielding)	45 dB L_{eq} (No Shielding)	50 dB L_{eq} (With 5 dB Shielding)	45 dB L_{eq} (With 5 dB Shielding)
Auto Body Shop	56 dB	200	355	112	200
Auto Repair (Light)	53 dB	141	251	79	141
Busy Parking Lot	54 dB	158	281	89	158
Cabinet Shop	62 dB	398	708	224	398
Car Wash	63 dB	446	792	251	446
Cooling Tower	69 dB	889	1,581	500	889
Loading Dock	66 dB	596	1,059	335	596

Use	Noise Level at 100 feet, L_{eq} [1]	Distance to Noise Contours, feet			
		50 dB L_{eq} (No Shielding)	45 dB L_{eq} (No Shielding)	50 dB L_{eq} (With 5 dB Shielding)	45 dB L_{eq} (With 5 dB Shielding)
Lumber Yard	68 dB	794	1,413	447	794
Maintenance Yard	68 dB	794	1,413	447	794
Outdoor Music Venue	90 dB	10,000	17,783	5,623	10,000
Paint Booth Exhaust	61 dB	355	631	200	355
Skate Park	60 dB	316	562	178	316
School Playground / Neighborhood Park	54 dB	158	281	89	158
Truck Circulation	48 dB	84	149	47	84
Vendor Deliveries	58 dB	251	446	141	251

[1] Analysis assumes a source-receiver distance of approximately 100 feet, no shielding, and flat topography. Actual noise levels will vary depending on site conditions and intensity of the use. This information is intended as a general rule only and is not suitable for final site-specific noise studies.
Source: Saxelby Acoustics. 2020.

Sensitive Receptors

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Residences, hospitals, schools, guest lodging, libraries, churches and parks are most sensitive to noise intrusion and therefore have more stringent noise exposure targets than manufacturing or agricultural uses that are not subject to such impacts as sleep disturbance.

The relative sensitivity of various land uses is illustrated in the state's noise compatibility guidelines, shown previously in Figure 7-8.

Regulatory Background

Federal Plans, Policies, Regulations, and Laws

Earthquake Hazards Reduction Act

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States. To accomplish this goal, the act established the National Earthquake Hazards Reduction Program. The program's mission is to improve understanding, characterization, and prediction of hazards and vulnerabilities; improve building codes and land use practices; reduce risk through post-earthquake investigations and education; develop and improve design and construction techniques; improve mitigation capacity; and accelerate application of research results.

The National Earthquake Hazards Reduction Program was substantially amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of agency responsibilities, program goals, and objectives. The NEHRPA designates the Federal Emergency Management Agency as the program's lead agency and assigns several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies are the National Institute of Standards and Technology, National Science Foundation, and U.S. Geological Survey.

Federal Emergency Management Agency

The primary mission of the Federal Emergency Management Agency is to reduce the loss of life and property and to protect the nation from all hazards, including natural disasters, acts of terrorism, and other man-made disasters, by leading and supporting a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation.

Disaster Mitigation Act

The Disaster Mitigation Act of 2000 requires a state mitigation plan as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans: "Standard" and "Enhanced." States that develop an approved Enhanced State Plan can increase the amount of funding available through the Hazard Mitigation Grant Program. The Disaster Mitigation Act also established a new requirement for local mitigation plans.

Emergency Planning and Community Right-To-Know Act

The Emergency Planning Community Right-to-Know Act (EPCRA) of 1986 was included under the Superfund Amendments and Reauthorization Act (SARA) law and is commonly referred to as SARA Title III. EPCRA was passed in response to concerns regarding the environmental and safety hazards proposed by the storage and handling of toxic chemicals. EPCRA establishes requirements for federal, state, and local governments, Indian Tribes, and industry regarding emergency planning and Community Right-to-Know reporting on hazardous and toxic chemicals. SARA Title III requires states and local emergency planning groups to develop community emergency response plans for protection from a list of Extremely Hazardous Substances (40 CFR Appendix B). The Community Right-to-Know provisions help increase the public's knowledge of and access to information on chemicals at individual facilities, their uses, and their release into the environment.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act (HMTA) of 1975 was created to provide adequate protection from the risks to life and property related to the transportation of hazardous materials in commerce by improving regulatory enforcement authority of the Secretary of Transportation.

United States Department of Transportation

Transportation of chemicals and hazardous materials are governed by the U.S. Department of Transportation (USDOT), which stipulates the types of containers, labeling, and other restrictions to be used in the movement of such material on interstate highways.

Federal Railroad Administration

The Federal Railroad Administration (FRA) an agency under USDOT, is responsible for requiring each railroad carrier that provides intercity or commuter rail passenger transportation to develop a Railroad Safety Risk Reduction Program, as part of Public Law 110-432, "Federal Rail Safety Improvements," enacted in 2008. The program addresses issues such as railroad safety, highway/rail grade crossings, pedestrian safety, trespasser prevention, and safety enhancements. FRA is also responsible for enforcing safety rules and standards under CFR Title 49, Sections 200–272, which cover a comprehensive range of railroad safety topics, including track safety, roadway workplace safety, railroad operation rules, communication, locomotive safety standards, inspections and maintenance, signal systems, grade crossing safety, bridge safety standards, emergency preparedness, passenger safety, safety training, dispatching, and qualification/certification for conductors.

Federal Highway Administration (FHWA)

The FHWA has developed noise abatement criteria that are used for federally funded roadway projects or projects that require federal review. These criteria are discussed in detail in Title 23 Part 772 of the Federal Code of Regulations (23 CFR 772).

Environmental Protection Agency (EPA)

The EPA has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an L_{eq} of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an L_{eq} of 55 dBA and interior levels at or below 45 dBA. Although these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The EPA has set 55 dBA L_{dn} as the basic goal for residential environments. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of actually achieving a goal of 55 dBA L_{dn}, have generally agreed on the 65 dBA L_{dn} level as being appropriate for residential uses. At 65 dBA L_{dn} activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

The Department of Housing and Urban Development (HUD) was established in response to the Urban Development Act of 1965 (Public Law 90-448). HUD was tasked by the Housing and Urban Development Act of 1965 (Public Law 89-117) "to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes."

HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established the following three zones:

- 65 dBA L_{dn} or less - an acceptable zone where all projects could be approved.
- Exceeding 65 dBA L_{dn} but not exceeding 75 dBA L_{dn} - a normally unacceptable zone where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA L_{dn} area and 10 dBA of attenuation in a 70 to 75 dBA L_{dn} area.
- Exceeding 75 dBA L_{dn} - an unacceptable zone in which projects would not, as a rule, be approved.

HUD's regulations do not include interior noise standards. Rather a goal of 45 dBA Ldn is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction techniques, any building will provide sufficient attenuation so that if the exterior level is 65 dBA L_{dn} or less, the interior level will be 45 dBA L_{dn} or less. Thus, structural attenuation is assumed at 20 dBA. However, HUD regulations were promulgated solely for residential development requiring government funding and are not related to the operation of schools or churches.

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise exposure of this type is dependent on work conditions and is addressed through a facility's or construction contractor's health and safety plan. With the exception of construction workers involved in facility construction, occupational noise is irrelevant to this study and is not addressed further in this document.

State Plans, Policies, Regulations, and Laws

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Act (Public Resources Code Sections 2621–2630) was enacted in 1972 to mitigate the hazard of surface faulting to structures designed for human occupancy. The main purpose of the law is to prevent buildings used for human occupancy from being constructed on the surface trace of active faults. The law addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.

The Alquist-Priolo Act requires the State Geologist to establish regulatory zones known as "earthquake fault zones" around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning efforts. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require the completion of a geologic investigation demonstrating that proposed buildings would not be constructed across active faults.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690 through 2699.6) addresses earthquake hazards from non-surface fault rupture, including liquefaction and seismically induced landslides. The act established a mapping program for areas that have the potential for liquefaction, landslide, strong ground shaking, or other earthquake-related and geologic hazards. The act also specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce the hazards associated with seismicity and unstable soils.

California Building Standards Code

The California Building Standards Commission coordinates, manages, adopts, and approves building codes in California. The CBC (Title 24 of the California Code of Regulations) provides minimum standards for building design in California. The CBC applies to building design and construction in the state and is based on the federal Uniform Building Code (UBC) used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The CBC has been modified for California conditions with numerous more detailed or more stringent regulations. Where no other building codes apply, Chapter 29 of the CBC regulates excavation, foundations, and retaining walls.

The state earthquake protection law (California Health and Safety Code, Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. The CBC requires that any structure undergo a seismic-design evaluation that assigns the structure to one of six categories, A–F. Category F structures require the most earthquake-resistant design.

The CBC philosophy focuses on "collapse prevention," meaning that structures are to be designed to prevent collapse during the maximum level of ground shaking that could reasonably be expected to occur at a site. CBC Chapter 16 specifies exactly how each seismic-design category is to be determined on a site-specific basis, based on site-specific soil characteristics and proximity to potential seismic hazards.

Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, as well as the preparation of a preliminary soil report, engineering geologic report, geotechnical report, and supplemental ground-response report. Chapter 18 also regulates the analysis of expansive soils and the determination of depth to the groundwater table. For structures in Seismic Design Category C, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading. For structures in Seismic Design Categories D, E, and F, Chapter 18 requires these same analyses plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and loss of soil strength, and lateral movement or reduction of the foundation's soil-bearing capacity.

Chapter 18 also requires that mitigation measures be considered in structural design. Mitigation measures may include stabilizing the ground, selecting appropriate foundation types and depths, selecting appropriate structural systems to accommodate anticipated displacements, or using any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak-ground-acceleration magnitudes and source characteristics consistent with the design earthquake ground motions. The peak ground acceleration must be determined in a site-specific study, the contents of which are specified in CBC Chapter 18.

Finally, Appendix J of the CBC regulates grading activities, including drainage and erosion control and construction on expansive soils, areas subject to liquefaction, and other unstable soils.

Senate Bill 1369 (2004) and Assembly Bill 2911 (2019) – Defensible Space for Fire Protection

Senate Bill 1369 and Assembly Bill 2911 amended Public Resources Code Section 4291 to require owners or lessees of buildings or structures in or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material, to maintain 100 feet of defensible space around structures. The intensity of fuels management may vary within the 100-foot zone, the first 30 feet from the structure being the most intense in terms of fuels management. AB 2911 also authorized the creation of firebreaks and allows state or local agencies to designate a defensible space zone that is greater than 100 feet, if required. Reducing vegetation in the defensible space zone is intended to help slow or stop the spread of wildfire and to help protect structures from catching fire—either from direct flame contact or radiant heat. Defensible space is also important for the protection of firefighters.

Public Resources Code Sections 4427 and 4442 – Fire Prevention

Public Resources Code Section 4427 prohibits the use or operation of any motor, engine, boiler, stationary equipment, welding equipment, cutting torches, grinding devices, or other tools from which a spark or flame may originate—during periods when a burn permit is required—on forest-covered land, brush-covered land, or grass-covered land, without doing both of the following:

1. First clearing away all flammable material, including snags, from the area around such operation for a distance of 10 feet; and
2. Maintaining one serviceable round point shovel with an overall length of not less than forty-six (46) inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation.

(Public Resources Code Section 4427 does not apply to portable power-saws and other portable tools powered by a gasoline-fueled internal combustion engine.)

Public Resources Code Section 4442 prohibits the use of any internal combustion engine which uses hydrocarbon fuels on any forest-covered land, brush-covered land, or grass-covered land unless the engine is equipped with a spark arrester or the engine used to power a vehicle is equipped with a muffler.

Burn Permits

Residential burning is the most common burning activity in Placer County. Residents most commonly burn vegetation from yard clean-up. Materials that may be legally burned in the Planning Area consist of dry tree and brush trimmings, dry leaves and pine needles, dry plants, and dry weeds; burning of household trash or garbage is not allowed. A burn permit is required from the South Placer Fire District. Burning is only allowed on days and hours permitted by Placer County Air Pollution Control District. As part of the burn permit, the following actions and restrictions apply:

- Maximum pile size is 4 feet in diameter.
- Clear all flammable material and vegetation within 10 feet of the outer edge of the burn pile.
- Keep a water supply close to the burn pile.
- An adult must be in attendance with a shovel until the fire is out.
- No burning may be undertaken unless weather conditions are safe, with no strong wind.
- The permittee must maintain the original signed permit in their possession during the burning operation and is responsible for maintaining control of the fire at all times.

Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the State agency, for the management of hazardous materials and the generation, transport and disposal of hazardous waste under the authority of the Hazardous Waste Control Law. Since August 1, 1992, DTSC has been authorized to implement the state's hazardous waste management program for California Environmental Protection Agency (CalEPA).

California Occupational Safety and Health Administration

California Occupational Safety and Health Administration (Cal-OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations within California. Cal-OSHA regulations pertaining to the use of hazardous materials in the workplace (Title 8 of the California Code of Regulations) include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and preparation of emergency action and fire prevention plans. Cal-OSHA enforces hazard communication program regulations that contain training and information requirements, including procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous-waste sites. The hazard communication program requires that employers make Safety Data Sheets available to employees, and requires documentation of informational and training programs for employees.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) was established in 1967 by combining the State Water Quality Control Board and the State Water Rights Board, but its work originated in the 1950's. The Central Valley RWQCB is authorized by the SWRCB to enforce provisions of the Porter-Cologne Water Quality Control Act of 1969. This act gives the Central Valley RWQCB authority to require groundwater investigations when the quality of groundwater or surface waters of the state is threatened and to require remediation of the site, if necessary.

California Department of Transportation

The California Department of Transportation (Caltrans) was established in 1972 and manages more than 50,000 miles of California's highway and freeway lanes, provides inter-city rail services, and permits more than 400 public-use airports and special-use hospital heliports. Caltrans is also the first responder for hazardous material spills and releases that occur on highway and freeway lanes and inter-city rail services.

Senate Bill 1082, California Environmental Protection Agency's Unified Program

In 1993, Senate Bill 1082 gave CalEPA the authority and responsibility to establish a unified hazardous waste and hazardous materials management and regulatory program, commonly referred to as the Unified Program. The purpose of this program is to consolidate and coordinate six different hazardous materials and hazardous waste programs, and to ensure that they are consistently implemented throughout the state. The Unified Program is overseen by CalEPA with support from DTSC, RWQCBs, the California Office of Emergency Services (OES), and the State Fire Marshal.

The Unified Program Administration and Advisory Group (UPAAG) was created to foster effective working partnerships between federal, State and local agencies. The UPAAG's goals and objectives are listed in the UPAAG Strategic Plan. The six programs are:

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- California Accidental Release Prevention Program
- Underground Storage Tank Program
- Aboveground Petroleum Storage Act Program
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs
- California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements

State law requires county and local agencies to implement the Unified Program. The agency in charge of implementing the program is called the Certified Unified Program Agency (CUPA). The Placer County Environmental Health Services Division is the designated CUPA for the county and the Town of Loomis. The Town and the Placer County Environmental Health Services Division work together to regulate hazardous materials in the Planning Area.

Assembly Bills 2185 and 2189, Hazardous Materials Business Emergency Response Plan Program, CA Health and Safety Code Chapter 6.95

The State of California requires an owner or operator of a facility to complete and submit a Hazardous Material Business Plan (HMBP) to the Governor's OES if the facility handles a hazardous material or mixture containing a hazardous material in amounts greater than specified threshold quantities. Placer County Environmental Health is responsible for the implementation of the HMBP program in Placer County. Congress requires Environmental Protection Agency (EPA) Region 9 to make HMBP program information available to the public through the EPA's Envirofacts Data Warehouse.

California Air Resources Board

The California Air Resources Board (CARB) oversees implementation of and compliance with the National Emission Standard for Hazardous Air Pollutants (NESHAP) for asbestos, and investigates all related complaints, as specified by California Health and Safety Code Section 39658 (b)(1). The Placer County Air Pollution Control District requires notification of CARB and EPA for demolition and renovation where asbestos-containing materials may be present. CARB reviews and investigates each notification and if it is determined that a structure contains asbestos-containing materials, demolition or renovation of the structure must be compliant with NESHAP standards for demolition and renovation (40 CFR 61.145).

Lead-Based Paint, California Code of Regulations Title 17

Title 17, Division 1, Chapter 8, of the California Code of Regulations requires that work on any structure built prior to January 1, 1978 use lead-safe practices. Such practices include containment of the work area and cleaning of the work area after project completion. California Code of Regulations Chapter 8 also covers accreditation of training providers and certification of individuals to perform lead abatement. Cal-OSHA provides construction and general industry lead standards within Title 8 of the California Code of Regulations, which contains occupational health requirements for lead abatement. DTSC regulations for hazardous waste are provided within California Code of Regulations Title 22, Division 4.5. Demolition or renovation of structures with lead-based paint would be required to comply with procedures in California Code of Regulations Title 22.

California Department of Transportation (Caltrans)

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria specified in the protocol are the same as those specified by FHWA.

Governor's Office of Planning and Research (OPR)

OPR has developed guidelines for the preparation of general plans (Office of Planning and Research, 2017). The guidelines include land use compatibility guidelines for noise exposure.

Local Plans, Policies, Regulations, and Laws

Placer County Local Hazard Mitigation Plan

Loomis is a participant, in cooperation with Placer County, in the Placer County Local Hazard Mitigation Plan (LHMP) (Town of Loomis and Placer County 2016). The LHMP, Annex D, provides a vulnerability assessment that analyzes the population, property, and other assets at risk to hazards ranked of medium or high significance in the Planning Area. The analysis is primarily focused on flooding, wildfire, and hazardous materials transport; it also includes earthquakes and severe weather. Programs, plans, policies, codes, and ordinances that would reduce these hazards are identified in the LHMP. Mitigation and loss prevention are focused on implementation of the identified programs, plans, policies, codes, and ordinances. The 2016 LHMP does not include a vulnerability analysis related to climate change, which was not required at the time the LHMP was prepared. Placer County kicked off its 2021 LHMP Update in October 2020. The Town of Loomis continues to be a participating jurisdiction in the County's LHMP. Climate change is one of the hazard areas being addressed as a part of this update and will be included in the Loomis Annex to inform the 2021 LHMP.

Placer County Health and Human Services Strategic Plan

Placer County Health and Human Services serves the community through direct services and a network of public, private, and community-based partners for a safe and healthy community. Placer County Health and Human Services department is split into six divisions: Adult System of Care; Children's System of Care; Human Services; Public Health; Environmental Health and Animal Services; and Administrative Services. Placer County Health and Human Services underwent a strategic planning process in 2018 to

2019, incorporating the perspectives of a wide range of stakeholders, to produce its 2019-2021 Strategic Plan: "Building a Healthier Community Together." This plan serves as a blueprint for the department regarding how to meet the current and changing needs of the community, including addressing public health and other human services, as well as emergency management and preparedness. Placer County Health and Human Services coordinates with a wide range of local, regional, and State agencies and organizations to comprehensively serve the community.

Placer County Community Wildfire Protection Plan

The Placer County Community Wildfire Protection Plan (Anchor Point 2012), presents as assessment of the existing wildfire risk for each local community and fire department capabilities (based on 2012 conditions), describes resources available to residents, and provides recommendations to reduce wildfire risk.

Loomis Municipal Code 12.04 – Grading, Erosion, and Sediment Control

A grading permit is required in situations where the amount of grading exceeds 50 cubic yards, would occur within a riparian area, or would involve clearing more than 1 acre of land. The grading permit requires submittal of grading plans, construction specifications, details related to construction in any water sources, necessary drainage facilities, an erosion and sediment control plan that provides the details of temporary and permanent sediment control measures, a landscaping plan (including temporary erosion control plantings), and calculations related to cut and fill. If rough grading is proposed between October 1 and May 1, a more detailed schedule of grading activities and use of erosion and sediment control facilities may be required.

Loomis Municipal Code Section 11.08 – Flood Damage Prevention

The Town's Flood Damage Prevention Ordinance is designed to protect public health and safety, and to minimize public and private losses due to flood conditions. The ordinance includes specific methods and provisions to:

- Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
- Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- Control the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel flood waters;
- Control filling, grading, dredging and other development which may increase flood damage; and
- Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

Loomis Municipal Code Section 11.04 – Adoption of California Fire Code, As Amended

The South Placer Fire District evaluated the CBC Title 24, Part 9, known as the 2019 California Fire Code, and prepared an amendment that reflects the local climatic, geological, and topographical conditions in Placer County. The Town has adopted the 2019 California Fire Code with the local amendments, in Loomis Municipal Code Section 11.04. The California Fire Code establishes minimum standards for protection of life and property from fire, explosion, and hazardous materials release. Fire districts are authorized by law to enact stricter standards than those in state or local codes. Municipal Code Section 11.04 regulates roadway widths and turning radii, posting of plainly visible building addresses, fire flow requirements, storage of flammable hazards materials, and addresses interior building sprinkler systems and alarms, construction of turn-arounds at dead-end roads, and fire access roadways and gates.

Loomis Municipal Code Section 13.34.050 – Landscape Standards in Fire-prone Areas

Loomis Municipal Code Section 13.34.050 requires that on sites in heavily wooded and/or vegetated areas of the Planning Area that are identified by the fire district as being fire-prone, fire prevention will be addressed by providing fire-resistant landscaping buffers between development areas and naturally vegetated areas.

Loomis General Plan

The existing Town of Loomis General Plan goals and policies can be found in the Public Health & Safety Element (Chapter VIII) in General Plan Volume I. The Town's goals are to protect Town residents and workers from natural and human-induced hazards, including harmful and annoying noise effects, mitigate noise effects created by roadway traffic and non-residential land uses while discouraging the construction of sound walls, maintain and enhance the quiet and rural ambiance of the Town, and to minimize noise effects of railroad operations on residential and other sensitive land uses.