

## **CHAPTER 16 CEQA CONSIDERATIONS**

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### **16.1 INTRODUCTION**

Section 15126 of the California Environmental Quality Act (CEQA) Guidelines requires that all aspects of a project be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, an environmental impact report (EIR) must also identify (1) significant environmental effects of a proposed project, (2) significant environmental effects that cannot be avoided if a project is implemented, (3) significant irreversible environmental changes that would result from implementation of a project, (4) growth-inducing impacts of a proposed project, (5) cumulative effects of a project (evaluated in Chapter 15), and (6) alternatives to the proposed project.

### **16.2 SIGNIFICANT ENVIRONMENTAL EFFECTS**

The Executive Summary (Chapter 2) and Chapters 4 through 14 of this Draft EIR provide a comprehensive identification of the potential significant environmental effects of the Alpine Sierra Subdivision (proposed project), including the level of significance before and after mitigation.

### **16.3 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS**

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with implementation of feasible mitigation measures. The environmental effects of Alternative A and Alternative B on various aspects of the environment are discussed in Chapters 4 through 14 of this Draft EIR. The analysis throughout this Draft EIR demonstrates that all of the project's significant and potentially significant impacts can be reduced to less than significant with implementation of mitigation measures. There are no significant and unavoidable impacts.

### **16.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL IMPACTS**

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental change that would be caused by a proposed project. Generally, a project would result in significant irreversible changes if:

- The primary and secondary impacts would generally commit future generations to similar uses (such as highway improvement that provides access to a previously inaccessible area);
- The project would involve a large commitment of nonrenewable resources (14 CCR 15126.2[c]);

- The primary and secondary impacts would generally commit future generations to similar uses;
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project;
- The project would involve a large commitment of nonrenewable resources; and/or
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Implementation of the proposed project under either Alternative A or Alternative B would result in the long-term commitment of resources of the project site to urban land use. The proposed project would likely result in or contribute to the following irreversible environmental changes:

- Conversion of undeveloped land. Approximately 33 acres of undeveloped land would be converted to suburban uses, thus precluding other alternate land uses in the future.
- Irreversible consumption of energy and natural resources associated with future use of the site.

The proposed project would result in the commitment of the project site to suburban development, thereby precluding other uses for the lifespan of the project. Restoration of the site to pre-developed conditions would not be feasible given the degree of disturbance, the development of the area, and the level of capital investment.

Resources that would be permanently and continually consumed by project implementation would include water, electricity, natural gas, and fossil fuels. Wood products, asphalt, and concrete would be used in construction, along with gas and diesel fuel. During operation, compliance with all applicable state and local building codes, as well as mitigation measures, planning policies, and standard conservation features, would ensure that resources are conserved to the maximum extent possible. Under either Alternative A or Alternative B, the proposed project would incorporate a number of “sustainable” practices aimed to reduce the consumption of energy. Nonetheless, construction activities related to the proposed project would result in irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels, natural gas, and gasoline and diesel for automobiles and construction equipment.

The CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by environmental accidents associated with a project. Although the project would result in the use, transport, storage, and disposal of minor amounts of hazardous materials during project construction and operation, all such activities would comply with applicable local, state, and federal laws related to the use, storage, and transport of hazardous materials, which would reduce the likelihood and severity of accidents that could result in irreversible environmental damage. The proposed project itself does not include any uniquely hazardous uses that would

require any special handling or storage. Further, the proposed project would not contain any industrial uses that would use or store acutely hazardous materials.

Implementation of the proposed project under either Alternative A or Alternative B would result in the long-term commitment of resources to urban development. The most notable significant irreversible impacts include the use of non-renewable and/or slowly renewable natural and energy resources, such as lumber and other forest products and water resources during construction activities. Operations associated with future uses would also consume natural gas, electricity, and water. These irreversible impacts, which are unavoidable consequences of urban growth, are described in detail in the appropriate chapters of this Draft EIR.

## **16.5 ENERGY CONSUMPTION**

CEQA provides that an EIR must include an evaluation of the potential energy impacts of a proposed project, and include mitigation measures to avoid or reduce inefficient, wasteful, and unnecessary consumption of energy (California Public Resources Code Section 21100[b][1][3]). Appendix F of the CEQA Guidelines, Energy Conservation, includes recommendations for the types of information and potential energy impacts that should be included in an EIR to ensure that “energy implications are considered in project decisions.” This analysis addresses the following recommendations from Appendix F, Subdivision (II)(F)(C), to the discussion of impacts: energy requirements and energy use efficiencies of the project by fuel type and amount for each stage of the project, energy consumption associated with the building materials used for construction, the effects of the proposed project on local and regional energy supplies and on requirements for additional capacity, compliance with existing energy standards, the effects of the proposed project on energy resources, and the project’s projected transportation energy use requirements.

### **16.5.1 Energy Setting**

#### **Regional Service**

##### ***Electricity***

Liberty Utilities West, whose parent company is Algonquin Power and Utilities Corporation, provides electricity to the project area. Liberty Utilities West is a regulated utility that delivers service to nearly 49,000 customers in the Lake Tahoe region (Liberty Utilities 2015a). Alpine Meadows receives electricity from the Squaw Valley substation of Liberty Utilities’ North Lake Tahoe transmission system (Capitol Utility Specialists 2014). Liberty Utilities procures its electricity from Sierra Pacific Power Company, a subsidiary of NV Energy. As of 2014, NV Energy provided Liberty Utilities with 20% of its energy through renewable resources (CPUC 2014).

Seasonal, economic, and demographic characteristics of the region create a wide range of electrical demand throughout the year. Demand on the North Lake Tahoe Transmission System is greatest during the winter at the height of the local tourist season for residential, commercial, and recreational uses. The North Lake Tahoe Transmission System is designed to supply a maximum of 88 mega volt-amperes (a measure of electrical power capacity that considers voltage and amperes, similar to a watt) (Ascent Environmental 2013).

Under the California Renewable Portfolio Standard, electricity providers are required to obtain at least 33% of its retail electric sales from eligible renewable energy resources by 2020. Liberty Utilities has so far met its Renewable Portfolio Standard goals. In 2013, 21.7% of total electric sales were supplied by renewable (100% geothermal) sources (CPUC 2014).

The online database of the California Energy Commission (CEC) shows that statewide electricity generation exceeds 200,000 gigawatt-hours (GWh) each year, with natural gas as the main source for electricity generation, responsible for 60.5% of the total in-state electric generation system power. In addition, the state's Renewables Portfolio Standard established a goal for power suppliers in California to increase the amount of electricity generated from renewable energy resources to 20% by 2010 and to 33% by 2020. Currently, California's in-state renewable generation consists of biomass, geothermal, small hydro, wind, and solar generation sites that make up approximately 19.6% of the total in-state generational output (CEC 2014).

Based on recent energy supply and demand projections in California, statewide annual peak demand is projected to grow an average of 890 megawatts per year for the next decade, or 1.4% annually. CEC indicates that power providers have an available supply of approximately 351,568 GWh of power to meet a projected statewide demand of approximately 325,221 GWh in 2018. Data available on the CEC website shows that electricity consumption in Placer County in 2013 was approximately 2,876 GWh annually (CEC 2015a).

### ***Natural Gas and Propane***

Propane service to the area is provided by AmeriGas. AmeriGas serves more than 2 million customers from more than 2,500 distribution locations across the country (Amerigas 2015). Individual homeowners of the proposed residences must install underground propane tanks in accordance with the Placer County Code, Chapter 15, and the NTFPD Standards and Requirements (NTFPD 2013).

### **Local Service and Use**

The project site is currently undeveloped and does not contain electricity or natural gas infrastructure. However, electric power lines run along the southern boundary of the project site, which serve the existing residential development.

Liberty Utilities is currently in the process of completing upgrades to its distribution system (Liberty Utilities 2015b).

## **16.5.2 Regulatory Framework**

### **16.5.2.1 Federal**

There are federal regulations that address energy efficiency in the built environment, fuel efficiency for motor vehicles, energy sources used in the United States, and national conservation goals, but none of these regulations or policies applies directly to the proposed project or this analysis of the project's energy consumption.

### **16.5.2.2 State**

#### ***Global Warming Solutions Act***

Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (Chapter 488, Statutes of 2006), enacted Sections 38500–38599 of the California Health and Safety Code. AB 32 establishes regulatory, reporting, and market procedures to achieve quantifiable reductions in greenhouse gas (GHG) emissions and a cap on statewide GHG emissions. AB 32 requires reduction of statewide GHG emissions to 1990 levels by 2020. The procedures for reducing GHG emissions relate to the generation and efficient use of energy. The California Air Resources Board adopted the Climate Change Scoping Plan in 2008, which is the state's plan to achieve the statewide GHG reductions required by AB 32 (CARB 2008). The most significant proposed GHG reductions are recommended through improving emissions standards for light-duty vehicles, implementing the Low-Carbon Fuel Standard, improving energy efficiency in buildings and appliances, and implementing a Renewable Portfolio Standard for electricity production.

#### ***California Energy Commission***

The CEC Integrated Energy Policy Report (CEC 2015b) sets forth policies that would enable the state to meet its energy needs under the carbon constraints set forward in the 2006 Global Warming Solutions Act. The Integrated Energy Policy Report also provides a set of recommended actions to achieve these policies.

#### ***Title 24, California Code of Regulations, Energy Efficiency Standards***

Title 24 sets the energy efficiency standards for residential and nonresidential buildings. CEC adopted changes to the Building Energy Efficiency Standards to accomplish the following:

1. Respond to California's energy crisis to reduce energy bills, increase energy delivery system reliability, and contribute to an improved economic condition for the state.

2. Respond to the AB 970 (Statutes of 2000) urgency legislation to adopt and implement updated and cost-effective building energy efficiency standards.
3. Respond to various statutes of 2001, which included urgency legislation to adopt energy efficiency building standards for outdoor lighting.
4. Emphasize energy efficiency measures that save energy at peak periods and seasons, improve the quality of installation of energy efficiency measures, incorporate recent publicly funded building science research, and collaborate with California utilities to incorporate results of appropriate market incentives programs for specific technologies.

Additionally, the 2013 California Green Building Standards Code, or CALGreen Code (California Code of Regulations, Title 24, Part 11), which took effect on January 1, 2014, requires reduced energy and water consumption in new buildings, and establishes specific performance standards that appliances and fixtures must meet. CALGreen contains mandatory and voluntary measures for site planning and design, energy efficiency, water efficiency and conservation, materials conservation, resource use efficiency, and environmental quality (California Building Standards Commission 2013).

### ***California Renewable Portfolio Standard***

Under Senate Bill X1-2, signed into law in April 2011, the Renewable Portfolio Standard applies to all electricity retailers in California. These entities must meet the Renewable Portfolio Standard goals of 20% of retail sales from eligible renewables by the end of 2013, 25% by the end of 2016, and 33% by 2020.

#### **16.5.2.3 Local**

### ***Placer County General Plan***

The Placer County General Plan (Placer County 2013) lists the following goal related to energy consumption:

**Policy 6.F.5:** The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of Countywide indirect and area-wide source programs and transportation control measures (TCM) programs. Project review shall also address energy-efficient building and site designs and proper storage, use, and disposal of hazardous materials.

## **Placer County Code**

### **Section 15.04.900, CALGreen Code adopted.**

Placer County Code Section 15.04.900 adopts the 2013 California Green Building Standards.

## **16.5.3 Impacts**

### **16.5.3.1 Significance Criteria**

Appendix F of the CEQA Guidelines does not provide a specific numeric threshold to evaluate the potential significance of the energy effects of a proposed project. Rather, the emphasis is on reducing “the wasteful, inefficient, and unnecessary consumption of energy.” To use this standard as a threshold of significance, the following criteria are considered in this analysis:

Project-related energy usage would be considered “wasteful, inefficient, and unnecessary” if any of the following occurred:

1. The project were to violate state and federal energy standards, including Title 24 of the California Code of Regulations.
2. The project consumed a substantially greater amount of energy, in either the construction or operational phase, than a similar project.
3. The project objectives could be achieved through a feasible alternative that would substantially reduce the amount of energy required over the life of the project or through a feasible alternative that would include use of alternative fuels or energy systems.

### **16.5.3.2 Project Impacts**

#### **Impact 16.1**

Would the project cause a temporary increase in wasteful, inefficient, and unnecessary energy consumption due to construction?

<b>Significance and Mitigation</b>	<b>Alternative A</b>	<b>Alternative B</b>
Significance before mitigation:	Less than significant	Less than significant
Mitigation measures:	None	None
Significance after mitigation:	Less than significant	Less than significant

Based on the California Emissions Estimator Model (CalEEMod) modeling prepared to evaluate the project’s air quality and climate change effects, it is expected that project construction under either Alternative A or Alternative B would require approximately 3.5 years. Anticipated

construction phases are site preparation (vegetation removal), grading, paving of roads and infrastructure, building construction, and architectural coatings.

Heavy-duty construction equipment of various types that would rely on diesel fuel would be used during each phase of construction. The CalEEMod analysis discussed in Chapter 9, Air Quality, and included in Appendix G to this EIR includes the proposed construction schedule and assumed equipment usage. Based on the modeling for Alternative A, over all phases of construction throughout the 3.5-year construction period, diesel-fueled on-site construction equipment would run for approximately 57,240 hours. Assuming an average diesel fuel efficiency of 1.74 gallons per hour (EPA 2010), on-site construction equipment would consume approximately 99,598 gallons of diesel. With a conversion factor of 40.7 kilowatt-hours (kWh) per gallon of diesel, the energy consumption due to on-site equipment operation would be approximately 4,053,622 kWh.

In addition to the on-site construction equipment, CalEEMod estimates that approximately 59 daily truck trips would be required to import and export soil, which would generate a total of 1,500 haul trips over the 75-day grading phase. With a hauling trip length of 20 miles, grading would generate approximately 3,000 vehicle miles traveled. Assuming an average diesel fuel efficiency of 6 miles per gallon for medium-heavy-duty and heavy-heavy-duty haul trucks (Energy Information Administration 2013), hauling would consume approximately 500 gallons of diesel. With a conversion factor of 40.7 kWh per gallon of diesel, the energy consumption due to hauling would be 20,350 kWh.

During the construction phase, it is expected that vendors will travel to and from the site in diesel-fueled vehicles to deliver materials. CalEEMod estimates that 14,800 total trips would be taken by vendors, which would generate approximately 108,040 vehicle miles traveled. Assuming an average diesel fuel efficiency of 6 miles per gallon (U.S. Energy Information Administration 2013), vendor trips would consume approximately 18,007 gallons of diesel. With a conversion factor of 40.7 kWh per gallon of diesel, the energy consumption due to hauling would be approximately 732,871 kWh.

The number of construction workers required would vary based on the construction phase and activity. The amount of fuel construction workers would require for transportation would depend on the total number of worker trips needed for the duration of construction activity. CalEEMod estimates that construction would generate 43,345 worker trips (over all construction phases), which would generate approximately 468,126 vehicle miles traveled. Assuming an average fuel efficiency of 17.5 miles per gallon (Economic Perspective 2013), demolition and construction activities on site would use approximately 26,750 gallons of gasoline for construction worker trips. With a conversion factor of 33.7 kWh per gallon of gasoline, the annual energy



consumption due to gasoline-fueled transportation by construction worker trips to and from the project site would be 901,477 kWh.

According to a 2012 study by the U.S. Energy Information Administration, California's transportation sector consumed 14.1 billion gallons of gasoline and 3 billion gallons of diesel. The 2035 Regional Transportation Plan (Placer County Transportation Planning Agency 2010) projected that in 2015, fuel consumption within Placer County would total 185,807 million gallons of gasoline and 39,185 million gallons of diesel. Based on the fuel usage amounts presented above, construction of the proposed project would use approximately 26,750 gallons of gasoline and 118,105 gallons of diesel over the 3.5-year construction period. Thus full project construction would consume approximately 0.1% of the typical amount of gasoline consumed in the county in a single year; and in each individual year of construction the project would comprise approximately 0.004% of the annual gasoline consumption in the County. Similarly, full project construction would consume approximately 3% of the typical amount of diesel fuel consumed in the county in a single year; and in each individual year of construction the project would comprise approximately 1% of the annual diesel fuel consumption in the County.

As demonstrated in Chapter 9, Air Quality, and Chapter 10, Greenhouse Gases, construction of Alternative B would generate slightly lower emissions of air pollutants and greenhouse gases than Alternative A. Construction of Alternative B would also require slightly less energy than construction of Alternative A due to the reduced amount of building space under Alternative B.

Temporary electric power for as-necessary lighting and electronic equipment (such as computers inside temporary construction trailers) would be provided by Liberty Utilities West. This would result in an increased demand for electricity on site, as the project site is currently undeveloped. However, there are existing power lines adjacent to the project site that serve the existing residences and could be used as a power source during construction.

Project construction would also involve use of non-renewable or slowly renewing resources used to create building materials, including certain types of lumber and other forest products; aggregate materials used in concrete and asphalt such as sand, gravel, and stone; metals such as steel, copper, and lead; petrochemical construction materials such as plastics; and water.

The following discussion identifies the most common building materials that would be used at the project site, and the embodied energy of those materials based on data available from the U.S. Department of Energy Buildings Energy Data Book (U.S. Department of Energy 2012).

1. The embodied energy of exterior walls constructed with 2×6 wood studs placed 24 inches on-center and wood cladding is 0.05 MMBtu per square foot. Other commercial exterior wall assemblies have embodied energy as high as 0.30 MMBtu per square foot, with 0.10 MMBtu representing the mid-range embodied energy. Based on the CalEEMod model

assumptions for the amount of exterior surface area to be painted, the proposed buildings would have a combined exterior wall surface square footage of approximately 149,850 square feet. This would represent 14,985 MMBtu.

2. The embodied energy of interior walls constructed with 2×4 wood studs placed 16 inches on-center and gypsum board is 0.03 MMBtu per square foot. Based on the CalEEMod model assumptions for the amount of interior surface area to be painted, the proposed buildings would have a combined interior wall surface square footage of approximately 449,550 square feet. This would represent 13,487 MMBtu.
3. The embodied energy of flooring assemblies varies from 0.02 MMBtu to 0.13 MMBtu. The proposed residences are assumed to have approximately 222,000 square feet of flooring in total. Using a mid-range value of 0.06 MMBtu for the embodied energy, the flooring materials would represent approximately 13,320 MMBtu.
4. The embodied energy of commercial roofing products varies from 0.10 MMBtu per square foot to 0.51 MMBtu per square foot depending on the type of roofing system used. The proposed residences are assumed to have approximately 140,000 square feet of roofing in total, based on the allowable coverage for each lot. Using a mid-range value for embodied energy, roofing materials would represent approximately 42,700 MMBtu.
5. The embodied energy of commercial windows varies from 0.233 MMBtu per square foot to 0.973 MMBtu per square foot, with vinyl (PVC) windows representing a mid-range value of 0.557 MMBtu per square foot of embodied energy. It is estimated that the each residence constructed on site would contain approximately 450 square feet of windows, for a total of 23,400 square feet, representing approximately 13,034 MMBtu of embodied energy.

Under stated assumptions, the materials used to construct the proposed project would represent 97,526 MMBtu. Converting to kWh, where 1 MMBtu is equal to 293.297 kWh, the embodied energy of these materials would be 28,604,083 kWh.

Table 16-1, Energy Consumption from Construction, summarizes the energy consumption associated with construction at the project site.

**Table 16-1**  
**Energy Consumption from Construction**

Source	(kWh Consumed)
Diesel fuel consumption	4,806,843
Gasoline consumption	901,477
Building materials embodied energy	29,604,083
<b>Total</b>	<b>35,312,403</b>

kWh = kilowatt-hours.

Construction would comply with all relevant energy-related regulations and Placer County’s green building requirements by conserving energy and natural resources to the extent feasible. The energy demands due to diesel and gasoline use during construction would be small relative to county-wide fuel use. Specifically, annual gasoline fuel consumption during construction is expected to reflect approximately 0.004% of the annual gasoline consumption in the County while annual diesel fuel consumption during construction is expected to comprise approximately 1% of the annual diesel fuel consumption in the County. Energy consumption during proposed project construction would be commensurate with typical construction projects and would not use energy wastefully or inefficiently. Therefore, temporary, short-term energy consumption during construction, including the energy consumption represented by use of building materials, would be **less than significant**.

### Impact 16.2

Would the project cause a permanent increase in wasteful, inefficient, and unnecessary energy consumption or fail to comply with state and federal energy standards?

Significance and Mitigation	Alternative A	Alternative B
Significance before mitigation:	Less than significant	Less than significant
Mitigation measures:	None	None
Significance after mitigation:	Less than significant	Less than significant

### Daily Operations

As discussed in Chapter 3, Project Description, Alternative A proposes to construct 47 single-family residences on the 47.3-acre site while Alternative B would construct 38 single-family residences on the site. Alternative A and Alternative B would also include secondary dwelling units on up to five lots and one homeowners’ association (HOA) caretaker unit, for a maximum total of 53 dwelling units under Alternative A and 44 dwelling units under Alternative B.

The daily operation of the proposed project under either Alternative A or Alternative B would generate demand for electricity, natural gas, and water supply, as well as generating wastewater requiring off-site conveyance, treatment, and disposal.

Because of the terrain of the Alpine Meadows area, which is characterized by a narrow valley and steep mountain faces with limited accessibility, it would be infeasible to use on-site renewable energy sources such as hydropower, biodiesel, or ocean-dependent technologies. The dense tree canopy at the site and location of the site on a north-facing slope could limit the feasibility of using on-site solar power generation.

The CalEEMod modeling program estimated energy usage associated with building systems that are regulated under Title 24 of the California Code of Regulations (such as the heating and cooling system); lighting; and use of office equipment, appliances, plug-ins, and other sources not covered by Title 24. The CalEEMod program estimated that Alternative A would consume 715 MMBtu of natural gas annually and 343,148 kWh of electricity generated off site annually. Converting the natural gas energy consumption to kWh, the total energy consumption from project operation is estimated to be 552,855 kWh annually.

The CalEEMod assumptions for vehicle miles traveled were modified to match the trip generation rates provided in the LSC Transportation Consultants' 2015 Traffic Impact Analysis for Alternative A (Appendix E) and to reflect the assumption that 75% of the single-family homes would be vacation homes. As shown in Appendix G Alt A adjusted annual VMT totals, CalEEMod estimated that the Alternative A would generate a total of 1,387,577 vehicle miles travelled per year. Assuming an average fuel efficiency of 17.5 miles per gallon (State Board of Equalization 2013), Alternative A would increase consumption of gasoline by 79,290 gallons annually (assuming a baseline condition of zero daily trips generated by the undeveloped project site). With a conversion factor of 33.7 kWh per gallon of gasoline, the annual energy consumption due to these additional trips would be 2,672,073 kWh.

Under Alternative B, the annual VMT total would be 1,305,387 (Appendix G Alt B adjusted annual VMT totals). This would result in consumption of 74,594 gallons annually, which correlates to annual consumption of 2,513,818 kWh.

Adding the increase in energy consumption within the on-site buildings to the increase in energy consumption associated with gasoline usage for vehicles traveling to and from the site, there could be an increase in local energy consumption due to Alternative A of approximately 3,224,928 kWh. This would be slightly reduced under Alternative B. As discussed in Chapter 4, under either alternative, the project would develop residential uses for the site, as envisioned in the Placer County General Plan and the Alpine Meadows General Plan (Placer County 1968). Based on regional development trends, it is expected that demand for residential development in the area will continue to be strong, indicating that the energy consumption used by this or any other residential project would not be unnecessary. Therefore, the impact of energy consumption at the proposed project under either Alternative A or Alternative B would be considered **less than significant**.

### Impact 16.3

Could the proposed project objectives be achieved through a feasible alternative that would substantially reduce the amount of energy required over the life of the project or through a feasible alternative that would include use of alternative fuels or energy systems?

Significance and Mitigation	Alternative A	Alternative B
Significance before mitigation:	Less than significant	Less than significant
Mitigation measures:	None	None
Significance after mitigation:	Less than significant	Less than significant

As discussed under Impacts 16.1 and 16.2, Alternative A and Alternative B would have **less-than-significant** impacts related to energy consumption during construction and operation. The approximate amount of energy to be consumed by the project is also identified under those impact discussions. CEQA Guidelines, Appendix F, states that the alternatives in an EIR should be compared “in terms of overall energy consumption and in terms of reducing wasteful, inefficient and unnecessary consumption of energy” (CEQA Guidelines, Appendix F, subdivision E). The analysis of project alternatives provided in Section 16.7, Project Alternatives, considers whether any of the feasible project alternatives would substantially reduce the amount of energy required over the life of the project, and finds that each of the project alternatives would result in similar amounts of energy consumption. When energy consumption would be reduced compared to Alternative A, it is because an alternative would reduce the number of dwelling units and therefore proportionate amounts of energy consumed during construction and vehicle traffic generated by the project. None of the alternatives would result in a more efficient use of energy. As local demand for residences increases, it is expected that residential development will continue, and energy would be consumed in other residences. Therefore, a reduced amount of residential development at the project site would not necessarily reduce residential energy consumption in the region. Although the Reduced Density Project Alternative (Alternative B) may reduce energy consumption at Alternative A site, it would not reduce community-wide energy consumption.

No project alternatives have been identified that would substantially reduce energy demands or improve energy efficiency associated with Alternative A; this impact is **less than significant**.

## 16.6 GROWTH-INDUCING IMPACTS

As required by Section 15126.2(d) of the CEQA Guidelines, an EIR must discuss ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also, the EIR must discuss the characteristics of a project that could encourage and facilitate other activities that could

significantly affect the environment, either individually or cumulatively. Growth can be induced in a number of ways, such as through the elimination of obstacles to growth, the stimulation of economic activity within the region, or the establishment of policies or other precedents that directly or indirectly encourage additional growth. Under CEQA, this growth is not to be considered necessarily detrimental, beneficial, or of significant consequence. Induced growth would be considered a significant impact if it can be demonstrated that the potential growth, directly or indirectly, significantly affects the environment.

A project could foster spatial, economic, or population growth in a geographic area if the project removes an impediment to growth (e.g., the establishment of an essential public service, the provision of new access to an area, or a change in zoning or General Plan amendment approval), or economic expansion or growth occurs in an area in response to the project (e.g., changes in revenue base, employment expansion). These circumstances are further described below.

- **Elimination of Obstacles to Growth:** This refers to the extent to which a proposed project removes infrastructure limitations or provides infrastructure capacity, or removes regulatory constraints that could result in growth unforeseen at the time of project approval.
- **Economic Effects:** This refers to the extent to which a proposed project could cause increased activity in the local or regional economy. Economic effects can include such effects as the “multiplier effect.” A “multiplier” is an economic term used to describe interrelationships among various sectors of the economy. The multiplier effect provides a quantitative description of the direct employment effect of a project, as well as indirect and induced employment growth. The multiplier effect acknowledges that the on-site employment and population growth of each project is not the complete picture of growth caused by the project.

### **Limitations on Analysis of Growth Inducement**

Under the provisions of Senate Bill 375, if an EIR prepared for a residential or mixed-use residential project is consistent with the general land use designation, density, building intensity, and applicable policies specified for the project area, a sustainable communities strategy “is not required” to discuss growth-inducing impacts, or any project-specific or cumulative impacts from cars and light-duty truck trips on global warming, or on the regional transportation network (California Public Resources Code, Section 21159.28[a]; Gov. Code, Section 65080[b][2][I]).

### **Elimination of Obstacles to Growth**

The elimination of either physical or regulatory obstacles to growth is considered to be a growth-inducing effect, though not necessarily a significant one. A physical obstacle to growth typically

involves the lack of public service infrastructure. The extension of public service infrastructure, including roadways, water mains, and sewer lines, into areas that are not currently provided with these services would be expected to support new development. Similarly, the elimination or change to a regulatory obstacle, including existing growth and development policies, could result in new growth.

### **Removal of Infrastructure Limitations or Provision of Capacity**

The elimination of physical obstacles to growth is considered a growth-inducing effect, although not necessarily a significant one. Physical constraints to growth in the vicinity of the project site include existing development to the north and south of the project site.

The proposed project under either Alternative A or Alternative B would construct on-site infrastructure sized to serve development approved under the project. The project site is adjacent to existing single-family and multi-family residences and the Alpine Meadows Ski Resort to the south, which would preclude development immediately south of the site, and residential development in the Bear Creek Association neighborhood to the north. Development of on-site infrastructure to accommodate the project would not be considered growth inducing because there are existing development limitations (existing development and topography) within the area that would limit further development. Utility infrastructure is available to the site, although utility lines need to be extended and road access constructed to provide access to the site. To the north and south are developed areas currently served by local utility providers, so the connection to existing infrastructure to serve the project site would not induce growth in this area.

In addition to installation of on-site infrastructure, the project would provide a fair-share contribution of funding for the construction of several planned system-wide upgrades to the Alpine Springs County Water District (ASCWD) potable-water infrastructure. Those upgrades are targeted to resolve existing deficiencies in the system and would not add significant new capacity beyond that required to serve the project. No upgrades to sewer trunk lines, no new wastewater treatment capacity, and no new roadway capacity would be added.

Due to the location of the project site and the sizing of the on-site and off-site infrastructure improvements, the proposed project under either Alternative A or Alternative B would not eliminate any constraints that are currently obstacles to growth in this portion of Placer County that would hasten development of this area.

### **Economic Effects**

The proposed project would affect the local economy through construction of new residences that would encourage people to live in Placer County and would help encourage people to stay near

existing amenities (Alpine Meadows Ski Resort) and to take advantage of proximity to local shops, restaurants, and other amenities in nearby Lake Tahoe, Squaw Valley, and the Town of Truckee.

Additional local employment can be generated through the multiplier effect, as discussed previously in this chapter. The multiplier effect tends to be greater in regions with larger, diverse economies due to a decrease in the requirement to import goods and services from outside the region.

Two different types of additional employment are tracked through the multiplier effect. Indirect employment includes those additional jobs that are generated through the expenditure patterns of direct employment associated with the project. Indirect jobs tend to be in relative proximity to the places of employment and residence.

The multiplier effect also calculates induced employment. Induced employment follows the economic effect beyond the expenditures of the residents within the project area to include jobs created by the stream of goods and services necessary to support residences within the project area. When a manufacturer buys or sells products, the employment associated with those inputs or outputs are considered induced employment. For example, when resident of a project goes out to lunch, the person who serves the resident lunch holds a job that is indirectly related to a project. When the server then goes out and spends money in the economy, the jobs generated by this third-tier effect are considered induced employment.

The multiplier effect also considers the secondary effect of employee expenditures. Thus, it includes the economic effect of the dollars spent by those employees and residents who support the employees of a project.

Increased future employment generated by employee spending ultimately results in physical development of space to accommodate those employees. It is the characteristics of this physical space and its specific location that will determine the type and magnitude of environmental impacts of this additional economic activity. Although the economic effect can be predicted, the actual environmental implications of this type of economic growth are too speculative to predict or evaluate, since they can be spread throughout an area and beyond.

Alternative A would contribute 53 new dwelling units to the project region while Alternative B would contribute 44 new dwelling units. Each of these alternatives would include one employee housing unit and up to 5 guest houses, which would be secondary units to the primary residence on the parcel. Based on existing residential occupancy patterns in the region as documented in the Traffic Impacts Analysis (Appendix E), the single-family residences constructed on-site are expected to be largely seasonal vacation homes. While these new residences would support some amount of amount of induced growth in the area, the increase in economic activity would be marginal when considered against the relative amount of existing shopping, dining, entertainment/



recreation, and other sectors of the economy in the nearby area and region. The Truckee–Tahoe region supports a residential population of 31,699 full-time residents and a visitor population that can reach the hundreds of thousands of people on a busy weekend. The region hosts over 6 million visitors annually. Additionally, of the working full-time residents, 62% are employed by tourist-related industries (Community Collaborative of Tahoe Truckee 2016).

### **Impacts of Induced Growth**

Growth induced directly and indirectly by the proposed project could contribute to environmental impacts in Placer County and Truckee (as discussed in Chapters 4 through 14 of this EIR) and the greater region. Any such environmental effects, however, are too diffuse and speculative to predict or describe with any certainty.

Indirect and induced population growth in Placer County and Truckee would further contribute to the loss of open space because it would encourage the conversion of undeveloped land to urban uses for additional housing and infrastructure. However, it is assumed that this new growth would occur within areas designated and zoned for development. However, the particular open space that might get converted within the greater region cannot be predicted with any certainty.

In summary, although the proposed project under either Alternative A or Alternative B would contribute to growth in the region, the project’s contribution to regional growth is expected to be limited relative to existing economic activity throughout the region based on the size of the project and the potential residential population that would be supported on-site. Further, the consequences of such growth inducement are too speculative to predict; therefore, they cannot be said to contribute meaningfully to any significant environmental effect. Growth-inducing effects would be **less than significant**.

## **16.7 PROJECT ALTERNATIVES**

### **16.7.1 Alternatives Analysis**

Pursuant to the CEQA Guidelines, EIRs are required to “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives” (14 CCR 15126.6[a]). This alternatives analysis is prepared in support of CEQA’s goals to foster informed decision making and public participation (14 CCR 15126.6[a]). An EIR is not required to evaluate the environmental impacts of alternatives at the same level of detail as the proposed project, but it must include enough information to allow meaningful evaluation, analysis, and comparison with the proposed project.

The alternatives analysis is required even if the alternatives “would impede to some degree the attainment of the project objectives, or would be more costly” (14 CCR 15126.6[b]). An EIR must evaluate “only those alternatives necessary to permit a reasoned choice” (14 CCR 15126.6[f]) and does not need to consider “every conceivable alternative” to a project (14 CCR 15126.6[a]). The alternatives evaluated should be “potentially feasible” (14 CCR 15126.6[a]), but inclusion of an alternative in an EIR does not constitute definitive evidence that the alternative is in fact “feasible.” The final decision regarding the feasibility of alternatives lies with the decision makers for a given project who must make the necessary findings addressing the feasibility of alternatives for avoiding or substantially reducing a project’s significant environmental effects (California Public Resources Code, Section 21081; see also 14 CCR 15091).

This Draft EIR considers two project alternatives at an equal level of detail – one that would develop 47 single-family residential units (Alternative A) and one that would develop 38 single-family residential units (Alternative B). These alternatives are described in detail in Chapter 3 Project Description and the environmental effects of each are evaluated throughout chapters 4 through 16. In addition, this chapter identifies additional alternatives that were selected for analysis, evaluates the environmental impacts associated with them, and compares the impacts with those of Alternative A. This chapter also identifies those alternatives considered by Placer County but not carried forward for detailed analysis, and it describes the basis for the County’s decision to omit those alternatives from the detailed analysis.

In conformity with CEQA, the purpose of this analysis is to focus on alternatives that are potentially feasible, and that would avoid or substantially lessen any of the significant effects of the project. Both Alternative A and Alternative B would result in the significant and unavoidable impacts listed in Section 16.3.

### **16.7.2 Project Objectives**

The project applicant identified the following objectives for the proposed project:

1. Provide housing within walking distance of the ski area.
2. Develop consistent with allowable density under the General Plan and zoning.
3. Create a high-end subdivision of at least 38 residential lots that respects and responds to the surrounding subdivisions (Bear Creek Association and Alpine Estates Subdivision), and is appropriate for the site’s physical and environmental conditions.
4. Develop the site at sufficient density to offset the high cost of infrastructure.
5. Provide a mix of residential development in both large and small lots.

6. Design subdivision access to use Alpine Meadows Road and not the internal roads of existing subdivisions.
7. Provide a fire-safe residential development by expanding defensible space to the entire project site.
8. Create a phasing plan that has sufficient flexibility to be responsive to future market conditions.
9. Maximize market by optimizing views, adjacency to open space, and exclusivity by fully using developable land to the extent practical.
10. Provide large-lot single-family home sites to address the lack of supply of high-quality vacant home sites in the Alpine Meadows Valley.
11. Minimize the footprint of infrastructure by providing for reduced road platforms and using low-impact-development design features.
12. Improve life/safety services to existing residents by improving water supply and water system reliability and supplying fire protection equipment.
13. Reduce traditional hardscape pedestrian features by using soft surface trails as opposed to traditional sidewalks.
14. Preserve natural and environmentally sensitive areas to the extent practical and prescribe building envelopes on home sites to limit areas of disturbance.
15. Develop the land efficiently with a variety of housing types, designs, and layouts using best management practices (BMPs) and low-impact-development design features to ensure high-quality development.
16. Avoid or minimize impacts to environmental resources (seasonal stream corridors, riparian areas, rock outcroppings) where feasible, and incorporate mitigation for environmental effects into project design (if applicable).
17. Provide a mixture of open space areas in excess of Placer County Code minimums, and provide homeowners' association (HOA) recreational amenity areas for residents of the proposed project.
18. Provide a pedestrian-friendly trail system for project residents that are largely separate from roadways and maintain existing public USFS trails.

### **16.7.3 Alternatives Selected for Analysis**

Throughout Chapters 4 through 14, Alternative A and Alternative B have been evaluated at an equal level of detail. This section evaluates three additional project alternatives, including two versions of the no project alternative. The environmental effects of each alternative relative to the environmental effects of Alternative A and Alternative B are evaluated below. The

conclusions from this analysis are listed in the alternatives summary matrix provided at the end of this discussion.

The project alternatives were chosen based on a balancing of considerations of each alternative's ability to best meet the project objectives stated above and to avoid or substantially lessen the significant effects of the proposed project. The selected alternatives constitute a reasonable range of project alternatives due to their consideration of different variations in the size and layout of proposed project components. As noted previously, the intent of this alternatives analysis is to identify a means of avoiding or substantially lessening any of the significant effects of the proposed project. The analysis throughout chapters 4 through 15 show that under either Alternative A or Alternative B, the project would result in no significant and unavoidable environmental effects. The project would result in 30 significant and potentially significant impacts that would be reduced to less-than-significant levels with implementation of the mitigation measures identified in this EIR.

The project alternatives are evaluated as part of the “range of reasonable alternatives” required under CEQA. They are described in the following subsections.

#### **16.7.3.1 Alternative B: Reduced Project Alternative**

Under Alternative B, the project site would be developed with 38 single-family homes, 5 guest houses, and 1 HOA unit. There would be approximately 18.93 acres of designated open space. Alternative A and Alternative B would have generally the same development footprint, with the exception that Alternative B would include 4.72 acres more open space, an increase of approximately 33% compared to Alternative A.

The western portion of the site would contain 10 single-family residences with an average lot size of 0.29 acres and 1 HOA unit. The eastern portion would contain 28 single-family lots, including up to 5 guest houses within those 28 lots, with an average lot size of 0.65 acres. Alternative B proposes 9 fewer primary units and the same number (5) of secondary units as compared to Alternative A.

The impacts that would result from Alternative B have been evaluated throughout Chapters 4 through 14 of this Draft EIR.

#### **16.7.3.2 Alternative C: No Project**

Two versions of the No Project Alternative are evaluated. Alternative C1 assumes no development would occur on site, while Alternative C2 assumes that Alternative A would not be approved and a separate proposal would be submitted to the County for development of the site consistent with the zoning designations as currently configured on-site. The No Project Alternative is a required element

of an EIR pursuant to Section 15126.6(e) of the CEQA Guidelines that examines the environmental effects that would occur if the project were not to proceed.

Alternative C1 would result in the project site remaining vacant while Alternative C2 would result in a site design similar to Alternative A. The development pod in the western portion of the site would include the 14 proposed halfplex units, four single-family lots, and one HOA lot. This would reduce development in this portion of the site by two single-family lots. Under Alternative C2, the development in the eastern portion of the site would omit proposed Lot 1 and reduce the size of proposed Lot 2 as they are proposed for an area that is currently designated open space.

Alternative C1 would involve no development on site, leaving all 47 acres in open space. Alternative C2 would develop 3 fewer primary unit and the same number (5) of secondary units as Alternative A, for a total of 50 residences (including the HOA unit). Alternative C2 would retain the 9.8 acres currently designated as open space.

### **16.7.3.3 Alternative D: Environmentally Constrained Alternative**

This alternative would be nearly identical to Alternative B except that it would eliminate Lots 6, 7 and 27 in the eastern development pod in order to provide greater avoidance of impacts to sensitive resources. In particular, this alternative would include avoidance of development on any slopes greater than 30% (same as Alternative B) and elimination of two road crossings of the unnamed seasonal stream on the site, which would reduce potential impacts to riparian habitat associated with construction of the two bridges. Alternative D would have a reduced development footprint compared to Alternative A or Alternative B and a larger area of open space would be retained in the central portion of the site because lots 6, 7 and 27 would be eliminated and the area of those lots would be rezoned to open space. Although the zoning in the southeast corner of the project site allows for residential development, no development would occur within this area due to the presence of a Potential Avalanche Hazard Area.

This alternative would develop 35 single-family homes, 5 guest houses, and 1 HOA unit. There would be approximately 21.26 acres of designated open space. The western portion of the site would contain 10 single-family residences with an average lot size of 0.29 acres and 1 HOA unit. The eastern portion would contain 25 single-family lots, including up to 5 guest houses within those 25 lots, with an average lot size of approximately 0.65 acres. Alternative D proposes 12 fewer primary units than Alternative A, 3 fewer primary units than Alternative B, and the same number (5) of secondary units.

#### 16.7.3.4 Additional Alternatives Considered but Rejected

The following alternatives were initially considered but rejected from further consideration. The CEQA Guidelines provide that reasons to eliminate potential alternatives from detailed consideration in an EIR can include (1) failure to meet most of the basic project objectives, (2) infeasibility, and (3) inability to avoid significant environmental impacts. Factors that may be considered to determine if an alternative is feasible include site suitability, economic viability, and general plan consistency. The following alternatives were preliminarily considered but rejected from further evaluation for the reasons described below.

- **BCA Access Alternative:** An alternative that would create roadway access to the eastern portion of the project site through the adjacent Bear Creek Association subdivision and use the Alpine Meadows Road access only for the western portion of the site was described as a potential project alternative in the Notice of Preparation for this EIR. Several comments received in response to the Notice of Preparation identified concerns that Bear Creek Association and Alpine Meadows Estates residents had regarding this alternative. The Bear Creek Association HOA voted not to grant the Alpine Sierra Subdivision project applicant an access easement through the Bear Creek Association. Therefore, this alternative would not be feasible and has been rejected from further consideration.
- **Off-Site Location:** An alternative that would place the proposed development in another location was considered. Based on a review of vacant property in the region, it was determined that other potential sites would present similar constraints to development, such as slope and the associated need for grading, potential to adversely affect surface water quality, presence of sensitive habitat or potential habitat for special-status species, and limited public service infrastructure and roadway capacity. Further, another location would not avoid or substantially reduce the project's air pollution and GHG emissions. In addition, while there are a limited number of properties located within the Alpine Meadows General Plan that include comparable residential zoning, nearly all of the property is under the ownership of the United States (U.S. Department of Agriculture Forest Service lands) and the ASCWD and therefore is not available for development. An off-site location alternative was rejected from further consideration because it would not be capable of reducing or avoiding the project's significant impacts.

#### 16.7.4 Alternative C: No Project Alternative

Under the No Project Alternative C1, the project site would remain in open space. Under the No Project Alternative C2, the project site would be developed under the existing zoning designations for the site.

## **Land Use**

Both Alternative A and Alternative B were found to have less-than-significant impacts related to land use. While Alternative A and Alternative B would modify the zoning designations across the site, the proposed development would be consistent with the allowable uses for the site and compatible with neighboring residential development.

Under Alternative C1, the project site would not be developed. No new land uses would be introduced to the project site and there would be no potential for impacts associated with land use compatibility to occur.

Under Alternative C2, the project would be developed based on the existing zoning and would be consistent with the allowable land uses for the site. Alternative C2 would develop the site with a similar residential lot layout as Alternative A and Alternative B and the residential development under this alternative would also be compatible with adjacent residential development. Conflicts with PAHAs would not occur because no new homes would be constructed within PAHAs.

## **Visual Resources**

Both Alternative A and Alternative B were found to have less than significant impacts on views from Five Lakes Trail and less than significant impacts to views of the site from adjacent properties.

Under the No Project Alternative C1, there would be no changes to the project site, no loss of visual resources, and no effects on scenic vistas.

Under the No Project Alternative C2, residential development would occur in two development pods, similar to Alternative A and Alternative B. The total extent of development would be reduced under Alternative C2 compared to Alternative A and Alternative B. The residential development, including linear improvements such as the project roadway and retaining walls, would remain visible from the Five Lakes Trail but, consistent with the analysis of Alternative A and Alternative B, the development would not create substantial changes in the views from the trail and the impact would remain less than significant.

## **Biological Resources**

Both Alternative A and Alternative B were found to have less-than-significant impacts to biological resources with implementation of mitigation measures.

Alternative C1 would result in the site remaining undeveloped. There would be no adverse effects on biological resources.

Development under Alternative C2 would result in the same types of impacts to biological resources as Alternative A and Alternative B. Five road crossings of creeks and streams would be necessary, as included in Alternative A and Alternative B. Mitigation measures for Alternative C2 would be necessary to require pre-construction surveys for active nests and roosts, use of avoidance measures to reduce impacts to wetlands and riparian habitat, and compensatory measures to address any riparian habitat impacts that cannot be avoided. Impacts to biological resources under Alternative C2 would be similar in type and extent to the impacts of Alternative A and Alternative B.

### **Transportation and Circulation**

Alternative A and Alternative B were found to have less-than-significant impacts to traffic with implementation of mitigation measures that identify requirements related to providing adequate sight distance for the project access roadway and obtaining will-serve letters from the North Tahoe Fire Protection District (NTFPD) and ASCWD and contributing equipment and funding for facility improvements to ensure that adverse effects associated with emergency access are avoided.

Alternative C1 would leave the project site undeveloped; therefore, the mitigation measures requiring contributions to the NTFPD and ASCWD would not be implemented. Under Alternative A or Alternative B, the project applicant would be required to purchase and donate to the fire district a standard four-wheel-drive Type 1 pumper truck with a 1,500-gallon-per-minute pump and a 750-gallon water tank. This donation would not be made under Alternative C1.

Alternative C2 would develop 3 fewer unit than Alternative A, which would slightly decrease the project's contribution to local and regional traffic and would slightly decrease the project's contribution to demands for fire protection services. Alternative C2 would result in a reduced funding contribution to the ASCWD for improvements to the booster pumps; however, the contribution would be proportional to the water demands for Alternative C2. The requirement to purchase and donate a pumper truck to the NTFPD would be applied to Alternative C2. Thus the impacts related to emergency access would remain less than significant.

### **Noise**

Both Alternative A and Alternative B were found to have less-than-significant impacts related to noise generation and noise exposure. Alternative C1 would leave the project site undeveloped and would not generate any noise. Alternative C2 would develop 3 fewer units than Alternative A, which would slightly reduce the project's contribution to increases in ambient noise levels. It is anticipated that noise levels would remain within acceptable levels or where noise levels already meet or exceed acceptable levels, the noise levels would not increase sufficiently to



result in a perceptible change in noise conditions. Impacts would remain less than significant under Alternative C2.

### **Air Quality**

Both Alternative A and Alternative B were found to have less than significant impacts after mitigation to air quality during project construction and operation. Alternative C1 would leave the project site undeveloped and would not result in air quality impacts. Alternative C2 would require generally the same amount of road and infrastructure construction and would develop 3 fewer unit than Alternative A, which would slightly reduce the project's contribution to increases in air pollutant emissions in the region. However, the reduction by 3 single-family residence under Alternative C2 would not substantially reduce air pollutant emissions associated with construction or project operation, and impacts would be similar to those of the proposed project.

### **Greenhouse Gases**

Both Alternative A and Alternative B were found to have less-than-significant impacts after mitigation related to GHG emissions during construction and during project operation. Alternative C1 would leave the project site undeveloped and would not result in any GHG emissions. Alternative C2 would require generally the same amount of construction activity as Alternative A and Alternative B. Because this alternative would develop 3 fewer single-family residence than Alternative A, it would slightly reduce the GHG emissions during project operation. Alternative A was estimated to generate 1,718 metric tons of CO<sub>2</sub>e emissions from motor vehicle use; emissions from Alternative C2 would be similar and would continue to exceed the Placer County APCD recommended threshold of 1,100 metric tons. Therefore implementation of mitigation requiring payment of carbon offset fees would be necessary to reduce the impact to a less-than-significant level, consistent with Alternative A and Alternative B.

### **Geology and Soils**

Both Alternative A and Alternative B were found to have less-than-significant impacts related to geology and soils with implementation of mitigation measures that stipulate use of BMPs in grading and construction. Alternative C1 would leave the project site undeveloped and therefore would have no impacts related to geology and soils. No grading or other activities would occur on site. Alternative C2 would require generally the same amount and type of construction activities and impacts would remain the same as under Alternative A and Alternative B and would require implementation of the mitigation measures identified in Chapter 11, Geology and Soils. With implementation of mitigation measures, impacts to geology and soils under Alternative C2 would be reduced to less-than-significant levels.

## Hydrology and Water Quality

Both Alternative A and Alternative B were found to have less than significant impacts related to hydrology and water quality with implementation of mitigation measures that stipulate use of BMPs in grading and construction. Alternative C1 would leave the project site undeveloped and would have no impacts to hydrology and water quality. Alternative C2 would require generally the same amount and type of construction activities and would result in a slight reduction in impervious surface that would be created at the project site. Impacts would remain the same as under Alternative A and Alternative B and would require implementation of the mitigation measures identified in Chapter 12, Hydrology and Water Quality, to ensure impacts are reduced to less-than-significant levels.

## Hazards and Hazardous Materials

Both Alternative A and Alternative B would result in potential impacts related to increased risk of wildfire and development within potential avalanche hazard areas. These impacts would be reduced to less than significant levels with implementation of mitigation measures.

Alternative C1 would leave the project site undeveloped and no forest management or fuel reduction measures would be taken. This would leave the project site in the current high-fire-hazard condition, which could expose existing residences in the vicinity to risks associated with wildfire.

In comparison to Alternative A and Alternative B, Alternative C2 would eliminate proposed Lot 1, which is proposed to be located partially within one of the identified PAHAs on the site. However, Alternative C2 would maintain proposed Lot 3, which also includes a portion of a PAHA. The impacts related to avalanche hazards would be largely reduced under Alternative C2 compared to Alternative A and Alternative B. With respect to wildfire, development under Alternative C2 would be subject to the same defensible space requirements identified in Alternative A and Alternative B Development Standards and Forest Management and Fuel Reduction Plan, and the same mitigation measures required of Alternative A and Alternative B. While development would be slightly reduced under Alternative C2, the risk of exposure to wildfire would be generally the same as for Alternative A and Alternative B. This impact would be reduced to a less than significant level with implementation of the mitigation measures identified in chapter 13 and the EPEP developed for the project (proposed EPEP for Alternative B is provided in Appendix J; under Alternative A a new EPEP would be prepared as required in Mitigation Measure 13.1c).

## Public Services and Utilities

Both Alternative A and Alternative B would result in less-than-significant impacts to most public service and public utility providers. Mitigation measures are required to ensure that the NTFPD

has adequate equipment and water pressure for fire suppression activities. Implementation of the mitigation measures would improve fire protection services throughout the NTFPD service area.

Alternative C1 would leave the project site undeveloped and no contributions to the NTFPD or ASCWD would be made. Thus, there would be no improvement in fire protection services district-wide.

Under Alternative C2, which would develop 10 fewer single-family residences than Alternative A, demands for public services and public utilities would be less than the demands of Alternative A. Impacts would be generally the same as under Alternative A, and implementation of the same mitigation measures would be required to ensure that all impacts remain less than significant.

### **Energy Consumption**

As discussed in Section 16.5, Energy Consumption, both Alternative A and Alternative B would consume energy during construction and project operation. Alternative C1 would leave the project site undeveloped and would result in no energy consumption. Alternative C2 would develop 10 fewer single-family residences than Alternative A. This would reduce energy consumption during construction and operation. However, Alternative C2 would not result in a higher energy efficiency than Alternative A or Alternative B; thus, the impacts would be generally the same as Alternative A and Alternative B.

### **16.7.5 Alternative D: Environmentally Constrained Alternative**

Under the Environmentally Constrained Alternative, the project site would be developed similar to Alternative A but with a reduced footprint to provide for greater avoidance of sensitive resources. This alternative would develop 35 single-family homes, 5 guest houses, and 1 HOA unit. There would be approximately 21.26 acres of designated open space. The western portion of the site would contain 10 single-family residences with an average lot size of 0.29 acres and 1 HOA unit. The eastern portion would contain 25 single-family lots, including up to 5 guest houses within those 25 lots, with an average lot size of approximately 0.65 acres. Alternative D proposes 12 fewer primary units than Alternative A, 3 fewer primary units than Alternative B, and the same number (5) of secondary units as either Alternative A or B.

### **Land Use**

Both Alternative A and Alternative B were found to have less-than-significant impacts on related to land use. Alternative D would develop residential land uses at the site, the same as Alternative A and Alternative B. The residential development would be consistent with the allowable uses for the site and compatible with neighboring residential development. Under Alternative D, the project footprint would be reduced. Open space along the properties northern boundary would be

expanded slightly, which would increase the distance between development on-site and the neighboring Bear Creek Association development in some locations. Alternative D would develop the site with a similar residential lot layout as Alternative B except that 3 additional lots would be eliminated (Lots 6, 7 and 27). Residential development under this alternative would also be compatible with adjacent residential development.

### **Visual Resources**

Both Alternative A and Alternative B were found to have less than significant impacts on views from Five Lakes Trail and less than significant impacts to views of the site from adjacent properties. Under Alternative D, residential development would occur in two development pods, most similar to Alternative B. The total extent of development would be reduced under Alternative D compared to Alternative A, with 10 fewer units in the western pod and 2 fewer units in the eastern pod. The residential development, including linear improvements such as the project roadway and retaining walls, would remain visible from the Five Lakes Trail but, consistent with the analysis of Alternative A and Alternative B, the development would not create substantial changes in the views from the trail and the impact would remain less than significant.

### **Biological Resources**

Both Alternative A and Alternative B were found to have less-than-significant impacts to biological resources with implementation of mitigation measures. Development under Alternative D would result in reduced impacts to biological resources compared to Alternative A and Alternative B. While Alternative A and Alternative B include five road crossings of creeks and streams, Alternative D would eliminate proposed Lots 6, 7 and 27 to avoid the need for two crossings. Although potential impacts to biological resources would be reduced under Alternative D, mitigation measures would be necessary to require pre-construction surveys for active nests and roosts, use of avoidance measures to reduce impacts to wetlands and riparian habitat, and compensatory measures to address any riparian habitat impacts that cannot be avoided. Impacts to biological resources under Alternative D would be similar in type and but reduced in extent relative to the impacts of Alternative A and Alternative B though they would be less overall as Alternative D would include more open space and have fewer stream crossings.

### **Transportation and Circulation**

Alternative A and Alternative B were found to have less-than-significant impacts to traffic operations and potentially significant impacts related to emergency access to the site. Alternative D would also involve development of a project with a single point of vehicular access; therefore, it would have the same potentially significant impacts related to emergency access. Alternative D would result in development of 12 fewer units than Alternative A, which would decrease the project's contribution to this significant impact. Although impacts would be reduced,

implementation of mitigation measures requiring of provision of adequate sight distance for the project access roadway, obtaining will-serve letters from the NTFPD and ASCWD, and contributing equipment and funding for facility improvements would be necessary for this alternative to ensure that adverse effects associated with emergency access are avoided.

### **Noise**

Both Alternative A and Alternative B were found to have less-than-significant impacts related to noise generation and noise exposure. Alternative D would develop 12 fewer units than Alternative A, which would reduce the project's contribution to increases in ambient noise levels. It is anticipated that noise levels would remain within acceptable levels or where noise levels already meet or exceed acceptable levels, the noise levels would not increase sufficiently to result in a perceptible change in noise conditions. Impacts would remain less than significant and would be reduced under Alternative D relative to Alternative A and Alternative B.

### **Air Quality**

Both Alternative A and Alternative B were found to have less than significant impacts after mitigation to air quality during project construction and operation. Alternative D would require generally the same amount of road and infrastructure construction and would develop 12 fewer units than Alternative A, which would decrease the project's contribution to increases in air pollutant emissions in the region. The reduction by 12 single-family residences under Alternative D would represent a 23% decrease in the size of the project compared to Alternative A. This would result in a proportional reduction in air pollutant emissions associated with construction and project operation. Implementation of the mitigation measures identified in Chapter 9, Air Quality, would be necessary to ensure that the impacts of Alternative D are reduced to a less-than-significant level.

### **Greenhouse Gases**

Both Alternative A and Alternative B were found to have less-than-significant impacts related to GHG emissions and climate change because either alternative would generate GHG emissions that remain below the Placer County APCD GHG threshold. Alternative D would slightly reduce the amount of construction activity on site, and would reduce GHG emissions associated with project operation by approximately 23% compared to Alternative A. This would reduce the project's operational GHG emissions to 798 metric tons of CO<sub>2</sub>e annually. This is less than the Placer County APCD's recommended threshold of 1,100 metric tons. Thus, Alternative D would result in a less-than-significant impact related to GHG emissions and no mitigation would be required.

## **Geology and Soils**

Both Alternative A and Alternative B were found to have less than significant impacts related to geology and soils with implementation of mitigation measures that stipulate use of BMPs in grading and construction. Alternative D would require generally the same amount and type of construction activities and impacts would remain the same as under Alternative A and Alternative B and would require implementation of the mitigation measures identified in Chapter 11, Geology and Soils.

## **Hydrology and Water Quality**

Both Alternative A and Alternative B were found to have less than significant impacts related to hydrology and water quality with implementation of mitigation measures that stipulate use of BMPs in grading and construction. Alternative D would require generally the same amount and type of construction activities and would result in a slight reduction in impervious surface that would be created at the project site. Impacts would remain the same as under Alternative A and Alternative B and would require implementation of the mitigation measures identified in Chapter 12, Hydrology and Water Quality.

## **Hazards and Hazardous Materials**

Both Alternative A and Alternative B would result in potential impacts related to increased risk of wildfire and development within potential avalanche hazard areas. These impacts would be reduced to less than significant levels with implementation of mitigation measures. In comparison to Alternative A, Alternative D would have 12 fewer lots. The impacts of Alternative A and Alternative B related to avalanche conditions would be less than significant, and these impacts would be substantially the same under Alternative D.

With respect to wildfire, while development would be reduced under Alternative D, the risk of exposure to wildfire would be generally the same as for Alternative A or Alternative B. Development under Alternative D would be subject to the same defensible space requirements identified in Alternative A and Alternative B Development Standards and Forest Management and Fuel Reduction Plan, and the same mitigation measures required of Alternative A and Alternative B to ensure that impacts associated with wildfire risks are reduced to a less-than-significant level.

## **Public Services and Utilities**

Both Alternative A and Alternative B would result in less than significant impacts to most public service and public utility providers. Mitigation measures are required to ensure that the NTFPD has adequate equipment and water pressure for fire suppression activities. Under Alternative D, which would develop 12 fewer single-family residences than Alternative A, demands for public services

and public utilities would be slightly less than the demands of Alternative A. Impacts would be generally the same as under Alternative A and Alternative B, and implementation of the same mitigation measures would be required to ensure that all impacts remain less than significant.

### **Energy Consumption**

As discussed in Section 16.5, both Alternative A and Alternative B would consume energy during construction and project operation. Alternative D would result in development of 12 fewer single-family residences than Alternative A. This would reduce overall energy consumption during construction and operation. However, Alternative D would not result in higher energy efficiency than Alternative A and Alternative B because there would be no changes in the development standards or types of buildings constructed. While Alternative D would consume less energy overall than either Alternative A or Alternative B, it would not provide a higher energy efficiency and thus the impacts of Alternative D related to energy consumption would be generally the same as those of Alternatives A and B.

### **16.7.6 Summary Matrix**

A matrix summarizing the relative magnitude of environmental effects under each alternative is provided in Table 16-2, Alternatives Impact Summary.

**Table 16-2  
Alternatives Impact Summary**

Environmental Issue	Alternative A Impacts Before Mitigation	Alternative A Impacts with Mitigation	Alternative B Impacts Before Mitigation	Alternative B Impacts with Mitigation	Alternative C1	Alternative C2	Alternative D
Land Use	PS	LTS	PS	LTS	▼	—	—
Visual Resources	S	LTS	S	LTS	▼	—	—
Biological Resources	S	LTS	S	LTS	▼	—	▼
Transportation and Circulation	S	LTS	S	LTS	▼	▼	▼
Noise	PS	LTS	PS	LTS	▼	—	—
Air Quality	LTS	LTS	LTS	LTS	▼	—	▼
Greenhouse Gases	LTS	LTS	LTS	LTS	▼	—	▼
Geology and Soils	PS	LTS	PS	LTS	▼	—	▼
Hydrology and Water Quality	S	LTS	S	LTS	▼	—	▼
Hazards	PS	LTS	PS	LTS	—	—	▼
Public Services and Utilities	S	LTS	S	LTS	—	—	—
Energy Consumption	LTS	LTS	LTS	LTS	▼	—	—

LTS = less-than-significant impact; PS = potentially significant impact; S = significant impact.

▲ Alternative is likely to result in greater impacts to issue when compared to proposed project.

— Alternative is likely to result in similar impacts to issue when compared to proposed project.

▼ Alternative is likely to result in reduced impacts to issue when compared to proposed project.



### **16.7.7 Environmentally Superior Alternative**

As indicated in Table 16-2, the No Project – No Development Alternative (C1) would result in reduced impacts in most resource areas compared to Alternative A or Alternative B while the No Project –Existing Designations and Zoning Alternative (C2) would result in similar environmental impacts as Alternative A and Alternative B. The Environmentally Constrained Alternative (Alternative D) would slightly reduce impacts in the areas of biological resources, transportation and circulation, noise, air quality, GHGs, geology and soils, and hydrology and water quality. Alternative D would be the environmentally superior alternative. However, it is noted that this EIR demonstrates that neither Alternative A nor Alternative B would result in any significant and unavoidable impacts. .

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