5.6 Air Quality

5.6 AIR QUALITY

This section addresses the air emissions generated by the construction and operation of the proposed project, and the potential impacts to air quality. The analysis also addresses the consistency of the proposed project with the air quality policies set forth within the *Mammoth Lakes Air Quality Maintenance Plan and PM_{10} Redesignation Request for the Town of Mammoth Lakes* (2014 AQMP) prepared by the Town of Mammoth Lakes and the Great Basin Unified Air Pollution Control District (GBUAPCD). The analysis of project-generated air emissions focuses on whether the proposed project would cause an exceedance of an ambient air quality standard or GBUAPCD significance threshold. Air quality technical data is included in Appendix 11.5, *Air Quality/Greenhouse Gas Emissions Data*.

5.6.1 EXISTING SETTING

GREAT BASIN VALLEYS AIR BASIN

Geography

The Town of Mammoth Lakes (Town) is located in the Great Basin Valleys Air Basin (Basin), which is bounded by the Sierra Nevada mountain range to the west, the White, Inyo, and Coso ranges to the east, Mono Lake to the north, and Little Lake to the south. The Basin includes Mono County, where the project site is located, as well as Alpine and Inyo Counties.

The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of air pollutants throughout the Basin.

Climate

The climate of the area consists of variable daily temperatures, clear skies, warm summers, cold winters, and low humidity. The Town is located at an average elevation of 8,000 feet above mean sea level, and encompasses approximately 25 square miles of land. The Town receives an average snowfall of over 200 inches per year. The majority of precipitation takes place between the winter months of December and February with an annual average of 43 inches of water (equivalent to approximately 29 feet of snowpack) recorded at Mammoth Pass.

The average annual temperature varies from a minimum in the upper 20 degrees Fahrenheit (°F) to a maximum of mid to high 50's. January is usually the coldest month, while July and August are usually the warmest months. The average annual wind speed in the area is less than 10 miles per hour (mph), the strongest beginning in the spring months. Average annual relative humidity is approximately 50 percent, and skies are mostly clear. Spring is the windiest season with fast-moving northerly weather fronts. Due to the increased elevation of the Town relative to some of the lower lying areas in the Basin, winds are primarily light and variable. Occasionally, a westerly "Zephyr" wind blows beginning in the early afternoon until the early evening during summer months.

LOCAL AMBIENT AIR QUALITY

The GBUAPCD monitors air quality at 20 monitoring stations throughout the Basin. The monitoring station representative of this area is the Bishop-Line Monitoring Station, which is located approximately 36 miles southeast of the project site. The Bishop-Line Monitoring Station monitoring station monitors particulate matter (PM_{10}), fine particulates ($PM_{2.5}$), and Ozone (O_3). However, the Bishop-Line Monitoring Station monitoring station only has O_3 data for 2015. Therefore, O_3 data from 2013 and 2014 was gathered from the Death Valley monitoring station, which is located approximately 140 miles southeast of the project site. The air quality data from 2013 to 2015 monitored at these stations are presented in Table 5.6-1, *Local Air Quality Levels*.

Table 5.6-1
Local Air Quality Levels

Pollutant	Primary Standard		Year	Maximum Concentration[1]	Number of Days State/Federal Std. Exceeded
	California	Federal			
Ozone (O_3) [2] (1-Hour)	0.09 ppm for 1 hour	N/A	2013[2] 2014[2] 2015[3]	0.080 ppm 0.080 0.076	0/NA 0/NA 0/NA
Ozone (O_3) [2] (8-Hour)	0.07ppm for 8 hours	0.075 ppm for 8 hours	2013[2] 2014[2] 2015[3]	0.074 ppm 0.076 0.070	5/0 3/0 0/0
Particulate Matter (PM_{10}) [3, 4, 5]	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours	2013 2014 2015	325.0 µg/m^3 159.0 289.0	0/3 0/1 0/1
Fine Particulate Matter ($PM_{2.5}$) [3,5]	No Separate State Standard	35 µg/m^3 for 24 hours	2013 2014 2015	N/A N/A 97.1 µg/m^3	N/A v 3/0

ppm = parts per million
µg/m^3 = micrograms per cubic meter
NM = Not Measured
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less
NA = Not Applicable

Notes:
1. Maximum concentration is measured over the same period as the California Standard.
2. Measurements taken at the Death Valley National Monument Monitoring Station (located near Furnace Creek, Death Valley, California 92328).
3. Measurements taken at the Bishop-Line Monitoring Station located at 300 East Line Street, Bishop, CA 93514.
4. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
5. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: California Air Resources Board, *ADAM Air Quality Data Statistics*, http://www.arb.ca.gov/adam/, accessed on August 3, 2016.

Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions.

CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of carbon monoxide. Exposure to high levels of carbon monoxide can slow reflexes and cause drowsiness, and result in death in confined spaces at very high concentrations.

Ozone (O_3). Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" ozone layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" ozone is a photochemical pollutant, and needs volatile organic compounds (VOCs), nitrogen oxides (NO_X), and sunlight to form; therefore, VOCs and NO_X are ozone precursors. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While ozone in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone (in the troposphere) can adversely affect the human respiratory system and other tissues. Ozone is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of ozone. Short-term exposure (lasting for a few hours) to ozone at elevated levels can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

Nitrogen Dioxide (NO_2). Nitrogen oxides (NO_X) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations).

NO_2 can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Coarse Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter, which is smaller than 10 microns or ten one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, the California Air Resources Board (CARB) adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter ($PM_{2.5}$). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States Supreme Court reversed this decision and upheld the EPA's new standards.

On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

Sulfur Dioxide (SO_2). SO_2 is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with SO_X and lead (Pb). Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics.

SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The following types of people are most likely to be adversely affected by air pollution, as identified by CARB: children under 14, elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. Locations that may contain a high concentration of these sensitive population groups are called sensitive receptors and include residential areas, hospitals, day-care facilities, elder-care facilities, elementary schools, and parks. Sensitive receptors in the project vicinity include multi-family residential homes, resort condominiums, hotels, recreational trails, and a place of worship. Sensitive receptors are depicted below in Table 5.6-2, *Sensitive Receptors*.

5.6.2 REGULATORY SETTING

U.S. ENVIRONMENTAL PROTECTION AGENCY

The EPA is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare; refer to Table 5.6-3, *National and California Ambient Air Quality Standards*.

Table 5.6-2
Sensitive Receptors

Type	Name	Approximate Distance from Project Site (feet)	Orientation from Project Site	Location/Description
Residential	Residential Uses	Adjoining	North	Chateau Blanc Condominiums, 3199 Chateau Rd.
		75	Southwest	Mammoth Creek Condominiums, 96 Meadow Lane
		Adjoining	West	La Vista Blanc Condominiums, 122 Meadow Lane
		Adjoining	Northwest	Chateau De Montagne Condominiums, 3311 Chateau Road
		390	West	Sunrise Condominiums, 50 Meadow Lane
Hotels/Motels	Sierra Nevada Resort	2,305	North	164 Old Mammoth Road
	Mammoth Creek Inn	90	Northeast	663 Old Mammoth Road
	Snowcreek Resort	2,830	Southwest	1254 Old Mammoth Road
Schools	Mammoth High School	1,785	Northeast	365 Sierra Park Road
	Mammoth Middle School	2,170	Northeast	1600 Meridian Boulevard
	Mammoth Elementary School	2,775	Northeast	1500 Meridian Boulevard
Places of Worship	LightHouse Church	700	North	501 Old Mammoth Road
	The Church of Jesus Christ of Latter-day Saints	1,570	Northwest	2174 Meridian Blvd
	Mammoth Lakes Lutheran Church	1,465	Northeast	379 Old Mammoth Road
	Kingdom Hall of Jehovah's Witnesses	2.040	Northeast	181 Sierra Manor Road
Hospitals	Mammoth Hospital	2,455	Northeast	85 Sierra Park Road
Libraries	Mammoth Lakes Branch Library	1,500	Northeast	400 Sierra Park Road
Recreation/Parks	Sierra Star Golf Course	1,440	Northwest	2001 Sierra Star Parkway
	Town Loop trail	Adjoining	South/East	North of Old Mammoth Road
	Snowcreek Golf Course	800	Southwest	2 Fairway Drive

Note:
1. Distances are measured from the exterior project boundary only and not from individual construction projects/areas within the interior of the project site.

Source: Google Earth, 2016.

Table 5.6-3
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m³)	**Nonattainment**	N/A[5]	N/A[5]
	8 Hour	0.070 ppm (137 μg/m³)	**Nonattainment**	0.070 ppm (147 μg/m³)	Unclassified/Attainment
Particulate Matter (PM_{10})	24 Hour	50 μg/m³	**Nonattainment**	150 μg/m³	Unclassified/Nonattainment[6]
	Annual Arithmetic Mean	20 μg/m³	**Nonattainment**	N/A[7]	N/A[7]
Fine Particulate Matter ($PM_{2.5}$)[8]	24 Hour	No Separate State Standard		35 μg/m³	Unclassified/Attainment
	Annual Arithmetic Mean	12 μg/m³	Attainment	12.0 μg/m³	Unclassified/Attainment
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m³)	Attainment	9 ppm (10 mg/m³)	Unclassified/Attainment
	1 Hour	20 ppm (23 mg/m³)	Attainment	35 ppm (40 mg/m³)	Unclassified/Attainment
Nitrogen Dioxide (NO_2)[9]	Annual Arithmetic Mean	0.030 ppm (57 μg/m³)	N/A	0.053 ppm (100 μg/m³)	Unclassified/Attainment
	1 Hour	0.18 ppm (339 μg/m³)	Attainment	100 ppb (188 μg/m³)	N/A
Lead (Pb)[10, 11]	30 day average	1.5 μg/m³	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 μg/m³	Unclassified/Attainment
	Rolling 3-month Average	N/A	N/A	0.15 μg/m³	Unclassified/Attainment
Sulfur Dioxide (SO_2)[12]	Annual Arithmetic Mean	N/A	N/A	0.030 ppm (for certain areas)	Unclassified
	24 Hour	0.04 ppm (105 μg/m³)	Attainment	0.14 ppm (for certain areas)	Unclassified
	3 Hour	N/A	N/A	N/A	Unclassified
	1 Hour	0.25 ppm (655 μg/m³)	Attainment	75 ppb (196 μg/m³)	N/A
Visibility-Reducing Particles[13]	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	**No Federal Standards**	
Sulfates	24 Hour	25 μg/m3	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m³)	Attainment		
Vinyl Chloride[10,11]	24 Hour	0.01 ppm (23 μg/m³)	N/A		

μg/m³ = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable.

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter-PM_{10} and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. In 1990, CARB identified vinyl chloride as a toxic air contaminant, but determined that there was not sufficient available scientific evidence to support the identification of a threshold exposure level. This action allows the implementation of health-protective control measures at levels below the 0.010 ppm ambient concentration specified in the 1978 standard.
2. National standards (other than ozone, particulate matter and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The EPA also may designate an area as *attainment/unclassifiable*, if: (1) it has monitored air quality data that show that the area has not violated the ozone standard over a three-year period; or (2) there is not enough information to determine the air quality in the area. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over the three years, are equal to or less than the standard. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. The Federal 1-hour ozone standard was revoked on June 15, 2005 in all areas except the 14 8-hour ozone nonattainment Early Action Compact (EAC) areas.
6. Mono Basin, Mammoth Lakes, and Owens Valley are designated as Nonattainment. Coso Junction is designated as Moderate – Maintenance, and the rest of the GBUAPCD is designated as Unclassified.
7. The EPA revoked the annual PM_{10} standard in 2006 (effective December 16, 2006).
8. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m³ to 12.0 μg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m³, as was the annual secondary standard of 15 μg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
9. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
10. CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
11. National lead standard, rolling 3-month average: final rule signed October 15, 2008
12. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
13. In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board, May 2015, and U.S. Environmental Protection Agency, June 17, 2016.

CALIFORNIA AIR RESOURCES BOARD

CARB administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 5.6-3, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMP's also serve as the basis for the preparation of the State Implementation Plan (SIP) for the State of California.

Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard, and are not used as a basis for designating areas as nonattainment.

GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT

The GBUAPCD has jurisdiction over the counties of Mono, Alpine, and Inyo. The GBUAPCD is one of 35 air quality management districts that have prepared AQMPs to accomplish a five-percent annual reduction in emissions.

In 1990, the GBUAPCD prepared the *Air Quality Management Plan for the Town of Mammoth Lakes* (1990 AQMP) to address PM_{10} pollution in the region. In May 2014, the GBUAPCD prepared the *Air Quality Maintenance Plan and PM_{10} Redesignation Request for the Town of Mammoth Lakes* (2014 AQMP), as an update to the 1990 AQMP. The 2014 AQMP reviews the background of the 1990 AQMP, the measures implemented as a result of that plan and their effectiveness, and changes to clean air regulations since the adoption of the 1990 AQMP. The 2014 AQMP recommends maintenance measures and requests that the Town of Mammoth Lakes be redesignated as attainment for the federal PM_{10} standard. The redesignation request is based on monitoring data and a modeling analysis, and a maintenance plan that contains requirements to ensure the Federal PM_{10} standard would not be violated in the future.

The measures identified in the 2014 AQMP were incorporated in the *Town of Mammoth Lakes Municipal Code* (Municipal Code) as Chapter 8.30, *Particulate Emissions Regulations*. The measures included within Chapter 8.30 include a vehicle miles traveled (VMT) limit for the town of 179,708, street sweeping measures, and regulations on wood-burning stoves and fireplaces. Three major control measures that were amended by the 2014 AQMP include the following:

- *Section 8.30.040 B*. No new wood burning appliances are allowed to be installed in multi-family developments, consistent with General Plan Policy R.10.3.

- *Section 8.30.080, Mandatory Curtailment*. All wood burning appliances (including EPA certified stoves), except pellet stoves, are subject to the Town's no-burn day program.

- *Section 8.30.100 B*. Proposed development projects and other Town approved activities which affect vehicle trips are evaluated against the VMT limit of 179,708.

TOWN OF MAMMOTH LAKES

Mammoth Lakes General Plan

Town policies regarding air quality are contained in the Resource Management and Conservation Element of the General Plan (adopted August 15, 2007). These goals, policies, and actions in are intended to reduce air pollutant emissions in the Town, and improve the overall air quality for the community. The applicable air quality-related policies include, but are not limited to, the following:

- Protect health of community residents by assuring that the town of Mammoth Lakes remains in compliance with or improves compliance with air quality standards (R.10).

- Support regional air quality improvement efforts (R.10.A).

- Promote land use patterns that reduce number and length of motor vehicle trips, including:

  - Development of in-town workforce housing,
  - Residential and mixed use development adjacent to commercial centers,
  - Mountain portals and transit corridors, and
  - Provision of a mix of support services in employment areas (R.10.B).

- Mitigate impacts on air quality resulting from development through design, participation in Town air pollution reduction programs, and/or other measures that address compliance with adopted air quality standards (R.10.D).

- The Town of Mammoth Lakes will strive to attain and maintain the National Ambient Air Quality Standard (NAAQS) for PM_{10} (R.10.E).

- The Town will continue to require project level environmental reviews (EIR's and Negative Declarations) to address the incremental increase in PM_{10} levels from the project(s) (R.10.E.2).

- In the event that the project level reviews show that the Town is likely to exceed the NAAQS, permits will not be issued until mitigation is developed that demonstrate compliance with the NAAQS (R.10.E.3).

- Reduce air pollutants during construction through implementation of Best Management Practices (BMPs) (R.10.G).

5.6.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

REGIONAL AIR QUALITY

Currently, the GBUAPCD does not have separate daily thresholds for criteria pollutants other than State and Federal standards; refer to Table 5.6-3. However, CEQA allows Lead Agencies to rely on standards or thresholds promulgated by other agencies.

The GBUAPCD was consulted during the course of this analysis to determine the proper methodology to use for analyzing criteria pollutants. Based on guidance from the GBUAPCD, project-related emissions were quantified and compared to the Mojave Desert Air Quality Management District (MDAQMD) numerical thresholds.[1] Projects in the Basin have recently used the numerical standards of the MDAQMD in prior CEQA reviews (e.g., the *Town of Mammoth Lakes Trail System Master Plan EIR*, dated July 2011). Because the air quality and pollutant attainment status in portions of the Mojave Desert Air Basin (MDAB) are similar to those of the Basin, the numerical thresholds set for MDAB by the MDAQMD are considered adequate to serve as significance thresholds for the proposed project. Table 5.6-4, *Regional Thresholds of Significance*, presents the MDAQMD numerical thresholds that would be utilized for analysis of the proposed project.

Table 5.6-4
Regional Thresholds of Significance

Phase	Pollutant (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction	137	137	548	137	82	82
Operation	137	137	548	137	82	82
VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns						
Source: Mojave Desert Air Quality Management District, *CEQA and Federal Conformity Guidelines,* February 2009.						

CEQA SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by Appendix G of the *CEQA Guidelines*, as amended, and used by the Town of Mammoth Lakes in its environmental review process. The Initial Study Checklist includes questions relating to air quality. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

[1] Telephone conversation with Jan Sudomier from the Great Basin Unified Air Pollution Control District, April 16, 2014. As a follow up, a more recent telephone conversation with was held with Chris Howard, Senior Research and Systems Analyst at the Great Basin Unified Air Pollution Control District, on August 31, 2016 whom confirmed that the Great Basin Unified Air Pollution Control District does not provide emissions standards for criteria pollutants for CEQA purposes.

- Conflict with or obstruct implementation of the applicable air quality plan (refer to Impact Statement AQ-4);

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation (refer to Impact Statements AQ-1 and AQ-2);

- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (refer to Section 5.6.5, *Cumulative Impacts*);

- Expose sensitive receptors to substantial pollutant concentrations (refer to Impact Statements AQ-1 and AQ-3); and/or

- Create objectionable odors affecting a substantial number of people (refer to Section 8.0, *Effects Found Not To Be Significant*).

Based on these significance thresholds and criteria, the project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

The standards used to evaluate the significance of impacts are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.

5.6.4 IMPACTS AND MITIGATION MEASURES

SHORT-TERM (CONSTRUCTION) AIR EMISSIONS

AQ-1 SHORT-TERM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN AIR POLLUTANT EMISSION IMPACTS OR EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS.

Impact Analysis: Short-term air quality impacts are predicted to occur during grading and construction operations associated with implementation of the proposed project. Temporary air emissions would result from the following activities:

- Particulate (fugitive dust) emissions from grading and building construction; and
- Exhaust emissions from the construction equipment and the motor vehicles of the construction crew.

Potential odors could arise from the diesel construction equipment used on-site, as well as from architectural coatings and asphalt off-gassing. Odors generated from the referenced sources are

common in the man-made environment and are not known to be substantially offensive to adjacent receptors. Additionally, odors generated during construction activities would be temporary and are not considered to be a significant impact.

Construction activities would include demolition (tree removal), grading, paving, construction of buildings, and painting. Grading activities would include the excavation and transport of approximately 6,500 cubic yards of soil to the United States Forest Service (USFS) pit at Mammoth Yosemite Airport. Construction of the proposed project is anticipated to occur in three phases, with phases 1 and 2 possibly being constructed concurrently, beginning in June 2017 and concluding in February 2023.

Fugitive Dust Emissions

Fugitive dust (PM_{10} and $PM_{2.5}$) from grading and construction is expected to be short-term and would cease following Project completion. Most of this material is composed of inert silicates, which are less harmful to health than the complex organic particulates released from combustion sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and SO_X combining with ammonia. The greatest amount of fugitive dust generated is expected to occur during site grading and excavation. Dust generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular concern is the amount of PM_{10} generated as a part of fugitive dust emissions.

The California Emissions Estimator Model (CalEEMod, version 2016.3.1) was used to calculate PM_{10} and $PM_{2.5}$ fugitive dust emissions as part of the site earthwork activities; refer to Table 5.6-5, *Maximum Daily Construction Emissions*. Maximum particulate matter emissions would occur during the initial stages of construction, when grading activities would occur. Mitigation Measure AQ-1 requires that construction activities comply with GBUAPCD Rule 401 and Rule 402, such that excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures. With adherence to Mitigation Measure AQ-1, the maximum mitigated PM_{10} emissions would range between 0.86 and 6.12 pounds per day (lbs/day), and between 0.70 and 4.33 lbs/day for $PM_{2.5}$. In addition, Mitigation Measures AQ-2 and AQ-3 require adherence to GBUAPCD Rules 200-A, 200-B, and 216-A prior to commencement of construction activities. As such, construction emissions would be below the thresholds of 82 lbs/day for PM_{10} and $PM_{2.5}$, and impacts related to fugitive dust would be reduced to a less than significant level.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. As shown in Table 5.6-5, ROG emissions would be below the applicable thresholds and impacts remain at less than significant levels.

Table 5.6-5
Maximum Daily Construction Emissions

Emissions Source	Daily Pollutant Emissions (lbs/day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2017 – Phase I						
Unmitigated	35.39	59.92	34.50	0.08	7.25	4.58
Mitigated[2]	35.39	59.92	34.50	0.08	5.12	3.55
2017 – Phase II						
Unmitigated	4.08	38.58	27.23	0.04	5.62	3.62
Mitigated[2]	4.08	38.58	27.23	0.04	3.67	2.64
Total 2017 Mitigated Emissions	**39.47**	**98.50**	**61.73**	**0.12**	**8.79**	**6.19**
Significance Threshold[3]	*137*	*137*	*548*	*137*	*82*	*82*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2018						
Unmitigated	8.42	15.24	12.43	0.02	1.15	0.96
Mitigated[2]	8.42	15.24	12.43	0.02	1.10	0.95
Significance Threshold[3]	*137*	*137*	*548*	*137*	*82*	*82*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2022						
Unmitigated	6.76	62.89	54.45	0.10	9.83	6.28
Mitigated[2]	6.76	62.89	54.45	0.10	6.12	4.33
Significance Threshold[3]	*137*	*137*	*548*	*137*	*82*	*82*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
2023						
Unmitigated	9.80	14.86	16.94	0.03	0.90	0.71
Mitigated[2]	9.80	14.57	17.38	0.03	0.86	0.70
Significance Threshold[3]	*137*	*137*	*548*	*137*	*82*	*82*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***

VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns

Notes:

1. Emissions were calculated using CalEEMod.
2. The reduction/credits for construction emission mitigations are based on mitigation included in CalEEMod. The mitigation includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces twice daily; cover stock piles with tarps; water all haul roads twice daily; limit speeds on unpaved roads to 15 miles per hour; and use CARB certified engines.
3. Regional daily construction thresholds are based on the MDAQMD significance thresholds.

Refer to Appendix 11.5, *Air Quality/Greenhouse Gas Emissions Data*, for assumptions used in this analysis.

Construction Exhaust Emissions

Exhaust emissions would be generated by the operation of vehicles and equipment on the construction site, such as tractors, dozers, backhoes, cranes, and trucks. The majority of construction equipment and vehicles would be diesel powered, which tends to be more efficient than gasoline-powered equipment. Diesel-powered equipment produces lower carbon monoxide and hydrocarbon emissions than gasoline equipment, but produces greater amounts of NO_X, SO_X, and particulates per hour of activity. The transportation of machinery, equipment and materials to and from the project site, as well as construction worker trips, would also generate vehicle emissions during construction. As presented in Table 5.6-5, construction equipment and worker vehicle exhaust emissions would not exceed the emissions thresholds. The NO_X emissions during the periods described above would be below the applicable thresholds. In addition, the project Applicant would be required to apply for a Permit to Construct permit prior to construction, which provides an orderly procedure for the review of new and modified sources of air pollution (Mitigation Measure AQ-2). A less than significant impact would occur in this regard.

Asbestos

Pursuant to guidance issued by the Governor's Office of Planning and Research, State Clearinghouse, lead agencies are encouraged to analyze potential impacts related to naturally occurring asbestos (NOA). Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies and was identified as a toxic air contaminant by the CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (dated August 2000), the proposed project is not located in an area where NOA is likely to be present. Therefore, impacts would be considered less than significant.

Total Daily Construction Emissions

CalEEMod was utilized to model construction emissions for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. As indicated in Table 5.6-5, construction emissions would not exceed thresholds. Mitigation Measures AQ-1 through AQ-3 would be required to minimize fugitive dust emissions and ensure

compliance with GBUAPCD Rules. With implementation of Mitigation Measures AQ-1 through AQ-3, construction emissions would be less than significant.

Mitigation Measures:

AQ-1 Prior to approval of the project plans and specifications, the Public Works Director, or designee, shall confirm that the plans and specifications stipulate that, in compliance with GBUAPCD Rule 401, excessive fugitive dust emissions shall be controlled by regular watering or other dust preventive measures, as specified in the GBUAPCD Rules and Regulations. In addition, GBUAPCD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:

- All active portions of the construction site shall be watered to prevent excessive amounts of dust;
- On-site vehicles' speed shall be limited to 15 miles per hour (mph);
- All on-site roads shall be paved as soon as feasible or watered periodically or chemically stabilized;
- All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust; watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day;
- If dust is visibly generated that travels beyond the site boundaries, clearing, grading, earth moving or excavation activities that are generating dust shall cease during periods of high winds (i.e., greater than 25 mph averaged over one hour) or during Stage 1 or Stage 2 episodes; and
- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.

AQ-2 Under GBUAPCD Rule 200-A and 200B, the Contractor shall apply for a Permit To Construct prior to construction, which provides an orderly procedure for the review of new and modified sources of air pollution.

AQ-3 Under GBUAPCD Rule 216-A (New Source Review Requirement for Determining Impact on Air Quality Secondary Sources), the Contractor shall complete the necessary permitting approvals prior to commencement of construction activities.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

LONG-TERM (OPERATIONAL) AIR EMISSIONS

AQ-2 IMPLEMENTATION OF THE PROPOSED PROJECT WOULD RESULT IN INCREASED IMPACTS PERTAINING TO OPERATIONAL AIR EMISSIONS.

Impact Analysis: Operational emissions generated by both stationary and mobile sources would result from normal daily activities on the project site after occupation (i.e., increased concentrations of O_3, PM_{10}, and CO). Stationary area source emissions would be generated by the consumption of natural gas for space and water heating devices, the chilling equipment for the ice rink, the operation of landscape maintenance equipment, and the use of consumer products. Stationary energy emissions would result from energy consumption associated with the proposed project. Mobile emissions would be generated by the motor vehicles traveling to and from the project site. Emissions associated with each of these sources were calculated and are discussed below.

Area Source Emissions

Area source emissions would be generated due to an increased demand for consumer products, architectural coating, and landscaping. As shown in Table 5.6-6, *Long-Term Operational Air Emissions*, unmitigated area source emissions from the proposed project would be nominal (i.e., less than one percent of the applicable threshold).

Table 5.6-6
Long-Term Operational Air Emissions

Emissions Source	Pollutant (pounds/day)[1, 2]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area	1.22	0.00	0.02	0.00	0.00	0.00
Energy	0.00	0.04	0.03	0.00	0.00	0.03
Mobile	0.78	2.84	5.80	0.01	0.84	0.24
Total Proposed Emissions	2.00	2.88	5.85	0.01	0.85	0.24
Significance Threshold	*137*	*137*	*548*	*137*	*82*	*82*
Is Threshold Exceeded? (Significant Impact?)	*No*	*No*	*No*	*No*	*No*	*No*

Notes:
1. Based on CalEEMod results, worst-case seasonal emissions for area and mobile emissions have been modeled.
2. Refer to Appendix 11.5, *Air Quality/Greenhouse Gas Emissions Data*, for assumptions used in this analysis.

Energy Source Emissions

Pollutant emissions associated with energy demand (i.e., electricity generation and propane consumption) are classified by the GBUAPCD as regional stationary source emissions. This assumption is based on the supposition that those power plants supplying electricity to the site are utilizing fossil fuels. Electric power generating plants are distributed throughout the region and western United States. Electricity is considered an area source since it is produced at various locations within, as well as outside of the area. The proposed project may install solar and/or

photovoltaic systems on the southern roof of the ice rink. This system would reduce the total amount of electricity taken from the California electrical grid. In accordance with General Plan Policies R.6.A, R.6.B, R.6.C, R.8.F and R.8G, the project would implement the proposed solar and/or photovoltaic systems that would reduce the demand for electricity services, optimize efficient use of energy, and increase the use of renewable energy resources.

The chiller and mechanical equipment associated with the ice rink would be electrical and would not directly generate air emissions. As noted above, energy consumption would result in indirect emissions from power plants throughout the region and western United States. As such, the electrical consumption from the mechanical equipment would not result in direct emissions in the Town or Basin.

The primary use of propane by the proposed land uses would be for combustion to produce space heating, water heating, other miscellaneous heating, or air conditioning, consumer products, and landscaping. Additionally, operations of the ice rink would include the use of a propane powered ice resurfacer. Ice resurfacing is anticipated to occur on an average of two to three times per day and a maximum of seven times per day during a hockey or holiday event. It should be noted that emissions from the propane powered ice resurfacer are not included in Table 5.6-6. According to the U.S. Department of Energy, propane is a clean-burning, high-energy alternative fuel. Therefore, the operation of the ice resurfacer would not cause the project to result in significant emissions of criteria air pollutants.

Mobile Source Emissions

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$). However, CO tends to be a localized pollutant, dispersing rapidly at the source. Project-generated vehicle emissions have been estimated using CalEEMod. This model predicts ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions from motor vehicle traffic associated with new or modified land uses; refer to Appendix 11.5. According to *Mammoth Community and Multi-Use Facilities Focused Traffic Impact Analysis* (Traffic Impact Analysis), the proposed project would generate 210 net new daily trips on a busy winter Saturday. Table 5.6-6, *Long-Term Operational Air Emissions*, presents the anticipated mobile source emissions.

Impact Conclusion

As indicated in Table 5.6-6, the unmitigated operational emissions from the proposed project would remain below the applicable thresholds. In addition, although the project would result in the development of a multi-use community facility on a vacant/park land use, the project would be consistent with the General Plan OS land use designation, and P-QP zoning for the site. Additionally, as discussed in Impact Statement TRA-2, in Section 5.5, *Traffic and Circulation*, the increase in VMT due to the project is minimal at approximately 0.3 percent of existing VMT. As such, the project would not adversely affect the Town's forecast limit on VMT. Therefore, the project would not result in overall growth beyond what is anticipated in the General Plan or the Town's VMT limit. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LOCALIZED EMISSIONS

AQ-3 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN LOCALIZED EMISSIONS IMPACTS OR EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS.

Impact Analysis:

Localized Significance Thresholds

Project traffic, during the operational phase of the project, would have the potential to create local area impacts. Carbon monoxide (CO) is a primary pollutant and, unlike ozone, is directly emitted from a variety of sources. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of its impacts upon the local air quality. Comparisons of levels with State and Federal CO standards indicate the severity of the existing concentrations for receptors in the project area.

An impact is potentially significant if a project produces emissions levels that exceed the State or Federal AAQS (refer to Table 5.6-3). Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere; adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Areas of vehicle congestion have the potential to create "pockets" of CO, referred to as "hot spots." These pockets have the potential to exceed the State 1-hour standard of 20.0 ppm and/or the 8-hour standard of 9.0 ppm. Note that Federal levels are based on 1- and 8-hour standards of 35.0 and 9.0 ppm, respectively.

In order to identify CO hotspots, the SCAQMD criterion was utilized in the analysis since the GBUAPCD does not currently have a preferred methodology. The SCAQMD recommends performing a CO hotspot analysis when a project increases the volume-to-capacity (V/C) ratio (also called the intersection capacity utilization) by 0.02 (2 percent) for any intersection with an existing level of service (LOS) D or worse. A CO hotspot analysis is also required if an existing intersection has a LOS C and worsens to an LOS D with implementation of a proposed project. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersection locations. Typically, LOS at an intersection producing a hot spot is at LOS D or worse during the peak hour.

Based upon the Traffic Impact Analysis, there are no intersections that meet the criteria for a CO hotspot analysis. As such, CO hot spot modeling was not conducted for the proposed project. It is also noted that a detailed CO analysis was conducted in the *Federal Attainment Plan for Carbon Monoxide* (1992 CO Plan) for the SCAQMD's *2003 Air Quality Management Plan*. The CO hot spot analysis conducted for the 1992 CO Plan was conducted for four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included

Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the level of service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be level of service (LOS) E at peak morning traffic and LOS F at peak afternoon traffic. Nonetheless, the analysis concluded that there was no violation of CO standards.[2]

According to the Traffic Impact Analysis, the proposed project would result in approximately 210 net new daily trips on a busy winter Saturday. Therefore, the proposed project would not increase traffic volumes at any intersection to more than 100,000 vehicles per day, the value studied in the 1992 CO Plan. As a result, this impact would be considered less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

CONSISTENCY WITH REGIONAL PLANS

AQ-4 IMPLEMENTATION OF THE PROPOSED PROJECT COULD CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN.

Impact Analysis: The monitoring data and modeling analysis within the 2014 AQMP determined that with implementation of the control measures from the 1990 AQMP, PM_{10} levels in the Town have declined significantly. The updated emissions estimate in the 2014 AQMP shows 3,385 kg/day PM_{10} in 2012, which is a 20 percent reduction in emissions since 1990 when the AQMP was adopted. This reduction was achieved despite a 72 percent population increase from 4,785 in 1990 to 8,234 in 2010.

The 2014 AQMP also models emissions associated with the estimated 179,708 VMT at General Plan buildout. The VMT estimate is based on a revised traffic model for the community that incorporates additional roadway segments and revises VMT projections based on updated traffic counts and current modeling technologies. The air quality modeling shows that this overall level of traffic would not cause an exceedance of the NAAQS and is suggested as the VMT limit for the 2014 AQMP.

The proposed project consists of constructing a 30,000 square-foot multi-use facility ice rink/ RecZone, and 13,000 square feet of community center facilities. Development associated with the proposed project would be consistent with what is anticipated in the General Plan, and zoning code. Therefore, VMT associated with the project are included in the General Plan buildout VMT estimate that is included in the modeling for the 2014 AQMP.

[2] *1992 Federal Attainment Plan for Carbon Monoxide,* South Coast Air Quality Management District, 1992.

Future development within the Town has been anticipated within the General Plan. In order to address the anticipated increase at future buildout, the General Plan has included several goals and policies to further regulate the anticipated PM_{10} emissions resulting from the increased VMT. Such goals and policies would build upon the regulations set forth within the current Municipal Code, Chapter 8.30, and GBUAPCD Rule 431. As an example of the new goals and policies, the General Plan has included the use of higher density residential and mixed-use development adjacent to commercial centers, mountain portals, and transit corridors, which would reduce the number of vehicle trips, VMT, and encourage alternative modes of transportation.

As the proposed project is anticipated in the General Plan and 2014 AQMP, implementation of the proposed project would not conflict with the 2014 AQMP. Additionally, the project would be required to comply with the applicable General Plan policies, which would further reduce impacts associated with plan consistency to a less than significant level.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.6.5 CUMULATIVE IMPACTS

Table 4-1, *Cumulative Projects List*, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. The following discussions are included per topic area to determine whether a significant cumulative effect would occur.

SHORT-TERM (CONSTRUCTION) AIR EMISSIONS

- **SHORT-TERM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS, WOULD RESULT IN INCREASED AIR POLLUTANT EMISSION IMPACTS OR EXPOSE SENSITIVE RECEPTORS TO INCREASED POLLUTANT CONCENTRATIONS.**

Impact Analysis: Of the projects that have been identified within the proposed project study area, there are a number of related projects that have not been built or are currently under construction. Since applicants have no control over the timing or sequencing of the related projects, any quantitative analysis to ascertain the daily construction emissions that assumes multiple, concurrent construction would be speculative.

The GBUAPCD has developed a permitting process prior to the construction of any development within the Basin to ensure that construction activities would not result in exceedances of NAAQS. The GBUAPCD emphasizes the use of control measures during construction activities. As stated in Impact Statement AQ-1, mitigation measures would reduce impacts associated with construction through the application of proper permits and by demonstrating that the appropriate control measures would be utilized during construction activities. With implementation of Mitigation Measures AQ-1 through AQ-3, the project would comply with all applicable GBUAPCD Rules and the project's cumulative contribution would be less than significant in this regard.

Mitigation Measures: Refer to Mitigation Measures AQ-1 through AQ-3.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

LONG-TERM (OPERATIONAL) AIR EMISSIONS

- **PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS WOULD RESULT IN INCREASED IMPACTS PERTAINING TO OPERATIONAL AIR EMISSIONS.**

Impact Analysis: The GBUAPCD's approach for assessing cumulative impacts related to operations is based on the attainment of ambient air quality standards in accordance with the requirements of the Federal and State Clean Air Acts. A significant impact may occur if a project would add a cumulatively considerable contribution of a Federal or State non-attainment pollutant. Because the Basin is currently in nonattainment for O_3 and PM_{10} (maintenance under Federal standards), related projects could exceed an air quality standard or contribute to an existing or projected air quality exceedance. Nonattainment of O_3 in Mammoth Lakes is primarily the result of pollution generated in the San Joaquin Valley, transported by air currents and winds over the Sierra Nevada and is not a condition substantially generated by activities and sources in the Town.

As indicated in Table 5.6-6, project-related operational emissions would be relatively low (i.e., no more than two percent of the threshold) and the project would only generate 210 net new daily vehicle trips. The project-related VMT increase is minimal at approximately 0.3 percent of existing VMT. Project related emissions would not substantially contribute to an exceedance of the ambient air quality standards. The project would not include wood burning devices and PM_{10} emissions would be nominal. Development associated with the proposed project would be consistent with what is anticipated in the General Plan, and zoning code, which anticipates future development within the Town. Emissions associated with the project are included in the General Plan buildout estimate that is included in the modeling for the 2014 AQMP. The 2014 AQMP modeled future planned development in the Town and determined that an exceedance of the NAAQS would not occur. As the project in conjunction with related projects would not impede the attainment of NAAQS, a significant cumulative air quality impact would not occur.

Adherence to AQMP control measures would ensure that the proposed project and related development projects in the Town would alleviate potential impacts related to cumulative conditions on a project-by-project basis. The Town of Mammoth Lakes has incorporated emissions reductions regulations into their Municipal Code (Chapter 8.30). Therefore, the proposed project and related projects would be required to comply with the regulations in the Municipal Code, which would also reduce cumulative impacts. As a result, the proposed project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant.

As discussed above, the proposed project would not result in long-term air quality impacts, as emissions would not exceed applicable operational thresholds. The proposed project would be consistent with what is anticipated in the General Plan, and Zoning Code. Emission reduction technology, strategies, and plans are constantly being developed. As a result, the proposed project would not contribute a cumulatively considerable net increase of any nonattainment criteria

pollutant. Therefore, cumulative operational impacts associated with implementation of the proposed project would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.6.6 SIGNIFICANT UNAVOIDABLE IMPACTS

No unavoidable significant impacts related to air quality have been identified following implementation of mitigation measures referenced in this section.

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