

3.4 Air Quality

3.4.1 ENVIRONMENTAL SETTING

Ambient air quality is affected by local climate, topography, and pollutants emitted into the atmosphere from activities such as farming, construction, industrial facilities, and traffic.

Air Basin

The project area is located in the City of Lone, approximately 40 miles southeast of Sacramento. This places the project within the boundaries of the Mountain Counties Air Basin (MCAB). This air basin covers the mountainous area of the central and northern Sierra Nevada Mountains, from Plumas County south to Mariposa County (CARB undated). Elevations range from several hundred feet in the foothills to over 10,000 feet above mean sea level (amsl) along the Sierra crest (CARB undated). The MCAB is made up of the following nine counties:

Amador	Nevada
Calaveras	Plumas
Central Placer	Sierra
West El Dorado	Tuolumne
Mariposa	

The City of Lone is located in Amador County, and emissions caused by the proposed project would be regulated by the Amador County Air Pollution Control District (ACAPCD).

Baseline Air Quality

The US Environmental Protection Agency (USEPA) has established a National Ambient Air Quality Standard (NAAQS) for ozone, nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter fewer than 10 microns in diameter (PM₁₀), particulate matter fewer than 2.5 microns in diameter (PM_{2.5}), and lead. The California Air Resources Board (CARB) has established standards for ozone, CO, NO₂, SO₂, sulfates, PM₁₀, PM_{2.5}, lead, hydrogen sulfide (H₂S), and vinyl chloride (C₂H₃Cl).

Table 3.4-1 shows the current designations under the Clean Air Act (CAA) and CARB standards. Nonattainment and attainment designations are based on whether or not air quality standards have been achieved. Some air basins or areas have not received sufficient analysis for certain criteria air pollutants and are designated as unclassified for those pollutants.

Visibility

No visibility issues have been identified in Amador County, and there are no ACAPCD regulations related to visibility impacts (Kapahi pers. comm. 2009).

Sensitive Receptors

Sensitive receptors are locations of groups of individuals, including infants, children, the elderly, and the chronically ill, that may be more susceptible than the general population to health risks from air pollution. Schools, day-care facilities, convalescent homes, and hospitals are of particular concern. Several schools and a day-care facility are located less than 1 mile from the proposed pipeline and 1 to 2 miles from the tertiary WWTP. Two recreational areas, Charles Howard Park and the Castle Oaks Golf Course, are located fewer than 300 feet from proposed pipelines, and Castle Oaks Golf Course is located approximately 750 feet from the tertiary WWTP.

Table 3.4-1: National and State Air Quality Designations for Amador County

Pollutant	National Designation	State Designation
Ozone (1-hour)	-	Nonattainment
Ozone (8-hour)	Nonattainment	Nonattainment
Fugitive Dust (PM ₁₀)	Unclassified	Unclassified
Fugitive Dust (PM _{2.5})	Unclassifiable/Attainment	Unclassified
Nitrogen Dioxide (NO ₂)	Unclassified/Attainment	Attainment
Carbon Monoxide (CO)	Unclassified/Attainment	Unclassified
Sulfur Dioxide (SO ₂)	Unclassified	Attainment
Sulfates	-	Attainment
Lead	No Designation	Attainment
Hydrogen Sulfide	-	Unclassified

SOURCE: CARB 2009

3.4.2 REGULATORY SETTING

Federal Regulations

National Ambient Air Quality Standards (NAAQS)

The CAA, which was last amended in 1990, requires the USEPA to set NAAQS (40 CFR Part 50) for pollutants considered harmful to public health and the environment. The CAA established two types of national air quality standards. Primary standards set limits to protect public health, including the health of sensitive populations such as children, the elderly, and people with asthma. Secondary standards set limits to protect public welfare, including protection against decreased visibility, and damage to animals, crops, vegetation, and buildings.

The USEPA Office of Air Quality Planning and Standards has set NAAQS for six principal pollutants, which are called criteria pollutants (see Table 3.4-2). Units of measure for the standards are parts per million (ppm) by volume, milligrams per cubic meter of air (mg/m³), and micrograms per cubic meter of air (µg/m³).

New Source Performance Standards

The New Source Performance Standards (NSPS) are pollution control standards issued by the USEPA. The NSPS dictate the level of pollution that a new stationary source may produce. These standards are authorized by Section 111 of the CAA and the regulations are published in 40 Code of Federal Regulations Part 60.

National Emission Standards for Hazardous Air Pollutants

National Emission Standards for Hazardous Air Pollutants (NESHAP) are emissions standards set by the EPA for listed federal hazardous air pollutants that may cause an increase in fatalities or in serious, irreversible, or incapacitating illness. These standards are authorized by Section 112 of the CAA and the regulations are published in 40 CFR Parts 61 and 63. The standards in 40 CFR Part 63 are for a particular source category and require the maximum degree of emission reduction that the USEPA determines to be achievable, which is known as Maximum Achievable Control Technology.

Table 3.4-2: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ¹	National Standards ²	
		Concentration ³	Primary ^{3,4}	Secondary ^{3,5}
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	—	Same as Primary Standard
	8 Hour	0.070 ppm (137 µg/m ³)	0.075 ppm (147 µg/m ³)	
Particulate Matter (PM ₁₀)	24 Hour	50 µg/m ³	150 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m ³	—	
Particulate Matter (PM _{2.5})	24 Hour	No Separate State Standard	35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m ³	15.0 µg/m ³	
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m ³)	9 ppm (10 mg/m ³)	None
	1 Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)	—	—
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as Primary Standard
	1 Hour	0.18 ppm (339 µg/m ³)	—	
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	—	0.030 ppm (80 µg/m ³)	—
	24 Hour	0.04 ppm (105 µg/m ³)	0.14 ppm (365 µg/m ³)	—
	3 Hour	—	—	0.5 ppm (1300 µg/m ³)
	1 Hour	0.25 ppm (655 µg/m ³)	—	—
Lead ⁶	30 Day Average	1.5 µg/m ³	—	—
	Calendar Quarter	—	1.5 µg/m ³	Same as Primary Standard
	Rolling 3-Month Average ⁷	—	1.5 µg/m ³	
Visibility Reducing Particles Sulfates	8 Hour	Extinction coefficient of 0.23 per kilometer, visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent.	No Federal Standards	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)		
Vinyl Chloride ⁶	24 Hour	0.01 ppm (26 µg/m ³)		
Sulfates	24 Hour	25 µg/m ³		

Table 3.4-2 (Continued): Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ¹	National Standards ²	
		Concentration ³	Primary ^{3,4}	Secondary ^{3,5}
<p>1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter (PM₁₀ and PM_{2.5}), 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.</p> <p>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 ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. 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. Contact U.S. EPA for further clarification and current federal policies.</p> <p>3. Concentration 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 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.</p> <p>4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.</p> <p>5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.</p> <p>6. The ARB 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.</p> <p>7. National lead standard, rolling 3-month average: final rule signed October 15, 2008.</p>				

SOURCE: CARB 2008

New Source Review

Congress established the New Source Review (NSR) permitting program as part of the 1977 CAA Amendments. The NSR is a preconstruction permitting program that serves several important purposes. It ensures that air quality is not significantly degraded by the addition of new and modified factories, industrial boilers, and power plants. The NSR assures that new emissions do not slow progress toward cleaner air in areas with unhealthy air. The NSR assures that new emissions do not significantly worsen air quality in areas with clean air, especially pristine areas like national parks. The NSR program also assures residents that any large new or modified industrial source in their neighborhoods will not degrade the existing air quality, and that advances in air pollution control occur concurrently with industrial expansion.

NSR permits are legal documents containing regulations that the facility owners/operators must abide. The permit specifies what construction is allowed, what emission limits must be met, and often specifies how the emissions source must be operated.

Title V Operating Permits

Most Title V permits are issued by state and local permitting authorities. These permits are often called Part 70 permits because the regulations that establish minimum standards for State permit programs are found in 40 CFR Part 70. The USEPA also issues Title V permits to sources in Native American tribal land and in other situations, as appropriate. USEPA-issued permits are called Part 71 permits. Operating permits are legally enforceable documents that permitting authorities issue to air pollution sources after the source has begun to operate.

State Regulations

State Implementation Plan

The State Implementation Plan (SIP) describes measures the state would use to attain and maintain federal NAAQS. The SIP consists of narrative, rules, technical documentation, and agreements that an individual state will use to clean up polluted areas.

California Clean Air Act

The California Clean Air Act is a California law passed in 1988 that provides the basis for air quality planning and regulation independent of federal regulations. A major element of the California Clean Air Act is the requirement that local air districts in violation of the CAAQS must prepare attainment plans which identify air quality problems, causes, trends, and actions to be taken to attain and maintain California's air quality standards by the earliest practicable date.

Air Toxics Hot Spots Act

The Air Toxics Hot Spots Act (ATHSA) requires stationary sources to report the types and quantities of certain substances routinely released into the air. Some of the goals of the ATHSA are to:

- Collect emission data
- Identify facilities having localized impacts
- Notify nearby residents of significant risks
- Reduce significant risks to acceptable levels

The ATHSA requires a statewide inventory of air toxics emissions from stationary emissions.

Airborne Toxic Control Measures

Airborne Toxic Control Measures (ATCMs) are regulations adopted by the CARB that are intended to reduce exposure to toxic pollutants. Each ATCM is codified in the California Code of Regulations.

Local Regulations

Air quality is managed at the local level through land use and development planning practices. The proposed project would be regulated under the jurisdiction of the ACAPCD. The ACAPCD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws.

Table 3.4-3 lists the several ACAPCD general prohibitory rules that would apply to this project.

Amador County General Plan

The Amador County General Plan (Amador County 1995) Circulation Element's goals and policies relevant to air quality are listed below:

- Goal a: Improve the air quality in Amador County through improvements to the transportation system and incentives to reduce single-occupant automobile travel.
- Policy b: Amador County shall assist the Amador County Air Pollution Control District with the development of transportation control measures that will be needed to meet the required emission reductions of the California Clean Air Act. Measures may include trip reduction measures such as bus turnouts, incentives to rideshare, vanpool, park-and-ride lots and alternative fuels.

Table 3.4-3: Applicable ACAPCD Permit , Prohibitory, and Fugitive PM10 Rules	
Rule	Description
Rule 401 Permits Required	Requires any person constructing, altering, replacing or operating any source operation that emits, may emit, or may reduce emissions to obtain an Authority to Construct or a Permit to Operate
Rule 501 Permit Required	Requires a Permit to Operate before a facility may begin operation
Rule 202 Visible Emissions	Prohibits visible emissions as dark as or darker than Ringelmann ¹ No. 1 for periods greater than 3 minutes in any hour
Rule 205 Nuisance	Prohibits the discharge from a facility of air pollutants that cause injury, detriment, nuisance, or annoyance to the public, or that damage business or property
Rule 207 Particulate Matter Emission Standards	Prohibits particulate matter emissions in excess of 0.1 grains per dry standard cubic foot
Rule 210 Specific Contaminants	Establishes emission limits for sulfur compounds and combustion contaminants
Rule 218 Fugitive Emissions	Sets forth definitions, applicability and administrative requirements for fugitive dust. Requires application of specific measures to minimize fugitive dust emissions
<p>Note</p> <p>¹The Ringlemann Chart is a chart of shades of grey used to determine if smoke emissions comply with applicable standards.</p>	

SOURCE: ACAPCD REGULATIONS

City of Lone General Plan

The City of Lone General Plan (City of Lone 2009) Environmental Management Element’s goals and policies relevant to air quality are listed below:

- Goal NS-5: Reduce serious harm to residents, employees, or the environment as the result of an accidental release of toxic or hazardous substances.
- Policy NS-5.4: Ensure that all industrial facilities are constructed, maintained, and operated in accordance with current safety and environmental protection standards.
- Goal CO-6: Conserve the natural resources and quality of life within the community by reducing local and global air impacts.
- Policy CO-6.4: Promote the development and use of advanced energy technology and building materials in Lone.

3.4.3 THRESHOLDS OF SIGNIFICANCE

The proposed project would result in a significant impact if it would:

- 1) Conflict with or obstruct implementation of the applicable air quality plan
- 2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- 3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)
- 4) Expose sensitive receptors to substantial pollutant concentrations
- 5) Create objectionable odors affecting a substantial number of people

3.4.4 IMPACTS AND MITIGATION

Potential Impact 3.4-1: The potential to conflict with or obstruct implementation of the applicable air quality plan

Overview of Impacts

Federal

The proposed project would not be subject to the listed federal air pollution rules. The NSPS is not applicable because the proposed project elements are not in a source category for which an NSPS has been issued. The project would not be subject to a NESHAP because the proposed project elements are not in a source category for which a NESHAP has been issued, and the projected emissions are below the major source thresholds of 10 tons per year (tpy) for a single hazardous air pollutant (HAP) and 25 tpy for combined HAPs.

Projects that have air emissions that exceed specified thresholds may require certain types of permits such as NSR, PSD, or Title V operating permits. The air emissions from the proposed project would not exceed major source thresholds for any of these permits; therefore, these types of permits would not be needed for this project.

State

The CARB implements several air regulatory programs that may apply to this project. The California Clean Air Act requires the local district to attain and maintain both national and state ambient air quality standards at the “earliest practical date”. Compliance with the ACAPCD rules and regulations would ensure the proposed project’s compliance with the CARB program and SIP provisions.

This project would be exempt from ATHSA reporting because it is a wastewater treatment plant, as defined in SIC Code 4952 (Sewerage Systems), does not have a sludge incinerator, and the facility's maximum throughput does not exceed 10 million gallons per day.

Local

The ACAPCD does not have an air quality plan; however, the District has devised rules to implement the SIP. Some of these rules would apply to the proposed project. The relevant stationary source control measures and permitting requirements would be applicable to the project. The operation and maintenance of the project would be designed to comply with ACAPCD rules that include permitting requirements and emissions limitations

The project’s emissions would be below the ACAPCD’s thresholds for emission offsets; therefore, offsets would not be required for this project.

Project Level Elements

The discussion below regarding air emissions and the resulting impact would be the same for each of the three project elements. Air pollutants from construction of the existing element (Pond 7) were already emitted; however, construction of Pond 7 was evaluated using the significance criteria that would apply if Pond 7 was not yet constructed.

Existing Infrastructure - Pond 7, Part I – Treatment (Phases One and Two), and Part II – Disposal (Phase One – Pond 8)

The construction activities associated with the existing and project-level elements would result in combustion-related emissions from construction equipment engines. Project construction would

also result in fugitive dust emissions. It was assumed that construction of the individual phases would be sequenced as follows for estimating purposes:

- **Pond 7 construction and reconstruction:** This element of the project was previously completed in fall 2001. The estimate of air emissions from the construction activities in fall 2001 have been calculated and presented in Table 3.4-4.
- **Alteration of Ponds 5-6, construction of activated sludge system, possible construction of an adjacent new tertiary WWTP, and construction of Pond 8:** The worst-case emissions scenario would occur if these four activities were conducted concurrently. There would be two options for construction of the secondary WWTP: above-ground and underground. The worst-case emissions would occur if the secondary WWTP were constructed underground. The emissions for the construction of the new activated sludge system also include the demolition of some of the existing secondary WWTP equipment.
- **Closure of Ponds 1-4:** Filling of these ponds would likely take place after construction of the secondary WWTP and would occur over a 4-week period.
- **Construction of pipelines connecting the secondary and tertiary WWTPs, and possible construction on an expansion to the existing tertiary WWTP:** The worst-case emissions scenario would be if these two activities were conducted concurrently. Though there would be several options for the location of the expanded tertiary WWTP facilities, the worst-case emissions would occur if the existing tertiary WWTP were to remain and pipelines were installed to connect the new secondary and existing tertiary WWTPs.
- **Demolition of existing equipment:** Demolition of existing equipment that is no longer in service would occur after completion of the other construction activities. This equipment is located just south of Ponds 1-4.
- **Phase two expansion elements:** These elements include the expansion of the new activated sludge system from a capacity of 0.80 MGD to 1.60 MGD, and a similar expansion of the new adjacent tertiary WWTP from a capacity of 0.80 MGD to 1.60 MGD. The worst-case emissions scenario assumes the construction activities of phase two elements will be the same in intensity and magnitude as phase one, and that both phase two expansion elements would be constructed simultaneously. Phase two construction is expected to take place up to 5 years after the completion of Phase one.

A summary of the construction-related emissions for these elements of the project is presented in Tables 3.4-4 and 3.4-5. Emissions calculations are provided in Appendix E.

The transportation-related emissions due to construction workers commuting to the site are presented in Table 3.4-6. Emissions calculations are provided in Appendix E.

Measures for reducing fugitive dust and nuisance dust would be implemented during the construction phase as a matter of compliance with ACAPCD rules, and the emission estimates in Tables 3.4-4 and 3.4-5 reflect the measures used to reduce emissions from travel on unpaved roads. The following good housekeeping and/or work practices would be implemented in order to comply with the ACAPCD rules:

- Application of water to control fugitive dust and nuisance dust emissions during demolition, construction, and grading operations
- Application of water to road surfaces

Table 3.4-4: Construction-Related Emissions (Existing and Phase One Elements)

Criteria Emissions (Tons)						
Activity	ROG ¹	SO ₂	CO	NO _x	PM ₁₀	PM _{2.5}
Pond 7 Construction	0.12	0.36	0.30	0.73	7.57	0.82
Pond 7 Reconstruction	0.41	2.22	0.64	2.14	22.98	2.5
Subtotal	0.52	2.58	0.93	2.87	30.55	3.32
Ponds 5 and 6	0.17	0.88	0.33	1.03	9.94	1.06
Activated Sludge Construction (Phase One)	4.13	0.03	13.78	37.86	243.69	26.04
Pond 8	0.41	2.33	0.75	2.25	21.73	2.32
Subtotal	4.71	3.24	14.86	41.14	275.36	29.42
Ponds 1 - 4	0.20	1.17	0.33	1.12	10.91	1.16
Subtotal	0.20	1.17	0.33	1.12	10.91	1.16
Secondary to Tertiary WWTP Pipeline	0.11	0.00	0.38	1.10	6.78	0.72
Tertiary WWTP Expansion (Phase One)	2.36	0.02	7.88	21.63	139.25	14.88
Subtotal	2.47	0.02	8.25	22.73	146.03	15.6
Existing Equipment Demolition	0.08	0.29	0.20	0.51	4.97	0.53
Totals	8.11	8.17	24.83	68.99	473.84	50.67

Note: ¹ Reactive organic gases

Table 3.4-5: Construction-Related Emissions (Phase Two Expansion Elements)

Criteria Emissions (Tons)						
Activity	ROG ¹	SO ₂	CO	NO _x	PM ₁₀	PM _{2.5}
Activated Sludge System Construction	4.13	0.03	13.78	37.86	243.69	26.04
Tertiary WWTP Expansion	2.36	0.02	7.88	21.63	139.25	14.88
Totals	6.49	0.05	21.66	59.49	382.94	40.92

Note: ¹ Reactive organic gases

Table 3.4-6: Transportation-Related Emissions (Construction Employee Commute)

Criteria Emissions (Tons)						
Phase	ROG	SO ₂	CO	NO _x	PM ₁₀	PM _{2.5}
Pond 7 Construction	0.00	0.00	0.01	0.00	0.00	0.00
Pond 7 Reconstruction	0.00	0.00	0.09	0.00	0.00	0.00
Ponds 5 and 6	0.00	0.00	0.02	0.00	0.00	0.00
Activated Sludge Construction (Phase One)	0.03	0.00	0.65	0.03	0.00	0.00
Ponds 1 - 4	0.00	0.00	0.02	0.00	0.00	0.00
Secondary to Tertiary WWTP Pipeline	0.00	0.00	0.03	0.00	0.00	0.00
Tertiary WWTP Expansion (Phase One)	0.03	0.00	0.56	0.03	0.00	0.00
Pond 8	0.00	0.00	0.09	0.00	0.00	0.00
Existing Equipment Demolition	0.00	0.00	0.00	0.00	0.00	0.00
Phase Two Expansion Elements	0.06	0.00	1.21	0.06	0.00	0.00
Totals	0.13	0.00	2.68	0.13	0.01	0.00

- Application of water to material stockpiles and other surfaces that may generate fugitive dust
- Maintenance of roadways by washing with water or sweeping promptly
- Covering or wetting material stockpiles and open-bodied trucks, trailers, or other vehicles transporting materials
- Ceasing operations until fugitive emissions can be reduced
- Maintaining reasonable vehicle speeds while driving on unpaved roads

The ATCM for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater (17 CCR Section 93116) would apply to some of the equipment that may be used during the construction phase. The proposed use of the Tier 2 engines would comply with the requirements of the portable engine ATCM. Compliance with Rule 218 for fugitive dust emissions, the ATCM for diesel particulate matter, and mitigation measures Air Quality-1 through Air Quality-4 would reduce air pollutant impacts to less than significant levels.

Air Quality-1: Idling time of construction equipment shall be limited to 5 minutes maximum, to the extent feasible.

Air Quality-2: The contractor(s) shall be required to participate in the CARB Statewide Portable Equipment Registration Program OR meet the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Sec. 2423(b)(1).

Air Quality-3: Construction activities shall be limited to daylight hours, to the extent feasible, so that diesel generators are not required for operation of lights.

Air Quality-4: Carpooling shall be required for construction workers that travel to the construction site from outside the City of Lone.

Programmatic Level Elements

Part II – Disposal (Phase Two - Disposal Options 1, 2, and 3), and Part III – Storage

The construction of Pond 9 would likely have emission impacts similar to those of Pond 8, described above. The various disposal options to Unimin Mine, Charles Howard Park, or another end user of treated wastewater would all require pipeline construction. Similarly, the use of various wastewater storage locations, such as Lone Water Reservoir, Preston Reservoir, or another water reservoir, would also require the construction and installation of additional pipelines. The specific routing of these pipelines would be determined at a later date. The emissions from the construction impacts of the programmatic-level elements would likely be similar to those impacts described for the project-level elements, but determination of significance is speculative at this time and would need to be evaluated in a subsequent environmental analysis should the City of Lone choose to pursue such elements in the future.

Operation

No air emissions would be associated with operation of the ponds or pipelines associated with this project. Emission sources for the secondary WWTP would include the natural gas-fired emergency generator and the aerobic treatment activities at the activated sludge system. The only emission source at the tertiary treatment plant would be the natural gas-fired generator to provide emergency power for the sewerage lift station and force main. The operation emissions are summarized below in Table 3.4-7.

Table 3.4-7: Emissions from Operation of Treatment Plant

Equipment	Hours per	ROG	SO ₂	CO	NO _x	PM10	PM2.5
	Year	tons	tons	tons	tons	tons	tons
400kW Generator	100	0.0007	0.0011	0.0056	0.0097	0.0001	0.0004
200kW Generator	100	0.0004	0.0006	0.0028	0.0049	0.0001	0.0002
Aerobic Treatment	8,760	2.5842	0.0000	0.0000	0.0000	0.0000	0.0000
Totals:		2.5853	0.0017	0.0084	0.0146	0.0002	0.0006

The ACAPCD has not established thresholds for evaluation of significant impacts. The estimated emissions from this project would be below major source thresholds. The implementation of the project design features and practices would result in less than significant impacts related to air quality plans and regulations, and no mitigation measures would be required.

The impacts from the operational emissions of the programmatic-level elements would likely be similar to those impacts described for the project-level elements. Determination of significance is speculative at this time, and would need to be evaluated in a subsequent environmental analysis should the City of Lone choose to pursue such elements in the future.

Potential Impact 3.4-2: Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation

The ACAPCD regulations require that air dispersion modeling be conducted for major modifications or major sources to determine compliance with ambient air quality standards. The emissions threshold for major modification and major facility is 100 tpy for each criteria pollutant. Air dispersion modeling is not required for fugitive dust emissions, in accordance with Rule 419. The annual emissions of all criteria pollutants, with the exception of fugitive dust, would be below 100 tpy, as shown in Tables 3.4-4 to 3.4-6; thus, air dispersion modeling would not be required for this project. The NO_x emissions from all of the construction phases would exceed 100 tons, but the construction of phase one and phase two elements would be separated by several years; therefore, the annual emissions would be less than the 100 ton per year threshold.

The emissions from the project-level elements are below the thresholds that require modeling; therefore, the emissions from both construction and operation and maintenance of this project would have a less than significant impact on ambient air quality, and would not contribute substantially to an existing air quality violation. No mitigation is required.

The emissions from the programmatic-level elements would likely be similar to the project-level elements, but further environmental analysis would be required in a site-specific project-level CEAQ document should the City of Lone choose to pursue such elements in future.

Potential Impact 3.4-3: Potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)

The project would be located in an area that is not in attainment with federal and state ambient air standards for ozone. Both VOC and NO_x are precursors to ozone, and these pollutants would be emitted during the construction and operation phases of the project. The emissions of both of these pollutants would be below the major source and major modification thresholds. Emission offsets would not be required for this project because the estimated emissions would be less than

major source thresholds. The low levels of VOC and NO_x emissions from this project would result in a less than significant impact, and no mitigation would be required.

The emissions from the programmatic-level elements would likely be similar to the project-level elements, but further environmental analysis would be required in a site-specific project-level CEAQ document should the City of Lone choose to pursue such elements in future.

Potential Impact 3.4-4: Potential to expose sensitive receptors to substantial pollutant concentrations

Overview of Impacts

The schools and day care facility are considered sensitive receptors when people are present at the facilities. Individuals with asthma are particularly sensitive to airborne pollutants, such as dust and exhaust, both of which would be emitted during project construction. While construction would occur for a limited period of time, it typically would take place during weekdays. This construction could affect children playing outdoors at the elementary school, visitors of Charles Howard Park, or visitors of the Castle Oaks Golf Course.

Class I areas¹ are also often considered to be sensitive receptors; however, there are no Class I areas located within 60 miles of the proposed project area.

Construction

Emission reduction measures for engine exhaust, fugitive dust, and nuisance dust during construction activities would be implemented, as described under Potential Impact 3.4-1, in accordance with ACAPCD regulations. The City of Lone would also notify the nearby schools and day-care facilities of construction hours, per mitigation measure Air Quality-5. This notification would allow the schools and day-care facilities to limit outdoor playtimes and other activities during periods of extensive earthmoving. Implementation of this mitigation measure would reduce temporary air quality impacts on sensitive receptors to a less than significant level.

Air Quality-5: The City of Lone shall notify nearby (within 2 miles of construction) sensitive receptors (day-care facilities, schools, hospitals) of construction activities two weeks prior to the commencement of construction activities. The notification shall explain:

- The type of construction activities that will occur,
- When the construction activities will occur,
- Where the construction activities will occur, and
- The potential air-quality related health of the activities.

Impacts to sensitive receptors from of the construction of the programmatic-level elements would likely be similar to the project-level elements, but determination of significance is speculative at this time and would need to be evaluated in a subsequent environmental analysis should the City of Lone choose to pursue such elements in the future.

Operation

The emissions from operation of the WWTP would be less than the thresholds requiring air dispersion modeling (see Potential Impact 3.4-2); therefore, the nearby schools and day-care facility would not be exposed to substantial pollutant concentrations during project operation.

¹ Class I areas are areas of special national or regional value from a natural, scenic, recreational, or historic perspective.

Sensitive receptors would not be exposed to substantial pollutant concentrations; therefore, there would be no impact.

Impacts to sensitive receptors from the operation of the programmatic-level elements would likely be similar to the project-level elements, but determination of significance is speculative at this time and would need to be evaluated in a subsequent environmental analysis should the City of Lone choose to pursue such elements in the future.

Potential Impact 3.4-5: Potential to create objectionable odors affecting a substantial number of people

Overview of Impacts

The proposed project would increase the volume of water treated at the secondary and tertiary WWTPs, and decrease the volume of water sent to percolation ponds for disposal. The treatment plants and percolation ponds would be at locations in the vicinity of residential neighborhoods. Odors from domestic wastewater are typically a result of anaerobic biological activity in the sewer collection and wastewater treatment systems. Odors are most prevalent during warm weather conditions (above 70 degrees Fahrenheit). The elements of wastewater treatment facility most likely to generate odors include storage areas for wastewater influent or solids that are open to the air and/or stored for extended periods of time. Storage and percolation ponds for treated effluent tend to generate fewer odors than those generated by the remainder of the treatment facility because the effluent in the storage ponds has already been treated.

Construction

Construction of project-level elements of this project would not result in emissions of odorous substances. There would be no impacts related to odors and no mitigation measures are required. Impacts from the construction of the programmatic-level elements would likely not result in emissions of odorous substances, but determination of significance is speculative at this time and would need to be evaluated in a subsequent environmental analysis should the City of Lone choose to pursue such elements in the future.

Operation

Odors are generally not considered a nuisance unless they are detected by somebody who finds them objectionable. No complaints of odor nuisance have been received by City wastewater treatment facility staff for approximately the last five years (Guerra pers. comm. 2008). Prior to that date, the percolation ponds had experienced an algal bloom that produced an odor nuisance. The City of Lone installed aerators in each of the ponds to generate continuous water motion and prevent the growth of algae. There have been no odor issues associated with the ponds since the installation of the aerators.

The existing secondary WWTP would be replaced with an activated sludge system with better treatment efficiency. The new activated sludge system would result in fewer odor emissions than the current system, despite the higher volume of wastewater to be treated at the new facility. The treated water sent to the tertiary WWTP would have a lower potential for odor due to a lower Biochemical Oxygen Demand (BOD) than the existing incoming water. Water contained in the ponds would be tertiary treated wastewater and would also have a lower potential to generate odor than the secondary treated wastewater currently being sent to the percolation ponds for disposal.

One option for the new secondary treatment system would be to place the equipment underground in an industrial building. This option could include the addition of a tertiary system within the same building. This option would result in fewer odor emissions than the above-ground option, because the treatment processes would be enclosed inside a building.

3.4 AIR QUALITY

Odors from the current treatment system are below a level that would result in complaints from nearby residents, and the proposed project design would result in higher quality treated water with fewer odor emissions than the existing system. Impacts related to odors would be less than significant, and no mitigation measures would be required.

Impacts from the operation of the programmatic-level elements would likely not result in the emission of any odorous substances, but determination of significance is speculative at this time and would need to be evaluated in a subsequent environmental analysis should the City of Lone choose to pursue such elements in the future.