4.2 AIR QUALITY

This section describes the existing air quality setting in San Luis Obispo County and the potential short-term and long-term air quality impacts associated with development of the proposed project. This section also includes a discussion of greenhouse gas (GHG) emissions associated with project implementation. The analysis is based on information provided by the County of San Luis Obispo, the San Luis Obispo County Air Pollution Control District (SLOAPCD), and modeling of construction-related emissions from vehicle and heavy equipment operation using URBEMIS, a software program which uses land use emissions inventory models to estimate GHG and criteria pollutant emissions.

4.2.1 Existing Conditions

4.2.1.1 Regional Meteorology

San Luis Obispo County is part of the South Central Coast Air Basin, which also includes Santa Barbara and Ventura Counties. The climate of the basin area is strongly influenced by its proximity to the Pacific Ocean. San Luis Obispo County constitutes a land area of approximately 3,316 square miles with varied vegetation, topography, and climate. From a geographical and meteorological standpoint, the County can be divided into three general regions: the Coastal Plateau, the Upper Salinas River Valley, and the East County Plain. Air quality in each of these regions is characteristically different, although the physical features that divide them provide only limited barriers to the transport of pollutants between regions.

Approximately 75% of the County population and a corresponding portion of the commercial and industrial facilities are located within the Coastal Plateau. Due to higher population density and closer spacing of urban areas, emissions of air pollutants per unit area are generally higher in this region than in other regions of the County. The project is located within the Coastal Plateau.

4.2.1.2 Air Quality Monitoring

The County's air quality is measured by multiple ambient air quality monitoring stations, including four permanent SLOAPCD-operated stations, two permanent state-operated stations, two special stations, and one station operated by Tosco Oil Refinery for monitoring Sulfur Dioxide (SO_2) emissions. Air quality monitoring is rigorously controlled by federal and state quality assurance and control procedures to ensure data validity. Gaseous pollutant levels are measured continuously and averaged each hour, 24 hours a day. Particulate pollutants are generally sampled by filter techniques for averaging periods of three to 24 hours. PM_{10} (inhalable particulate matter 10 microns or less in size) and $PM_{2.5}$ (inhalable particulate matter 2.5 microns or less in size) are sampled for 24 hours every sixth day on the same schedule nationwide.

4.2.1.3 Existing Air Quality

The significance of a given pollutant can be evaluated by comparing its atmospheric concentration to state and federal air quality standards, which are presented in Table 4.2-1. These standards represent allowable atmospheric contaminant concentrations at which the public health and welfare are protected, and include a factor of safety.

Table 4.2-1. 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)	0.12 ppm (235 µg/m^3)[6]	Same as Primary Standard
	8 Hour	-----	0.08 ppm (157 µg/m^3)	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No California Standards	65 µg/m^3	Same as Primary Standard
	Annual arithmetic mean		15 µg/m^3	
Respirable Particulate Matter (PM_{10})	Annual geometric mean	30 µg/m^3	-----	
	24 Hour	50 µg/m^3	150 µg/m^3	
	Annual arithmetic mean	-----	50 µg/m^3	
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	-----
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen Dioxide (NO_2)	Annual arithmetic mean	-----	0.053 ppm (100 µg/m^3)	Same as Primary Standard
	1 Hour	0.25 ppm (470 µg/m^3)	-----	
Lead	30 day average	1.5 µg/m^3	-----	-----
	Calendar quarter	-----	1.5 µg/m^3	Same as Primary Standard
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)	-----	-----
Visibility Reducing Particles	8 Hour (10 am to 6 pm, PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer – visibility of ten miles or more due to particles when the relative humidity is less than 70%.	No National Standards	
Sulfates	24 Hour	25 μg/m^3		
Hydrogen Sulfide	1 Hour	0.03 PPM (42 μg/m^3)		

NOTES:

1. California standards for ozone, carbon monoxide, sulfur dioxide (1- and 24-hour), nitrogen dioxide, respirable 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.
2. National standards, other than ozone, fine particulate matter (PM2.5), and those based on annual averages or annual arithmetic mean, are not to be exceeded more than once a year. The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM2.5 the 24-hour standard is attained when 98% of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national Policies.
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 mm of mercury (1,013.2 millibar). 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; 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. National Secondary Standards: The levels of quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
6. New national 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. The national 1-hour ozone standard continues to apply in areas that violated the standard. Contact U.S. EPA for further clarification and current national policies.

Source: California Air Resources Board

San Luis Obispo County was designated non-attainment for the state ozone standard in 1989 after adoption of the California Clean Air Act. The law required each non-attainment area to develop a plan to attain the standards expeditiously. The County achieved ozone attainment status granted by the California Air Resources Board (CARB) in January 2004, but is currently in non-attainment.

The following summary of local air quality concerns is from the SLOAPCD 2007 Air Quality Report:

> "In San Luis Obispo County, ozone and PM10 are the pollutants of main concern, since exceedences of state health-based standards for those are experienced here in most years; our county is designated as a non-attainment area for the state ozone and PM_{10} standards. Although most populated areas of San Luis Obispo County enjoyed good air quality during calendar year 2007, ozone levels exceeding both federal and state standards were measured on numerous days in north county inland areas due to locally formed as well as transported pollution. Exceedence days in Carrizo Plains, Red Hills, Atascadero and Paso Robles were recorded for the federal and state 8-hour ozone standards.
>
> "Exceedences of the state 24 hour PM10 standard were recorded in Nipomo area. There was no measured exceedence of other air quality standards in 2007."

4.2.1.4 Existing Emissions

On a regional basis, ozone is the pollutant of greatest concern in San Luis Obispo County, particularly within the Coastal Plateau. Ozone is a secondary pollutant, formed in the atmosphere by complex photochemical reactions involving precursor pollutants and sunlight. The amount of ozone formed is dependant upon both the ambient concentration of chemical precursors and the intensity and duration of sunlight. Consequently, ambient ozone concentration tends to vary seasonally with the weather. Reactive Organic Gases (ROG), also called Reactive Hydrocarbons (RHC), and Nitrogen Oxides (NO_X) are the primary precursors to ozone formation. NO_X emissions result primarily from the combustion of fossil fuels; ROG emissions are also generated by fossil fuel combustion and through the evaporation of petroleum products.

Local concentrations of inert (non-reactive) pollutants (carbon monoxide [CO_2], ozone, PM_{10}) are primarily influenced by nearby sources of emissions, and thus, vary considerably between monitoring stations. SO_2 emissions are mainly concentrated around areas where large quantities of fossil fuels are either burned in electrical production or where petroleum products are refined.

The majority of GHG emissions, particularly CO_2 in San Luis Obispo County, are associated with combustion of fossil fuels related to energy production and transportation.

4.2.1.5 Naturally-Occurring Asbestos

The proposed project is located in an area that may contain naturally-occurring asbestos (NOA) according to the SLOAPCD. However, technical studies prepared for the project indicate that NOA does not exist within the project site (Kleinfelder 2009).

4.2.1.6 Climate Change

Climate change refers to any significant change in measures of climate such as temperature, precipitation, or wind, lasting for decades or longer (Environmental Protection Agency [EPA], 2007). Climate change may result from:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation); or,
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, desertification, etc.)

Human activities, such as fossil fuel combustion and land use changes release CO_2 and other compounds, cumulatively termed GHGs. GHGs are effective in trapping infra-red radiation which otherwise would have escaped the atmosphere, thereby warming the atmosphere, the oceans, and earth's surface (EPA 2007).

GHGs are any gases that absorb infrared radiation in the atmosphere (EPA 2007). GHGs, as defined in Assembly Bill 32 (AB 32), include the following: CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). CO_2 is the GHG most likely to be produced by the proposed project, due to construction activities.

In California, the main sources of GHG emissions are from the transportation and energy sectors. According to the CARB draft GHG emission inventory for the year 2004, 39% of GHG emissions result from transportation and 25% of GHG emissions result from electricity generation.

According to the California Climate Change Portal (CCCP), the potential effects of future climate change on California resources include (CCCP 2007):

- **Air temperature:** Increases of three to 10.4 degrees Fahrenheit by the end of the century, depending on the aggressiveness of GHG emissions mitigation.
- **Sea level rise:** Increases of 6 to 30 inches by the end of the century, depending on the aggressiveness of GHG emissions mitigation.
- **Water resources:** Reduced Sierra snow pack, reduced water supplies, increased water demands, changed flood hydrology.
- **Forests:** Changed forest composition, geographic range, and forest health and productivity; increased destructive wild fires.
- **Ecosystems:** Changed habitats, increased threats to certain endangered species.
- **Agriculture:** Changed crop yields, increased irrigation demands, increased impacts from tropospheric ozone.

- **Public health:** Increased smog and commensurate respiratory illness and weather-related mortality.

4.2.2 Regulatory Setting

4.2.2.1 Federal Clean Air Act Amendments

Air quality protection at the national level is provided through the federal Clean Air Act Amendments (CAAA). President George Bush, Sr. signed the current version into law on November 15, 1990. These amendments represent the fifth major effort by the U.S. Congress to improve air quality. The 1990 CAAA are generally less stringent than the California Clean Air Act. However, unlike the California law, the CAAA set statutory deadlines for attaining federal standards. The 1990 CAAA added several new sections to the law, including requirements for the control of toxic air contaminants, reductions in pollutants responsible for acid deposition, development of a national strategy for stratospheric ozone and global climate protection, and requirements for a national permitting system for major pollution sources.

4.2.2.2 California Clean Air Act

The California Clean Air Act (CCAA) was signed into law in September of 1988. It requires all areas of the state to achieve and maintain the California ambient air quality standards by the earliest practicable date. These standards are generally more stringent than the federal standards; thus, emission controls to comply with state law are more stringent than necessary for attainment of the federal standards. The CAAA requires that all APCDs adopt and enforce regulations to achieve and maintain state ambient air quality standards for the area under its jurisdiction. Pursuant to the requirements of the law, the SLOAPCD adopted a Clean Air Plan (CAP) for their jurisdiction.

4.2.2.3 Assembly Bill 32

The California Global Warming Solutions Act of 2006 (AB 32, Health and Safety Code Sections 38500 et seq.) requires the ARB to design and implement emission limits, regulations, and other measures. These will reduce, by 2020, statewide GHG emissions in a technologically feasible and cost-effective manner to 1990 levels (representing a 25% reduction).

4.2.2.4 San Luis Obispo County Clean Air Plan

The 2001 SLO County Clean Air Plan (CAP) is used by the SLOAPCD to address attainment of national and state fugitive dust (PM_{10}) and ozone standards for the entire County (SLOAPCD 2004). The CAP is a comprehensive planning document intended to provide guidance to the APCD and other local agencies, including the County of San Luis Obispo, on how to attain and maintain the state standards for ozone and PM_{10}. The CAP presents a detailed description of the sources and pollutants which impact the jurisdiction, future air quality impacts to be expected under current growth trends, and an appropriate control strategy for reducing ozone precursor emissions, thereby improving air quality.

4.2.3 Thresholds of Significance

The significance of potential air quality impacts are based on thresholds identified within Appendix G of the CEQA *Guidelines* and standards established within the SLOAPCD CEQA Air Quality Handbook. The specifics of these guidelines are defined below.

4.2.3.1 CEQA Guidelines

Appendix G of the CEQA *Guidelines* provides the following thresholds for determining significance with respect to air quality. Air quality impacts would be considered significant if the proposed project would:

- Conflict with or obstruct implementation of the applicable clean air plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in 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);
- Expose sensitive receptors to substantial pollutant concentrations; or,
- Create objectionable odors affecting a substantial number of people.

4.2.3.2 SLOAPCD CEQA Air Quality Handbook

According to the CEQA Air Quality Handbook, project impacts may also be considered significant if one or more of the following special conditions apply:

- The project has the ability to emit hazardous or toxic air pollutants in the close proximity of sensitive receptors such that an increased cancer risk affects the population.
- The project has the potential to emit diesel particulate matter in an area of human exposure, even if overall emissions are low.
- Remodeling or demolition operations where asbestos-containing materials will be encountered.
- Naturally occurring asbestos has been identified in the project area.
- The project has the ability to emit hazardous or toxic air pollutants in the close proximity of sensitive receptors such as schools, churches, hospitals, etc.
- The project results in a nuisance odor problem to sensitive receptors.

The CEQA Air Quality Handbook also defines specific thresholds for long-term operational emissions and short-term construction related emissions. Depending on the level of exceedance of a defined threshold, the APCD has established varying levels of mitigation. The proposed project involves only temporary construction activities; therefore, only short-term construction emission thresholds are relevant and described below.

Short-term Construction Emissions Thresholds

Use of heavy equipment and earth-moving operations during project construction can generate fugitive dust and combustion related emissions that may have substantial temporary impacts on local air quality. Fugitive dust emissions would result from land clearing, demolition, ground excavation, cut and fill operations, and equipment traffic over temporary roads at the project

site. Combustion emissions, such as NO_X and diesel particulate matter, are most significant when using large diesel fueled equipment.

By using emission estimates established by the APCD for specific equipment types and gathering information pertaining to each construction activity, an evaluation can be made as to whether or not a significant impact will occur and what level of mitigation is required to lessen the impact to a level of insignificance. Examples of information required to calculate construction emissions are type and number of equipment to be used, estimated fuel use, emission factors for each piece of equipment, volume of material to be moved, number of hours per day, and the total number of days each piece of equipment will be operated. Because this type of detailed construction equipment information is often not yet available during the EIR process, the APCD has developed an alternative method for calculating construction emissions based on the amount of earthwork involved for a particular project. Table 4.2-2 summarizes the level of emissions requiring mitigation.

Table 4.2-2. Level of Construction Activity Requiring Mitigation

Pollutant	Emissions		Amount of Material Moved	
	Tons/Qtr	Lbs/day	Cu. Yds/Qtr	Cu. Yds/Day
ROG	2.5	185	247,000	9,100
	6.0	185	593,000	9,100
NO_X	2.5	185	53,500	2,000
	6.0	185	129,000	2,000
PM_{10}	2.5		Any project with a grading area greater than 4.0 acres of continuously worked area will exceed the 2.5-ton PM_{10} quarterly threshold. Combustion emissions should always be calculated based upon the amount of cut and fill expected.	

Note: All calculations assume working conditions of 8 hours per day, 5 days per week, for a total of 65 days per quarter.

Source: County of San Luis Obispo APCD CEQA Air Quality Handbook, 2003

GHG Thresholds

No formal statewide or local guidance currently exists for determining climate change thresholds of significance for construction projects such as the one proposed. There is no legally adopted threshold for what emission levels constitute a significant amount. For purposes of this EIR, GHG thresholds are similar to the short-term combustion emissions thresholds in the SLOAPCD Handbook for pollutants such as ROG and NOx. In other words, if the project would exceed the ROG and NOx thresholds and result in a significant impact, then it would also result in a significant GHG impact.

4.2.4 Impact Assessment and Methodology

The APCD has established four separate categories of evaluation for determining the significance of air quality emissions. Full disclosure of the potential air pollutant and/or toxic air emissions from a project is needed for these evaluations, as required by CEQA. The evaluation categories include:

- Comparison of calculated project emissions to APCD emission thresholds;
- Consistency with the most recent CAP for the County;
- Comparison of predicted ambient pollutant concentrations resulting from the project to state and federal health standards, when applicable; and
- The evaluation of special conditions that apply to certain projects.

Impacts have been analyzed using a reasonable "worst-case" analysis approach for air quality resources. The specific methodologies of each "worst-case" approach are described within the Project-Specific Impacts and Mitigation Measures of each section of this chapter and/or the project description, as applicable. Emission estimates for the proposed project have been determined through the following:

- Consultation with the County of San Luis Obispo APCD;
- Use of the County of San Luis Obispo APCD CEQA Air Quality Handbook (April 2003);
- Use of the County of San Luis Obispo APCD Clean Air Plan (December 2001);
- Use of established emission factors that quantify the amount of emissions of a pollutant per unit time or energy volume;
- Mass emission estimates that quantify the amount of emissions of a pollutant in pounds per cubic yard of earthwork; and,
- Discussions with the project proponent regarding potential construction techniques.

Project components, particularly Alternative 3c, may occur as many as five or ten years subsequent to the preparation of this EIR; therefore, specific information regarding construction equipment usage is unknown. However, conceptual project construction schedules were estimated and short-term construction related emissions were assessed using the URBEMIS modeling software. The URBEMIS data sheets can be found in Appendix C.

URBEMIS is a software program which uses land use emissions inventory models to estimate GHG and criteria pollutant emissions, such as PM_{10}, ROG, and NOx under particular scenarios involving construction area and other sources. It has been designed specifically for California. The software allows users to enter project-specific data, including construction schedules, time of year during which construction would occur, the number and type of equipment to be used, and other factors such as the amount of material to be moved, and the distance required to haul material.

4.2.5 Project-Specific Impacts and Mitigation Measures

4.2.5.1 Short-term Construction Emissions

Short-term construction emissions would result from earthwork associated with sediment management, levee raising, and secondary project components such as the UPRR bridge raising. They include combustion and fugitive dust emissions. Potential construction and earthwork associated with each of the project components is described below. Because the County is in non-attainment for PM_{10}, the SLOAPCD requires Best Management Practices (BMPs) for all projects involving earthmoving activities regardless of the project size or duration.

The potential combustion emissions for those components below that would require significant earthwork is shown in Table 4.2-3. These emissions are based on the URBEMIS modeling. It should be noted that the haul distances associated with the import and export of material could have a significant effect on emissions for each project component. For purposes of the modeling, a haul distance of 10 miles (20 miles round trip) was assumed. Further, it was assumed that each truck would carry 10 cubic yards because the site constraints would make it difficult to use double-trailer trucks. An exception was made for the UPRR bridge raise area, where access is better and double trailers could be used. In that area, each truck would carry approximately 18 cubic yards of material.

Vegetation and Sediment Management

The vegetation management component of the proposed project would occur primarily with handtools. Use of heavy machinery would be limited. No burning of vegetation is proposed. No significant construction emissions would result from implementation of this component.

Sediment management would include two distinct activities, the initial removal, and subsequent annual maintenance. The initial action would result in the removal of approximately 21,000 cubic yards of sediment, using an excavator and haul trucks. Given the intensive biological mitigation measures required for the project, and other constraints, such as the limited work area and length of the corridor, removal may occur relatively slowly. The activity would occur in approximately 30 working days.

An approved disposal site for the removed material has not been identified at this time. There are currently no known disposal locations in the area capable of accepting 21,000 cubic yards of soil, although it may be possible to use the material for the levee raise components. Other locations may include the Oceano Airport property. If a local disposal option is not identified, the material would need to be transported over 10 miles from the project site.

The use of heavy machinery would occur in close proximity to existing residences on the north side of the levee system. The majority of the potentially affected residences are located north of the Arroyo Grande Creek channel between 22nd Street and Calle Uno, and on the north side of the Los Berros Creek channel, west of Valley Road.

Sediment removal would potentially be required over the long-term if significant quantities of fine materials are deposited in the secondary channel. The volume of sediment to be removed during annual maintenance would be considerably less than the initial sediment removal, would vary from year to year, and in some years may not be required at all. Heavy machinery for annual maintenance would be limited to one excavator with bucket and dump trucks. Material would be hauled to an approved disposal area. There is little potential that these annual activities would result in the removal of more than 2,000 cubic yards in any given year, and

therefore the thresholds of Table 4.2-2 would not be exceeded. Fugitive dust could be generated by annual maintenance activities. In addition, the activities would occur in close proximity to residences.

Alternative 3a and 3c Levee Raise

Both of the levee raise components would involve substantial earthwork. Alternative 3a would require earthwork including over excavating the existing levee in some places, and placement of new fill. In some cases, portions of the toe of the levee may need to be expanded as well. Total fill required to implement this component is approximately 14,350 cubic yards. The biological mitigation required will be intensive for this project and the levee raise is not necessary along the entire portion of the channel; therefore, earthwork may progress relatively slowly (compared to mass grading for a subdivision, for example). Equipment for this component would include a loader, grader, and haul trucks. Similar to the sediment management component, the levee raise would occur in close proximity to residences. It is assumed that this work would occur over a 25 day work schedule.

Alternative 3c construction techniques would be similar to those described for Alternative 3a, although earthwork would be more substantial, requiring up to 67,000 cubic yards of fill. It is assumed that this work would occur over a 100 day work schedule.

Secondary Components

As described in the Project Description, these construction activities would be required if Alternative 3c is implemented.

Union Pacific Railroad Bridge Replacement

The bridge replacement would require extensive earthwork. Estimates indicate that up to 3 acres could be disturbed and 135,000 cubic yards of cut and fill (total) would be required. This activity would occur in proximity to some residences, although the bridge is downstream from the majority of the residences located in the project area. It is assumed that earthwork would occur over a 60 day work schedule.

Structure Encroachment

These activities would require construction of retaining walls, flood walls, or would require the relocation or demolition of structures. They would not require significant earthwork by heavy machinery.

22nd Street Bridge Modification

This activity requires modifications to the bridge structure, but significant earthwork would not be required.

Table 4.2-3. Potential Short-term Construction Emissions (10-mile haul)

Project Component	Duration (days)	Earthwork (yds.3)	Emissions Produced (lbs/day)				
			ROG	NOx	CO_2	PM_{10}	$PM_{2.5}$
Sediment Removal	30	21,000	4	56	7,134	102	46
Alternative 3a	25	14,350	4	51	6,297	341	146
Alternative 3c	100	67,000	4	39	6,802	81	36
UPRR Bridge Raise	60	135,000	5	53	11,104	268	115
Sediment Removal (20-mile haul)	30	21,000	7	97	12,770	209	49

Source: URBEMIS modeling (Refer to Appendix C)

Based on the data shown in Table 4.2-3, the project components would not result in short-term construction emissions that exceed thresholds for ROG and NOx (185 lbs/day). However the factors used to determine these emissions are preliminary as construction schedules are not known at this time.

Based on the results of the 10-mile haul emissions versus the 20-mile haul emissions for sediment removal detailed in Table 4.2-3, haul distances are a significant factor. Construction aggregate is currently available at a surface mine on Highway 227, approximately 7 miles from the site, and near the Santa Maria River, approximately 10 miles from the project site. It is approximately 30 miles to large aggregate producers in northern San Luis Obispo County. In the event that long haul distances are required, or that construction schedules differ significantly from those used in this analysis, the proposed project could result in significant air quality impacts, and mitigation may be necessary to reduce impacts to a less than significant level.

AQ Impact 1 **Short-term construction emissions resulting from the implementation of the initial sediment management, Alternative 3a and Alternative 3c, and the UPRR bridge raise would potentially exceed ROG and NOx thresholds and produce significant CO_2, a GHG.**

Mitigation Measures

AQ/mm-1 *Prior to initiation of the initial sediment removal, construction of Alternative 3a, construction of Alternative 3c, and the UPRR bridge raise, a Construction Activities Management Plan (CAMP) shall be submitted for review and approval by the SLOAPCD. The plan shall describe the construction schedule, equipment to be used, and identify the distances to disposal sites or from fill sites, as applicable. Based on those factors, if necessary, the SLOAPCD shall prescribe which Best Available Control Technology shall be incorporated into the CAMP. Applicable technologies may include:*

a. Minimizing the number of large pieces of construction equipment operating during any given period.

b. *Regularly maintaining and properly tuning all construction equipment according to manufacturer's specifications.*

c. *Fueling all off-road and portable diesel powered equipment including, but not limited to: bulldozers, graders, cranes, loaders, scrapers, backhoes, generators, compressors, and auxiliary power units with CARB motor vehicle diesel fuel.*

d. *Using 1996 or newer heavy duty off road vehicles.*

e. *Electrifying equipment where possible.*

f. *Using Compressed Natural Gas (CNG), liquefied natural gas (LNG), bio-diesel, or propane for on site mobile equipment instead of diesel-powered equipment.*

g. *Ensuring that on and off-road diesel equipment shall not be allowed to idle for more than five minutes.*

h. *To the greatest extent practicable, using Purinox or similar NOX reducing agents diesel fuel.*

i. *To the greatest extent feasible, installing catalytic reduction units on all heavy equipment performing this work.*

Residual Impact

While these measures have been developed to reduce ROG and NOx emissions, some, such as the idling limitation may also effectively reduce CO_2 (GHG) production. With implementation of these measures, the impact would be *less than significant.* No additional mitigation is required.

AQ Impact 2 Short-term construction emissions would occur in close proximity to sensitive receptors.

Mitigation Measures

AQ/mm-2 *To minimize the impacts of diesel emissions on sensitive receptors construction activities shall be limited as follows:*

a. *Excavation shall occur from the southern levee (opposite existing residences) to the extent feasible;*

b. *Stockpile locations and staging areas shall be located at least 1,000 feet from sensitive receptors to the extent feasible; and*

c. *Haul routes that avoid sensitive receptors shall be considered to the extent feasible.*

Residual Impact

With implementation of these measures, the impact would be *less than significant.* No additional mitigation is required.

AQ Impact 3 Short-term construction emissions would potentially include fugitive dust (PM_{10}) emissions.

Mitigation Measures

AQ/mm-3 *Prior to construction of any of the project components requiring earthwork, the most current BMPs to reduce fugitive dust emissions shall be shown on all project plans and implemented during daily earth moving activities.*

Residual Impact

With implementation of these measures, the impact would be *less than significant.* No additional mitigation is required.

4.2.5.2 Hazardous Air Pollutants

Demolition or relocation of existing structures or pipelines located within the project area would be avoided to the extent feasible, although there may be some cases, particularly the Alternative 3c levee raise where structures would need to be demolished or relocated. This may be true of utilities as well. These activities have the potential to negatively impact air quality. The possibility exists that these older structures or utilities could include asbestos-containing building materials or other hazardous building materials. Demolition and remodeling activities would be subject to the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (NESHAP) pertaining to demolition activities.

AQ Impact 4 Demolition and relocation activities have the potential to result in adverse air quality impacts associated with hazardous building materials.

Mitigation Measures

AQ/mm-4 *Prior to commencement of demolition activities the applicant shall:*

a. *Notify the APCD at least ten working days prior to commencement of any demolition activities;*

b. *Conduct an asbestos survey by a Certified Asbestos Inspector;*

c. *Use applicable disposal and removal requirements for any identified asbestos containing material; and*

d. *Contact the SLOAPCD Enforcement Division prior to final approval of any demolition activity.*

Residual Impact

With implementation of this measure, the impact would be *less than significant*. No additional mitigation is required.

4.2.5.3 Consistency with the Clean Air Plan

Generally a project would be consistent with the CAP if the answer to the following questions is "yes":

1. Are the population projections used in the plan or project equal to or less than those used in the CAP for the same area?

2. Is rate of increase in vehicle trips and miles traveled less than or equal to the rate of population growth for the same area?

3. Have all applicable land use and transportation control measures from the CAP been included in the plan or project to the maximum extent feasible?

However these questions are not necessarily relevant to the proposed project. The project would not result in any additional trip generation, vehicle miles travelled, or increases in housing or employment. The proposed project is a construction and maintenance project and no new structures are proposed. Therefore transportation and land use management strategies in the CAP intended to reduce vehicle miles travelled or increase transit ridership, for example, are not necessarily relevant.

Compliance with the district rules and regulations is also required for a project to be consistent with the CAP. Regulations concerning developmental burning, dust control, naturally occurring asbestos, and hazardous air pollutants associated with demolition activities are relevant to the proposed project. The mitigation measures recommended in this and/or other sections of the EIR require compliance with those rules and regulations; therefore *the proposed project is consistent with the CAP* in this respect.

4.2.6 Cumulative Impacts

Potential construction-related air quality impacts are location-specific to the extent that they may temporarily result in significant impacts on the localized environment, but they are not "cumulative" in the sense normally applied in CEQA documents. The only longer-term "operational" contributions to emissions would be those associated with annual sediment maintenance activities. Those impacts are less than significant as they may not occur every year and would involve the movement of less than 2,000 cubic yards in a single day. Therefore, the cumulative impacts related to these issues and mitigation measures that have been previously identified for the components of the proposed project would apply cumulatively as well. The proposed projects contribution to cumulative impacts would be *less than significant..* No additional mitigation measures are required.