

24 May 2007

Kern County Planning Department
Public Services Building
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2370
Attn: Scott Denney, Supervising Planner

RE: AIR QUALITY STUDY FOR RIDGECREST 40, RIDGECREST, CALIFORNIA
(GPA, MAP 071)

Dear Mr. Denney,

I'm pleased to provide you with the Air Quality Study for Ridgecrest 40, Ridgecrest, California. This report was prepared to assist the County of Kern in its environmental review of this project, and conforms to the Kern County Air Pollution Control District's *Guidelines for Implementation of the California Environmental Quality Act (CEQA) of 1970*.

Summary

Kern County Air Pollution Control District (KCAPCD) does not have thresholds of significance for construction emissions, so no statement of air quality impact significance can be made for project construction emissions. However, the project would be required to comply with KCAPCD Rule 402 - Fugitive Dust during construction to reduce PM₁₀ emissions. The operational (post-development) threshold of significance for reactive organic compounds (ROC) and oxides of nitrogen (NOx) is 137 pounds per day. Project operational emissions would not exceed this threshold and would be less than significant. No operational emissions mitigation would be required beyond Title 24 requirements.

Background and Introduction

The Ridgecrest 40 project site is located in the Indian Wells Valley in northeastern Kern County. Indian Wells Valley and the project site are within the Mojave Desert Air Basin and under the jurisdiction of the KCAPCD, which monitors air quality in eastern Kern County and ensures compliance with programs designed to attain air quality standards set by federal and state agencies. At the time of this writing, KCAPCD is in non-attainment for the federal ozone 8-hour; Indian Wells Valley is in attainment for the federal standard for this criteria pollutant. KCAPCD is in moderate

non-attainment for the state ozone-1 hour standard, and in non-attainment for the state PM₁₀ standard.¹

References used during the preparation of this report include:

- *Guidelines for Implementation of the California Environmental Quality Act (CEQA) of 1970, as Amended*, KCAPCD, July 11, 1996, and amended July 1, 1999,
- *The Kern County General Plan, Land Use, Open Space, and Conservation Element*, adopted March 13, 2007,
- URBEMIS2002, Version 8.7 (air quality model),
- *Software User's Guide: URBEMIS2002 for Windows with Enhanced Construction Module, Version 8.7 Emissions Evaluation for Land Use Development Projects*, prepared by Jones & Stokes, April 2005, and
- The KCAPCD website (<http://www.kernair.org/>).

Sources of Project Air Emissions

The project applicant proposes to construct 125 single family residences on approximately 40.6 acres of land within the City. The entire site would be graded with movement of approximately 84,000 cubic yards (cy) of materials on site, and approximately 3,000 cy off site. Approximately 5.4 acres of the site would be paved. Construction would occur in three phases, commencing in October 2007 and ending in September 2009.

Development of the project would generate air emissions from stationary and mobile sources. Stationary source emissions, such as particulates 10 microns or less in diameter (PM₁₀), would be generated by construction activities associated with grading to establish proper drainage, to create building pads, and to construct the dwelling units. Once the proposed uses are occupied, emissions would be generated by stationary area sources, such as water and space heaters, landscape maintenance equipment, and consumer products. Mobile source emissions would be generated by motor vehicle travel associated with the proposed development.

Methodology

Construction and operational emissions for the Ridgecrest 40 project were calculated using URBEMIS2002, Version 8.7. URBEMIS2002 is a land use and transportation based computer model originally developed by the California Air Resources Board to estimate construction and operational (area and mobile source) emissions. The latest version of the model, URBEMIS2002, uses EMFAC 2002 to assign motor vehicle emission factors to the assumed vehicle fleet associated with a development project and then calculates the volume and type of air emissions released into the entire air basin. Project land use, construction, and trip generation data obtained from the project

¹ The Indian Wells Valley has been split out as a separate planning area from the rest of the KCAPCD for federal designations for PM₁₀ and the ozone-8 hour (<http://www.kernair.org/Kern%20County%20APCD%20Attainment%20Status.pdf>).

applicant and project traffic engineer were input into the model. URBEMIS2002 does not have an air district specific default file for KCAPCD. Therefore, the Mountain Counties and Rural Counties default was used and temperature adjustments were made in the model to reflect Indian Wells Valley climatic conditions.

Emissions Thresholds

Construction Emissions Thresholds

KCAPCD does not have construction emissions thresholds.

Operational Emissions Thresholds

The KCAPCD *Guidelines* (pages 12 and 13) have thresholds of significance; however, given that the project is a relatively small subdivision, only the following threshold applies to the project:

The project would have a significant air quality impact if it would emit than 137 or more pounds of oxides of nitrogen (NO_x) or Reactive Organic Compounds (ROC) from motor vehicle trips (indirect sources only).

Construction Emissions

Direct Construction Emissions

During periods of construction activity, on-site stationary sources, heavy-duty construction vehicles, construction worker vehicles, energy use, architectural coatings, and asphalt paving would generate emissions. In addition, fugitive dust would be generated by grading and construction activities. Construction information provided by the project applicant was input into URBEMIS2002 and URBEMIS2002 construction equipment defaults were used to calculate construction emissions.

Worst-day emissions during construction are provided in Table 1. These emission levels would only occur during the most intensive construction activities on the site during the grading and construction phases. These emissions would not be representative for every day of construction.

KCAPCD does not have a significance threshold for construction emissions, so no statement of impact significance can be made. Nonetheless, project development would be required to be in compliance with Rule 402 - Fugitive Dust of the KCAPCD as it applies to earthmoving and construction. This rule is included in the Appendix.

Table 1: Estimated Construction Emissions

Emissions Source	Emissions in Pounds per Day					
	ROC	NOx	CO	SO2	PM ₁₀ Exhaust	PM ₁₀ Fugitive Dust
Site Grading	87.00	658.98	656.24	0.01	29.32	178.29
Building Construction	278.92	231.52	286.45	0.00	9.31	0.18

Emissions calculations are provided in Appendix.

ROC - Reactive Organic Compounds

NOx - Oxides of Nitrogen

CO - Carbon Monoxide

SO2 - Sulfur Dioxide

PM₁₀ - Particulate Matter 10 Microns of Less in Diameter

Valley Fever (*Coccidioidomycosis*)

Earthmovers typically generate approximately 21.8 pounds of airborne dust per hour of operation. While much of this airborne dust would settle on, or near, the area being graded, smaller particles would remain in the atmosphere, increasing existing particulate levels within the surrounding area.

Some health problems, particularly those of the eye and respiratory tract (i.e., *Coccidioidomycosis* or its common name Valley Fever) may be exacerbated by fugitive dust generated at the project site. Valley Fever is not new to Kern County. Many people who have resided in this portion of the state have been exposed to it during their lifetimes and have developed immunity to it. Valley Fever is a pulmonary infection caused by inhalation of spores of a fungus that grows in the soil. The project site is located within the Lower Sonoran Life Zone that has the ecological conditions suitable for Valley Fever. The Lower Sonoran Life Zone include the San Joaquin Valley and other parts of Southern California, western Texas, southern and central Arizona, and southern parts of New Mexico, Utah, and Nevada. Kern County is an area with some of the highest incidence of Valley Fever. The transmission of Valley Fever occurs mostly through naturally occurring winds including dust storms that blow the dust containing the spores from foothills to urban areas. In addition, man-made events, which occur on undeveloped soil, can create dust. This has the potential to distribute Valley Fever spores (if present in the soil) into the air and occasionally result in infections.

Compliance with Rule 402 - Fugitive Dust of the KCAPCD would minimize fugitive dust and, therefore, the corresponding risk of *Coccidioidomycosis* exposure. Therefore, grading associated with development activity on the project site is not expected to result in outbreaks of Valley Fever or pose any significant or unique health risk.

Operational Emissions

Land use and trip generation information provided by the project applicant and the project traffic engineer were input into the URBEMIS2002 model. The predicted operational emissions are based upon build out of the project site in 2009. The results of these calculations are presented in Table 2. As shown, summertime and wintertime project emissions of ROC and NOx would be below the KCAPCD's threshold of 137 pounds per day for these criteria pollutants, and less than significant. Therefore, no operational mitigation is required of the project other than compliance with *California Code of Regulations, Title 24 (California Building Standards Code)*.

Table 2: Estimated Unmitigated Operational Emissions

Emissions Source	Emissions in Pounds per Day				
	ROC	NOx	CO	SO2	PM ₁₀
SUMMERTIME EMISSIONS					
Mobile Sources	14.43	11.68	179.96	0.11	15.56
Area Sources	11.02	1.58	4.66	0.03	0.02
Totals	25.44	13.26	184.62	0.14	15.57
Recommended Thresholds	137	137	--	--	--
Exceeds Threshold?	NO	NO	n/a	n/a	n/a
WINTERTIME EMISSIONS					
Mobile Sources	12.95	21.20	164.50	0.09	15.56
Area Sources	81.45	4.02	130.44	0.31	19.35
Totals	94.40	25.23	294.94	0.40	34.90
Recommended Thresholds	137	137	--	--	--
Exceeds Threshold?	NO	NO	n/a	n/a	n/a

Emissions calculations are provided in Appendix. Numbers may not total due to rounding.

ROC - Reactive Organic Compounds

NOx - Oxides of Nitrogen

CO - Carbon Monoxide

SO2 - Sulfur Dioxide

PM₁₀ - Particulate Matter 10 Microns of Less in Diameter

-- - No threshold exists.

n/a - Not Applicable

I hope this letter report satisfies the requirements of the County of Kern. If you have any questions or comments regarding this letter report, please do not hesitate to contact me.

Sincerely,



Rosemarie Mamaghani, AEP

Appendix - Rule 402 - Fugitive Dust

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

RULE 402 -FUGITIVE DUST

(Adopted 11/29/93, Amended 3/07/94, 9/7/95, 11/3/4)

I. **Purpose**

The purpose of this Rule is to reduce the amount of respirable particulate matter (PM₁₀) emitted from significant man-made fugitive dust sources and in an amount sufficient to maintain National Ambient Air Quality Standards. Rule 419 shall still be used to prevent/correct specific public nuisances and health hazards.

II. **Applicability**

The provisions of this Rule shall apply to specified bulk storage, earthmoving, construction and demolition, and man-made conditions resulting in wind erosion. It shall also apply to unpaved roadways located in the Kern County portion of the "Searles Valley Planning Area" shown on Page 402-11.

III. **Definitions**

- A. Active Operation - activity capable of generating fugitive dust, including any open storage pile, earth-moving activity, construction/demolition activity, disturbed surface area, and non-emergency movement of motor vehicles on unpaved roadways and any parking lot served by an unpaved road subject to this Rule.
- B. Bulk Material - sand, gravel, soil, aggregate, and any other organic or inorganic solid matter capable of releasing dust.
- C. Calendar Quarter - consecutive three month period and each consecutive three-month period thereafter, beginning on the first day of the calendar month in which an activity qualifies as a large operation.
- D. Construction and Demolition Activity - any on-site mechanical activity preparatory to or related to building, alteration, rehabilitation, demolition or improvement of property, including the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.
- E. Contractor - any person or company, or licensed construction contractor having a contractual arrangement to conduct an active operation subject to this Rule for another person.
- F. Contingency Measure - additional PM₁₀ control requirements automatically triggered in the event of failure to maintain the National Ambient Air Quality Standards for PM₁₀ in the Indian Wells Valley.
- G. Disturbed Surface Area - portion of the earth's surface having been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural condition, thereby increasing the potential for emission of fugitive dust. Disturbed surface area does not include areas restored to a natural state with vegetative ground cover and soil characteristics similar to adjacent or nearby natural conditions.
- H. Dust Suppressant - water, hygroscopic materials, or non-toxic chemical stabilizers used

- b. For each source identified, at least one Reasonably Available Control Measure shall be implemented; and
 - c. If, after implementation of control measures, visible dust emissions cross property line(s), standby control measures, e.g., increased watering, shall be specified for immediate implementation.
5. If a plan can be conditionally approved with actions not specified in the plan, the applicant shall be notified in writing. Such modifications shall be incorporated into the plan within 30 days of receipt of the notice of conditional approval, or the plan shall be disapproved. A letter to the Control Officer stating such modifications will be incorporated into the plan shall be used as a basis to approve the plan.
6. Any plan disapproved by the Control Officer shall require air monitoring and recordkeeping in accordance with Subsection V.D.2.
7. Failure to comply with any provisions in an approved or conditionally approved plan shall result in a violation of Subsection V.D.1.
8. An approved plan for a specific project shall be valid for a period of one year from date of approval or conditional approval. Plans shall be resubmitted, annually, at least 60 days prior to expiration date, or the plan shall be disapproved as of the expiration date. If all fugitive dust sources and corresponding Reasonably Available Control Measures or special circumstances remain identical to those identified in the previously approved plan, the resubmittal may contain a simple statement of "no-change". Otherwise a resubmittal shall contain all items specified in Subsections V.D.3.a. and V.D.3.b.
9. A contractor may have on file with the District a pre-approved plan or plans for one or more types of large projects subject to Subsection V.D.3. Prior to initiation of any project, one or more applicable preapproved plans may be specified by the contractor in lieu of filing a new plan or plans.
10. Any person subject to requirements of Subsection V.D.1. making changes to an active operation resulting in it not fitting the definition for a large operation for a period of at least one year, may request reclassification as a non-large operation. To obtain this reclassification, a person shall submit a request in writing to the Control Officer specifying actions having taken place to reduce disturbed surface area and/or earth-moving process rate to levels below criteria for large operations. A person shall also indicate criteria for a large operation will not be exceeded during the subsequent 12-month period. The Control Officer shall either approve or disapprove reclassification within 60 days from receipt of a reclassification request. The Control Officer shall disapprove the request if indicated changes cannot be verified. If approved, a person shall be relieved of all requirements under Subsections V.D.1, V.D.2, and V.D.3. Any person so reclassified shall again be subject to requirements of Subsection V.D.1. if, at any time subsequent to reclassification, criteria for large operations are met.

VI. Compliance Schedule

Any existing large operation becoming subject to this rule with its amendment on September 8, 2004, shall comply with Section V. no later than March 8, 2005.

- 2) Hours of active operations on days when particulate sampling occurred;
 - 3) Location, vendor, model, and serial number of PM₁₀ samplers used on each sampling day;
 - 4) Date, start and end times of all PM₁₀ sampling;
 - 5) Laboratory results (measured ambient concentrations) of all PM₁₀ samples;
 - 6) List of consultants, laboratories, and other groups of individuals responsible for collection, analysis, evaluation and validation of each PM₁₀ sample; and
 - 7) Documentation of any maintenance and calibration actions performed on each PM₁₀ sampler conducted in accordance with 40 CFR, Part 50, Appendix J.
3. Any person subject to Subsection V.D.1. electing to obtain an approved fugitive dust emissions control plan shall take the following actions:
- a. At least 45 calendar days prior to a calendar quarter during which air monitoring would be conducted in accordance with Subsection V.D.2. submit to the Control Officer a fugitive dust emissions control plan, including at least:
 - 1) Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission, and implementation of the plan;
 - 2) Description and location of operation(s);
 - 3) Listing of all fugitive dust emissions sources included in the large operation;
 - 4) Description of Reasonably Available Control Measures to be applied to each source identified in Subsection V.D.3.a.3). Such description must be sufficiently detailed to demonstrate Reasonably Available Control Measures will be utilized and/or installed during all periods of active operations.
 - b. If there are special technical, e.g., non-economic, circumstances preventing use of Reasonably Available Control Measures for any source identified in Subsection V.D.3.a.3), justification shall be provided in lieu of the description required in Subsection V.D.3.a.4). A justification statement shall explain reason(s) why Reasonably Available Control Measures cannot be implemented.
4. The Control Officer shall either approve, conditionally approve, or disapprove the plan, in writing, within 30 calendar days of receipt of the plan. For a plan to be approved or conditionally approved, three conditions shall be satisfied:
- a. All sources of fugitive dust emissions shall be identified, e.g., earth-moving, storage piles, vehicular traffic on unpaved roads, etc.;

- C. For any large operation, except those satisfying Subsection V.D.3. (implementation of RACM's), a person shall not cause or allow downwind PM₁₀ ambient concentrations to increase more than 50 micrograms per cubic meter above upwind concentrations as determined by simultaneous upwind and downwind sampling. High-volume particulate matter samplers, or other EPA-approved equivalent method(s) for PM₁₀ monitoring shall be used. Samplers shall be:
- a. Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate EPA-published documents for EPA-approved equivalent methods(s) for PM₁₀ sampling;
 - b. Reasonably placed upwind and downwind of the large operation based on prevailing wind direction and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized; and
 - c. Operated during active operations.

D. Special Requirements for Large Operations

1. No person shall conduct or authorize conducting a large operation subject to requirements of this Rule without either: 1) conducting on-site PM₁₀ air quality monitoring and associated recordkeeping, or 2) filing for and obtaining an approved fugitive dust emissions control plan pursuant to Subsection V.D.3.
2. Any person subject to Subsection V.D.1. electing to conduct on-site PM₁₀ monitoring and recordkeeping shall take the following actions:
 - a. Notify the Control Officer of intent to monitor PM₁₀ at least seven days prior to initiating such monitoring. Notification shall contain, at a minimum, the person's name, address, telephone number, brief description and location of the operation(s), and anticipated first date of sampling.
 - b. Be responsible for acquisition, calibration and operation of PM₁₀ samplers.
 - c. Collect samples on four separate days during each calendar quarter. Sampling shall be conducted during typical operations, and during prevailing wind direction conditions. All other provisions of this Rule shall continue to be applicable on days when monitoring is not conducted.
 - d. Collect samples on four additional days during one calendar quarter if requested by the Control Officer based on receipt of complaints from the public, visible dust emissions, or other determinations by District personnel indicating violations of conditions specified in Subsection V. C. may be occurring. Each sampling day shall be conducted during typical operations, and during prevailing wind direction conditions.
 - e. Conduct laboratory analyses in accordance with 40 CFR, Part 50, Appendix J, for all samples collected as required by Subsections V.D.2.c and V.D.2.d.
 - f. Compile and submit records to the District on a quarterly basis, not later than 30 days after the end of each calendar quarter. Such records shall include:
 - 1) Brief description and location of the operation(s);

12. Blasting operations permitted by the California Division of Industrial Safety;
 13. Motion picture, television, and video production activities when dust emissions are required for visual effects. This exemption shall be obtained from the Control Officer;
 14. Officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and County regional parks;
 15. Any contractor subsequent to a contract termination date, provided such contractor implemented Reasonably Available Control Measures during the contractual period; and
 16. Any grading contractor, for a phase of active operations conducted after his completion of earth-moving activities, provided such contractor implemented Reasonably Available Control Measures during the entire phase of earth-moving activities and until the final grading inspection.
 17. Federal facilities (outside of Indian Wells Valley) required by the National Environmental Protection Act (NEPA) to implement fugitive dust RACM's for activities otherwise subject to this rule, provided District receives an up-to-date description, including RACM's employed, of such activities.
- B. Provisions of Subsection V.A. (visible emissions limit) shall not apply when wind gusts exceed 25 miles per hour, provided:
1. Table I (Page 402-4) Reasonably Available Control Measures are implemented for each applicable fugitive dust source type, or;
 2. A person has on file with the District an approved "High Wind Fugitive Dust Control Plan" indicating technical reasons why any Reasonably Available Control Measure cannot be implemented. Such Plan shall provide an alternative measure of fugitive dust control, if technically feasible, and shall be subject to the same approval conditions as specified in Section V.
- C. If applicable, provisions of Subsection V.D.2. (large operation PM_{10} monitoring) shall not apply for a period of:
- a. One calendar quarter for each new large operation, or;
 - b. Fourteen calendar days after approval or conditional approval of a fugitive dust emission control plan.

V. **Requirements**

- A. A person shall not cause or allow emissions of fugitive dust from any active operation to remain visible in the atmosphere beyond the property line of the emission source. This Subsection shall not apply to unpaved roadways.
- B. A person shall utilize one or more Reasonably Available Control Measures to minimize fugitive dust emissions from each fugitive dust source type which is part of any active operation subject to this Rule, including unpaved roadways.

IV. Exemptions

A. Provisions of this Rule shall not apply to:

1. Agricultural operations, including activities directly related to raising fowl or animals, or growing crops, for a profit;
2. Actions required by federal or state endangered species legislation, or the Surface Mining and Reclamation Act;
3. Any disturbed surface area less than three acres on residential property in the Indian Wells Valley (see page 11) and less than two acres in the remainder of the District;
4. Active operations conducted during emergency life-threatening situations, or in conjunction with any officially-declared disaster or state of emergency;
5. Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions;
6. Unpaved roads that are not part of a large operation and are outside the Indian Wells Valley and unpaved roads within the Indian Wells Valley, provided such Indian Wells Valley roads:
 - a. are less than 75 (50, if contingency measure triggered) feet long or,
 - b. have a motor vehicle traffic volume less than 25 (15, if contingency measure triggered) vehicle-trips per day, or
 - c. have a motor vehicle traffic volume of 25 (15, if contingency measure triggered) vehicle-trips per day or more, not more than six times per year, or
 - d. provide access to not more than 10 residences;

Contingency measure is triggered if U.S. EPA publishes a finding in the Federal Register that KCAPCD's portion of the Searles Valley Planning Area (see Page 402-11) has failed to maintain National Ambient Air Quality Standards for PM₁₀.
7. Restorative grading of unpaved shoulders of paved roads;
8. Non-routine or emergency maintenance of flood control channels and water spreading basins;
9. Weed and dried vegetation removal required by a fire prevention/control agency;
10. Active operations conducted during freezing weather if applicable RACM involves application of water;
11. County or properly permitted private sanitary landfill disposal sites provided such sites conform to California Code of Regulations Title 14: Sections 17659, 17660 and 17706 (County) or KCAPCD dust control permit to operate conditions (private);

TABLE I

SUGGESTED

FUGITIVE DUST REASONABLY AVAILABLE CONTROL MEASURES

<u>Source Category</u>	<u>Control Measure</u>
Unpaved Road	Improve Road Surface Control Vehicular Traffic Speed Apply Dust Suppressants
Construction/Demolition Activity	Use Wind Breaks Apply Dust Suppressants
Earth-moving or Open Storage Pile	Use Wind Screens Use Enclosures Around Storage Piles Apply Dust Suppressants
Disturbed Surface Area	Use Fences/Barriers Vegetate Apply Dust Suppressants Cover with Gravel Compact Surface

NOTE: If water is selected as a dust suppressant, use of nonpotable water is encouraged.

enclosures, paving, enshrouding, planting, control of vehicle speeds, and any other measure recognized by the Control Officer as providing equivalent dust control. Table I (Page 402-4) and U.S. EPA's reference document "Control of Open Fugitive Dust Sources", Midwest Research Institute, September 1988 shall be used for guidance.

- U. Simultaneous Sampling - operation of two PM_{10} samplers such that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period of not less than 290 minutes and not more than 310 minutes.
- V. Stabilized surface - previously disturbed surface area showing visual or other evidence of surface particle conglomeration after application of a dust suppressant.
- W. Unpaved Road - any straight or curved length of well-defined travel way for motor vehicles not covered by one or the following: concrete, asphaltic concrete, or asphalt.
- X. Wind Gust - maximum instantaneous wind speed, as measured by an anemometer or as provided by the nearest local meteorological station.

as treatment to reduce fugitive dust emissions. A suppressant shall not be used if prohibited by the Regional Water Quality Control Board, the California Air Resources Board, the Environmental Protection Agency, or any other applicable law, rule or regulation. All suppressants shall meet all specifications, criteria, or tests required by any federal, state, or local water agency. The use of dust suppressants shall be of sufficient concentration and application frequency to maintain a stabilized surface.

- I. Earth-Moving Activity - grading, earth cutting and filling, loading or unloading of dirt or bulk material, adding to or removing from open storage piles of bulk material, landfilling, or soil mulching.
- J. Fugitive Dust - any particulate matter becoming airborne, other than being emitted from an exhaust stack, directly or indirectly as a result of human activity.
- K. Inactive Disturbed Surface Area - any disturbed surface area upon which an active operation has not occurred for a period of at least ten consecutive days.
- L. Large Operation - any active operation, including vehicle movement on unpaved roadways, on property involving in excess of 100 contiguous acres of disturbed surface area, or any earth-moving activity exceeding a daily volume of 7,700 cubic meters (10,000 cubic yards) three times during the most recent 365-day period.
- M. Motor vehicle - any engine-powered device used to convey people, or freight and registered for use on public highways.
- N. Non-Routine - non-periodic active operation occurring no more than three times per year, lasting less than 30 cumulative days per year, and scheduled less than 30 days in advance.
- O. Open Storage Pile - any accumulation of bulk material with 5 percent or greater silt content not fully enclosed, covered or chemically stabilized, and attaining a height of three feet or more and a total surface area of 500 or more square feet. Silt content level shall be assumed to be 5 percent or greater unless a person shows, by sampling and analysis in accordance with ASTM Method C-136, the silt content is less. Results of ASTM Method C-136 are valid for 60 days from the date the sample was taken unless the Control Officer is provided with a logical explanation as to why the silt content should be considered constant. If he concurs it is constant, future sampling may be required to confirm this conclusion.
- P. Particulate Matter - any solid material, existing in finely divided form.
- Q. PM_{10} - particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by California Air Resources Board Test Method 501.
- R. Prevailing Wind Direction - from Southwest to Northeast (in the Indian Wells Valley) or as specified by the Control Officer as being representative of local conditions.
- S. Property Line - boundaries of an area in which either a person causing fugitive dust emissions or a person allowing fugitive dust emissions has ownership or legal right to use the property.
- T. Reasonably Available Control Measure (RACM) - any technique or procedure used to prevent or reduce the emission and airborne transport of fugitive dust. RACM's include, but are not limited to, application of dust suppressants, use of coverings or

Appendix - Construction and Operational Emissions

URBEMIS 2002 For Windows 8.7.0

File Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Ridgecrest 40.urb
 Project Name: Ridgecrest 40
 Project Location: Mountain Counties and Rural Counties
 Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
 (Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

*** 2007 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	87.00	658.98	656.24	0.01	207.61	29.32	178.29

*** 2008 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	34.55	240.54	271.97	0.00	9.94	9.85	0.09

*** 2009 ***	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TOTALS (lbs/day,unmitigated)	278.92	231.52	286.45	0.00	9.49	9.31	0.18

AREA SOURCE EMISSION ESTIMATES

TOTALS (lbs/day,unmitigated)	ROG	NOx	CO	SO2	PM10
	11.02	1.58	4.66	0.03	0.02

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

TOTALS (lbs/day,unmitigated)	ROG	NOx	CO	SO2	PM10
	14.43	11.68	179.96	0.11	15.56

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

TOTALS (lbs/day,unmitigated)	ROG	NOx	CO	SO2	PM10
	25.44	13.26	184.62	0.14	15.57

URBEMIS 2002 For Windows 8.7.0

File Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Ridgecrest 40.urb
 Project Name: Ridgecrest 40
 Project Location: Mountain Counties and Rural Counties
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
 (Pounds/Day - Winter)

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007 ***							
TOTALS (lbs/day,unmitigated)	87.00	658.98	656.24	0.01	207.61	29.32	178.29

	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2008 ***							
TOTALS (lbs/day,unmitigated)	34.55	240.54	271.97	0.00	9.94	9.85	0.09

	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2009 ***							
TOTALS (lbs/day,unmitigated)	278.92	231.52	286.45	0.00	9.49	9.31	0.18

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	81.45	4.02	130.44	0.31	19.35

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	12.95	21.20	164.50	0.09	15.56

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	94.40	25.23	294.94	0.40	34.90

URBEMIS 2002 For Windows 8.7.0

File Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Ridgecrest 40.urb
 Project Name: Ridgecrest 40
 Project Location: Mountain Counties and Rural Counties
 -Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
 (Pounds/Day - Winter)

Construction Start Month and Year: October, 2007
 Construction Duration: 24
 Total Land Use Area to be Developed: 40.628 acres
 Maximum Acreage Disturbed Per Day: 40.628 acres
 Single Family Units: 125 Multi-Family Units: 0
 Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	178.24	-	178.24
Off-Road Diesel	86.14	657.23	637.42	-	29.29	29.29	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.86	1.75	18.82	0.01	0.08	0.03	0.05
Maximum lbs/day	87.00	658.98	656.24	0.01	207.61	29.32	178.29
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	34.04	251.73	257.07	-	10.86	10.86	0.00
Bldg Const Worker Trips	0.56	0.35	7.50	0.00	0.10	0.01	0.09
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	34.60	252.07	264.57	0.00	10.96	10.87	0.09
Max lbs/day all phases	87.00	658.98	656.24	0.01	207.61	29.32	178.29
*** 2008***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	34.04	240.22	264.98	-	9.84	9.84	0.00
Bldg Const Worker Trips	0.52	0.32	6.99	0.00	0.10	0.01	0.09
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	34.55	240.54	271.97	0.00	9.94	9.85	0.09
Max lbs/day all phases	34.55	240.54	271.97	0.00	9.94	9.85	0.09

2009***

Phase 1 - Demolition Emissions

Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase 2 - Site Grading Emissions

Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase 3 - Building Construction

Bldg Const Off-Road Diesel	34.04	229.08	273.19	-	9.26	9.26	0.00
Bldg Const Worker Trips	0.47	0.30	6.45	0.00	0.10	0.01	0.09
Arch Coatings Off-Gas	243.26	-	-	-	-	-	-
Arch Coatings Worker Trips	0.47	0.30	6.45	0.00	0.10	0.01	0.09
Asphalt Off-Gas	0.59	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.10	1.84	0.36	0.00	0.04	0.04	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	278.92	231.52	286.45	0.00	9.49	9.31	0.18
Max lbs/day all phases	278.92	231.52	286.45	0.00	9.49	9.31	0.18

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions

Start Month/Year for Phase 2: Oct '07

Phase 2 Duration: 2.6 months

On-Road Truck Travel (VMT): 0

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
20	Rubber Tired Dozers	352	0.590	8.0
20	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions

Start Month/Year for Phase 3: Dec '07

Phase 3 Duration: 21.4 months

Start Month/Year for SubPhase Building: Dec '07

SubPhase Building Duration: 21.4 months

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
6	Concrete/Industrial saws	84	0.730	8.0
11	Other Equipment	190	0.620	8.0
6	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: Jul '09

SubPhase Architectural Coatings Duration: 2.1 months

Start Month/Year for SubPhase Asphalt: Aug '09

SubPhase Asphalt Duration: 1.1 months

Acres to be Paved: 5.41

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
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AREA SOURCE EMISSION ESTIMATES (Winter Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.12	1.57	0.67	0	0.00
Hearth	70.95	2.46	129.77	0.31	19.34
Landscaping - No winter emissions					
Consumer Prdcts	6.12	-	-	-	-
Architectural Coatings	4.26	-	-	-	-
TOTALS (lbs/day, unmitigated)	81.45	4.02	130.44	0.31	19.35

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	12.95	21.20	164.50	0.09	15.56
TOTAL EMISSIONS (lbs/day)	12.95	21.20	164.50	0.09	15.56

Does not include correction for passby trips.
 Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2009 Temperature (F): 30 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	41.67	9.57 trips/dwelling unit	125.00	1,196.25
Sum of Total Trips				1,196.25
Total Vehicle Miles Traveled				10,227.58

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.90	1.30	98.40	0.30
Light Truck < 3,750 lbs	15.10	2.60	95.40	2.00
Light Truck 3,751- 5,750	16.10	1.20	98.10	0.70
Med Truck 5,751- 8,500	7.30	1.40	95.90	2.70
Light-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Light-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.60	75.00	25.00	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.40	7.10	85.70	7.20

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
Number of Trips - Residential	32.9	18.0	49.1			

03/22/2007 3:30 AM
Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Site Grading Fugitive Dust Option changed from Level 1 to Level 2

Changes made to the default values for Area

The landscape year changed from 2005 to 2009.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2009.

The operational winter temperature changed from 40 to 30.

The operational winter selection item changed from 2 to 0.

The operational summer temperature changed from 60 to 100.

The operational summer selection item changed from 4 to 9.

The home based work selection item changed from 8 to 7.

The home based shopping selection item changed from 8 to 7.

The home based other selection item changed from 8 to 7.

The commercial based commute selection item changed from 8 to 7.

The commercial based non-work selection item changed from 8 to 7.

The commercial based customer selection item changed from 8 to 7.

URBEMIS 2002 For Windows 8.7.0

File Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Ridgecrest 40.urb
 Project Name: Ridgecrest 40
 Project Location: Mountain Counties and Rural Counties
 Non-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
 (Pounds/Day - Summer)

Construction Start Month and Year: October, 2007
 Construction Duration: 24
 Total Land Use Area to be Developed: 40.628 acres
 Maximum Acreage Disturbed Per Day: 40.628 acres
 Single Family Units: 125 Multi-Family Units: 0
 Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007***							
Phase 1 - Demolition Emissions							
fugitive Dust	--	--	--	--	0.00	--	0.00
off-Road Diesel	0.00	0.00	0.00	--	0.00	0.00	0.00
n-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
orker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
fugitive Dust	--	--	--	--	178.24	--	178.24
off-Road Diesel	86.14	657.23	637.42	--	29.29	29.29	0.00
n-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
orker Trips	0.86	1.75	18.82	0.01	0.08	0.03	0.05
Maximum lbs/day	87.00	658.98	656.24	0.01	207.61	29.32	178.29
Phase 3 - Building Construction							
ldg Const Off-Road Diesel	34.04	251.73	257.07	--	10.86	10.86	0.00
ldg Const Worker Trips	0.56	0.35	7.50	0.00	0.10	0.01	0.09
rch Coatings Off-Gas	0.00	--	--	--	--	--	--
rch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
sphalt Off-Gas	0.00	--	--	--	--	--	--
sphalt Off-Road Diesel	0.00	0.00	0.00	--	0.00	0.00	0.00
sphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
sphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	34.60	252.07	264.57	0.00	10.96	10.87	0.09
Max lbs/day all phases	87.00	658.98	656.24	0.01	207.61	29.32	178.29
*** 2008***							
Phase 1 - Demolition Emissions							
fugitive Dust	--	--	--	--	0.00	--	0.00
off-Road Diesel	0.00	0.00	0.00	--	0.00	0.00	0.00
n-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
orker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
fugitive Dust	--	--	--	--	0.00	--	0.00
off-Road Diesel	0.00	0.00	0.00	--	0.00	0.00	0.00
n-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
orker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
dg Const Off-Road Diesel	34.04	240.22	264.98	--	9.84	9.84	0.00
dg Const Worker Trips	0.52	0.32	6.99	0.00	0.10	0.01	0.09
ch Coatings Off-Gas	0.00	--	--	--	--	--	--
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	--	--	--	--	--	--
phalt Off-Road Diesel	0.00	0.00	0.00	--	0.00	0.00	0.00
phalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	34.55	240.54	271.97	0.00	9.94	9.85	0.09
Max lbs/day all phases	34.55	240.54	271.97	0.00	9.94	9.85	0.09
** 2009***							

Phase 1 - Demolition Emissions

Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	-	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase 2 - Site Grading Emissions

Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	-	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase 3 - Building Construction

Bldg Const Off-Road Diesel	34.04	229.08	273.19	-	9.26	9.26	0.00
Bldg Const Worker Trips	0.47	0.30	6.45	0.00	0.10	0.01	0.09
Arch Coatings Off-Gas	243.26	-	-	-	-	-	-
Arch Coatings Worker Trips	0.47	0.30	6.45	0.00	0.10	0.01	0.09
Asphalt Off-Gas	0.59	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.10	1.84	0.36	0.00	0.04	0.04	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	278.92	231.52	286.45	0.00	9.49	9.31	0.18
Max lbs/day all phases	278.92	231.52	286.45	0.00	9.49	9.31	0.18

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
 Start Month/Year for Phase 2: Oct '07
 Phase 2 Duration: 2.6 months
 On-Road Truck Travel (VMT): 0
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
20	Rubber Tired Dozers	352	0.590	8.0
20	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions

Start Month/Year for Phase 3: Dec '07
 Phase 3 Duration: 21.4 months
 Start Month/Year for SubPhase Building: Dec '07
 SubPhase Building Duration: 21.4 months
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
6	Concrete/Industrial saws	84	0.730	8.0
11	Other Equipment	190	0.620	8.0
6	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: Jul '09
 SubPhase Architectural Coatings Duration: 2.1 months
 Start Month/Year for SubPhase Asphalt: Aug '09
 SubPhase Asphalt Duration: 1.1 months
 Acres to be Paved: 5.41
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
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AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.12	1.57	0.67	0	0.00
Hearth - No summer emissions					
Landscaping	0.52	0.01	3.99	0.03	0.01
Consumer Prdcts	6.12	-	-	-	-
Architectural Coatings	4.26	-	-	-	-
TOTALS (lbs/day, unmitigated)	11.02	1.58	4.66	0.03	0.02

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	14.43	11.68	179.96	0.11	15.56
VL EMISSIONS (lbs/day)	14.43	11.68	179.96	0.11	15.56

Does not include correction for passby trips.
 Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2009 Temperature (F): 100 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	41.67	9.57 trips/dwelling unit	125.00	1,196.25
			Sum of Total Trips	1,196.25
			Total Vehicle Miles Traveled	10,227.58

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.90	1.30	98.40	0.30
Light Truck < 3,750 lbs	15.10	2.60	95.40	2.00
Light Truck 3,751- 5,750	16.10	1.20	98.10	0.70
Med Truck 5,751- 8,500	7.30	1.40	95.90	2.70
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.60	75.00	25.00	0.00
Suburban Bus	0.10	0.00	0.00	100.00
Motor Home	1.40	7.10	85.70	7.20

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Site Grading Fugitive Dust Option changed from Level 1 to Level 2

Changes made to the default values for Area

The landscape year changed from 2005 to 2009.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2009.

The operational winter temperature changed from 40 to 30.

The operational winter selection item changed from 2 to 0.

The operational summer temperature changed from 60 to 100.

The operational summer selection item changed from 4 to 9.

The home based work selection item changed from 8 to 7.

The home based shopping selection item changed from 8 to 7.

The home based other selection item changed from 8 to 7.

The commercial based commute selection item changed from 8 to 7.

The commercial based non-work selection item changed from 8 to 7.

The commercial based customer selection item changed from 8 to 7.