

APPENDIX J

Criteria Air Pollutant Descriptions and Air Quality Modeling Results

CRITERIA AIR POLLUTANTS

Ozone

Ozone is a photochemical oxidant, a substance whose oxygen combines chemically with another substance in the presence of sunlight, and the primary component of smog. Ozone is not directly emitted into the air, but is formed through complex chemical reactions between precursor emissions of reactive organic gases (ROG) and NO_x in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_x are a group of gaseous compounds of nitrogen and oxygen that results from the combustion of fuels.

Ozone located in the upper atmosphere (stratosphere) acts in a beneficial manner by shielding the earth from harmful ultraviolet radiation that is emitted by the sun. However, ozone located in the lower atmosphere (troposphere) is a major health and environmental concern. Meteorology and terrain play a major role in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and clear skies provide the optimum conditions for ozone formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. Therefore, ozone is a regional pollutant that often affects large areas. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry (Godish 1991).

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthmatics and children, but healthy adults as well. Exposure to ambient levels of ozone ranging from 0.10 to 0.40 parts per million (ppm) for 1 to 2 hours has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes, and impairing respiratory mechanics. Ambient levels of ozone above 0.12 ppm are linked to symptomatic responses that include such symptoms as throat dryness, chest tightness, headache, and nausea. In addition to the above adverse health effects, evidence also exists relating ozone exposure to an increase in the permeability of respiratory epithelia; such increased permeability leads to an increase in responsiveness of the respiratory system to challenges, and the interference or inhibition of the immune system's ability to defend against infection (Godish 1991).

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels, primarily from mobile (transportation) sources. Approximately 77% of the nationwide CO emissions are from mobile sources, and 23% consists of CO emissions from wood-burning stoves, incinerators, and industrial sources.

CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (EPA 2006b).

The highest concentrations are generally associated with cold, stagnant weather conditions that occur during the winter. In contrast to ozone, which tends to be a regional pollutant, CO problems tend to be localized..

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts

through oxidation in the atmosphere to form NO₂ (EPA 2006b). The combined emissions of NO and NO₂ are referred to as NO_x, which are reported as equivalent NO₂. Because NO₂ is formed and depleted by reactions associated with photochemical smog (ozone), the NO₂ concentration in a particular geographical area may not be representative of the local NO_x emission sources.

Inhalation is the most common route of exposure to NO₂. Because NO₂ has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO₂ intoxication after acute exposure has been linked on occasion with prolonged respiratory impairment with such symptoms as chronic bronchitis and decreased lung functions.

Sulfur Dioxide

Sulfur dioxide (SO₂) is produced by such stationary sources as coal and oil combustion, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with SO₂ exposure pertain to the upper respiratory tract. SO₂ is a respiratory irritant with constriction of the bronchioles occurring with inhalation of SO₂ at 5 ppm or more. On contact with the moist mucous membranes, SO₂ produces sulfurous acid, which is a direct irritant. Concentration rather than duration of the exposure is an important determinant of respiratory effects. Exposure to high SO₂ concentrations may result in edema of the lungs or glottis and respiratory paralysis.

Particulate Matter

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM₁₀. PM₁₀ consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by condensation and/or transformation of SO₂ and ROG (EPA 2006b). PM_{2.5} includes a subgroup of finer particles with an aerodynamic diameter of 2.5 micrometers or less.

The adverse health effects associated with PM₁₀ depend on the specific composition of the particulate matter. For example, health effects may be associated with metals, polycyclic aromatic hydrocarbons (PAH), and other toxic substances adsorbed onto fine particulate matter, which is referred to as the piggybacking effect, or with fine dust particles of silica or asbestos. Generally, adverse health effects associated with PM₁₀ may result from both short-term and long-term exposure to elevated concentrations and may include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, alterations to the immune system, carcinogenesis, and premature death (EPA 2006b). PM_{2.5} poses an increased health risk because the particles can deposit deep in the lungs and contain substances that are particularly harmful to human health.

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, as discussed in detail below, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995 (EPA 2006b).

As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector have declined dramatically (95% between 1980 and 1999), and levels of lead in the air decreased by 94% between 1980 and 1999. Transportation sources, primarily airplanes, now contribute only 13% of lead emissions. A recent National Health and Nutrition Examination Survey reported a 78% decrease in the levels of lead in people's blood between 1976 and 1991. This dramatic decline can be attributed to the move from leaded to unleaded gasoline (as well as the removal of lead from soldered cans) (EPA 2006b). Although the ambient lead standards are no longer violated, lead emissions from stationary sources still pose "hot spot" problems in some areas.

URBEMIS 2002 For Windows 8.7.0

File Name: H:\Sierra Colina EIS\AQ\URBEMIS files Sierra Colina\Sierra Colina Alt 1.urb
 Project Name: Sierra Colina
 Project Location: Mountain Counties and Rural Counties
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
 (Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2008 ***							
TOTALS (lbs/day,unmitigated)	5.63	35.51	46.73	0.00	28.02	1.33	26.69
*** 2009 ***							
TOTALS (lbs/day,unmitigated)	5.61	34.34	47.20	0.00	1.22	1.21	0.01
*** 2010 ***							
TOTALS (lbs/day,unmitigated)	5.59	33.27	47.66	0.00	1.12	1.11	0.01
*** 2011 ***							
TOTALS (lbs/day,unmitigated)	12.03	43.22	64.31	0.00	1.40	1.38	0.02

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	2.80	0.65	1.79	0.01	0.01

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	2.39	3.11	26.70	0.02	2.69

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	5.20	3.76	28.49	0.03	2.70

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 Project Name: Sierra Colina
 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
*** 2008 *** TOTALS (lbs/day,unmitigated)	5.63	35.51	46.73	0.00	28.02	1.33	26.69
*** 2009 *** TOTALS (lbs/day,unmitigated)	5.61	34.34	47.20	0.00	1.22	1.21	0.01
*** 2010 *** TOTALS (lbs/day,unmitigated)	5.59	33.27	47.66	0.00	1.12	1.11	0.01
*** 2011 *** TOTALS (lbs/day,unmitigated)	12.03	43.22	64.31	0.00	1.40	1.38	0.02

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	2.64	1.04	0.44	0.00	0.03

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	2.76	3.72	32.55	0.02	2.69

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	5.40	4.76	32.99	0.02	2.73

URBEMIS 2002 For Windows 8.7.0

File Name: H:\Sierra Colina EIS\AQ\URBEMIS files Sierra Colina\Sierra Colina Alt 1.urb
Project Name: Sierra Colina
Project Location: Mountain Counties and Rural Counties
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATES (Winter Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.05	0.63	0.27	0	0.00
Hearth	0.02	0.41	0.18	0.00	0.03
Landscaping - No winter emissions					
Consumer Prdcts	2.45	-	-	-	-
Architectural Coatings	0.12	-	-	-	-
TOTALS (lbs/day, unmitigated)	2.64	1.04	0.44	0.00	0.03

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	2.76	3.72	32.55	0.02	2.69
TOTAL EMISSIONS (lbs/day)	2.76	3.72	32.55	0.02	2.69

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 40 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	16.67	10.00 trips/dwelling unit	50.00	500.00
			Sum of Total Trips	500.00
			Total Vehicle Miles Traveled	1,765.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	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	68.80	31.20	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)	3.5	3.5	3.5	3.4	3.4	3.4
Rural Trip Length (miles)	3.5	3.5	3.5	3.4	3.4	3.4
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

The Trip Rate and/or Acreage values for Single family housing
have changed from the defaults 9.57/16.67 to 10/16.67

Changes made to the default values for Construction

Site Grading Fugitive Dust Option changed from Level 1 to Level 2
Architectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013
Architectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013

Changes made to the default values for Area

The wood stove percentage changed from 35 to 0.
The wood fireplace percentage changed from 10 to 0.
The natural gas fireplace percentage changed from 55 to 100.
The landscape year changed from 2005 to 2011.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2010.
The home based work selection item changed from 8 to 7.
The home based work urban trip length changed from 10.8 to 3.53.
The home based work rural trip length changed from 16.8 to 3.53.
The home based shopping selection item changed from 8 to 7.
The home based shopping urban trip length changed from 7.3 to 3.53.
The home based shopping rural trip length changed from 7.1 to 3.53.
The home based other selection item changed from 8 to 7.
The home based other urban trip length changed from 7.5 to 3.53.
The home based other rural trip length changed from 7.9 to 3.53.
The commercial based commute selection item changed from 8 to 7.
The commercial based commute urban trip length changed from 9.5 to 3.40.
The commercial based commute rural trip length changed from 14.7 to 3.4.
The commercial based non-work selection item changed from 8 to 7.
The commercial based non-work urban trip length changed from 7.35 to 3.4.
The commercial based non-work rural trip length changed from 6.6 to 3.4.
The commercial based customer selection item changed from 8 to 7.
The commercial based customer urban trip length changed from 7.35 to 3.4.
The commercial based customer rural trip length changed from 6.6 to 3.4.

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	5.42	34.23	44.78	-	1.21	1.21	0.00
Bldg Const Worker Trips	0.18	0.11	2.42	0.00	0.01	0.00	0.01
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	5.61	34.34	47.20	0.00	1.22	1.21	0.01

Max lbs/day all phases	5.61	34.34	47.20	0.00	1.22	1.21	0.01
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*** 2010***

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	5.42	33.17	45.43	-	1.11	1.11	0.00
Bldg Const Worker Trips	0.17	0.10	2.23	0.00	0.01	0.00	0.01
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	5.59	33.27	47.66	0.00	1.12	1.11	0.01
Max lbs/day all phases	5.59	33.27	47.66	0.00	1.12	1.11	0.01

*** 2011***

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	5.42	33.17	45.43	-	1.11	1.11	0.00
Bldg Const Worker Trips	0.17	0.10	2.23	0.00	0.01	0.00	0.01
Arch Coatings Off-Gas	4.49	-	-	-	-	-	-
Arch Coatings Worker Trips	0.17	0.10	2.23	0.00	0.01	0.00	0.01
Asphalt Off-Gas	0.10	-	-	-	-	-	-
Asphalt Off-Road Diesel	1.68	9.74	14.28	-	0.27	0.27	0.00
Asphalt On-Road Diesel	0.01	0.10	0.02	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.01	0.01	0.12	0.00	0.00	0.00	0.00
Maximum lbs/day	12.03	43.22	64.31	0.00	1.40	1.38	0.02
Max lbs/day all phases	12.03	43.22	64.31	0.00	1.40	1.38	0.02

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions

Start Month/Year for Phase 2: May '08

Phase 2 Duration: 4 months

On-Road Truck Travel (VMT): 22

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
0	Excavators	180	0.580	8.0
0	Graders	174	0.575	8.0
0	Off Highway Trucks	417	0.490	8.0
0	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions

Start Month/Year for Phase 3: Sep '08

Phase 3 Duration: 32 months

Start Month/Year for SubPhase Building: Sep '08

SubPhase Building Duration: 32 months

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
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0	Cranes	190	0.430	8.0
0	Off Highway Trucks	417	0.490	8.0
0	Other Equipment	190	0.620	8.0
0	Rough Terrain Forklifts	94	0.475	8.0
0	Rubber Tired Dozers	352	0.590	8.0
0	Rubber Tired Loaders	165	0.465	8.0

Start Month/Year for SubPhase Architectural Coatings: Jan '11

SubPhase Architectural Coatings Duration: 3.2 months

Start Month/Year for SubPhase Asphalt: Mar '11

SubPhase Asphalt Duration: 1.6 months

Acres to be Paved: 1.35

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
0	Graders	174	0.575	8.0
0	Pavers	132	0.590	8.0
0	Rollers	114	0.430	8.0

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.05	0.63	0.27	0	0.00
Hearth - No summer emissions					
Landscaping	0.19	0.03	1.53	0.01	0.00
Consumer Prdcts	2.45	-	-	-	-
Architectural Coatings	0.12	-	-	-	-
TOTALS (lbs/day, unmitigated)	2.80	0.65	1.79	0.01	0.01

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	2.39	3.11	26.70	0.02	2.69
TOTAL EMISSIONS (lbs/day)	2.39	3.11	26.70	0.02	2.69

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 60 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	16.67	10.00 trips/dwelling unit	50.00	500.00
			Sum of Total Trips	500.00
			Total Vehicle Miles Traveled	1,765.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	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	68.80	31.20	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)	3.5	3.5	3.5	3.4	3.4	3.4
Rural Trip Length (miles)	3.5	3.5	3.5	3.4	3.4	3.4
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

The Trip Rate and/or Acreage values for Single family housing have changed from the defaults 9.57/16.67 to 10/16.67

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The home based work urban trip length changed from 10.8 to 3.53.
The home based work rural trip length changed from 16.8 to 3.53.
The home based shopping selection item changed from 8 to 7.
The home based shopping urban trip length changed from 7.3 to 3.53.
The home based shopping rural trip length changed from 7.1 to 3.53.
The home based other selection item changed from 8 to 7.
The home based other urban trip length changed from 7.5 to 3.53.
The home based other rural trip length changed from 7.9 to 3.53.
The commercial based commute selection item changed from 8 to 7.
The commercial based commute urban trip length changed from 9.5 to 3.40.
The commercial based commute rural trip length changed from 14.7 to 3.4.
The commercial based non-work selection item changed from 8 to 7.
The commercial based non-work urban trip length changed from 7.35 to 3.4.
The commercial based non-work rural trip length changed from 6.6 to 3.4.
The commercial based customer selection item changed from 8 to 7.
The commercial based customer urban trip length changed from 7.35 to 3.4.
The commercial based customer rural trip length changed from 6.6 to 3.4.

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URBEMIS 2002 For Windows 8.7.0

File Name: H:\Sierra Colina EIS\AQ\URBEMIS files Sierra Colina\Sierra Colina Alt 2.urb
 Project Name: Sierra Colina
 Project Location: Mountain Counties and Rural Counties
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
 (Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2008 ***							
TOTALS (lbs/day,unmitigated)	2.59	16.86	21.16	0.00	26.92	0.63	26.29
*** 2009 ***							
TOTALS (lbs/day,unmitigated)	2.59	16.31	21.47	0.00	0.58	0.58	0.00
*** 2010 ***							
TOTALS (lbs/day,unmitigated)	3.95	20.58	28.79	0.00	0.66	0.66	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	0.17	0.04	0.11	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	0.15	0.20	1.69	0.00	0.17

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	0.32	0.24	1.79	0.00	0.17

URBEMIS 2002 For Windows 8.7.0

File Name: H:\Sierra Colina EIS\AQ\URBEMIS files Sierra Colina\Sierra Colina Alt 2.urb
 Project Name: Sierra Colina
 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
*** 2008 ***							
TOTALS (lbs/day,unmitigated)	2.59	16.86	21.16	0.00	26.92	0.63	26.29
*** 2009 ***							
TOTALS (lbs/day,unmitigated)	2.59	16.31	21.47	0.00	0.58	0.58	0.00
*** 2010 ***							
TOTALS (lbs/day,unmitigated)	3.95	20.58	28.79	0.00	0.66	0.66	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	0.16	0.06	0.03	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	0.17	0.23	2.05	0.00	0.17

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	0.33	0.30	2.08	0.00	0.17

URBEMIS 2002 For Windows 8.7.0

File Name: H:\Sierra Colina EIS\AQ\URBEMIS files Sierra Colina\Sierra Colina Alt 2.urb
Project Name: Sierra Colina
Project Location: Mountain Counties and Rural Counties
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATES (Winter Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.00	0.04	0.02	0	0.00
Hearth	0.00	0.02	0.01	0.00	0.00
Landscaping - No winter emissions					
Consumer Prdcts	0.15	-	-	-	-
Architectural Coatings	0.01	-	-	-	-
TOTALS (lbs/day, unmitigated)	0.16	0.06	0.03	0.00	0.00

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	0.17	0.23	2.05	0.00	0.17
TOTAL EMISSIONS (lbs/day)	0.17	0.23	2.05	0.00	0.17

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 40 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	2.25	10.52 trips/dwelling unit	3.00	31.56
			Sum of Total Trips	31.56
			Total Vehicle Miles Traveled	111.41

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	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	68.80	31.20	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)	3.5	3.5	3.5	3.4	3.4	3.4
Rural Trip Length (miles)	3.5	3.5	3.5	3.4	3.4	3.4
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

The Trip Rate and/or Acreage values for Single family housing have changed from the defaults 9.57/1. to 10.52/2.25

Changes made to the default values for Construction

Site Grading Fugitive Dust Option changed from Level 1 to Level 2
Architectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013
Architectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013

Changes made to the default values for Area

The wood stove percentage changed from 35 to 0.
The wood fireplace percentage changed from 10 to 0.
The natural gas fireplace percentage changed from 55 to 100.
The landscape year changed from 2005 to 2011.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2010.
The home based work selection item changed from 8 to 7.
The home based work urban trip length changed from 10.8 to 3.53.
The home based work rural trip length changed from 16.8 to 3.53.
The home based shopping selection item changed from 8 to 7.
The home based shopping urban trip length changed from 7.3 to 3.53.
The home based shopping rural trip length changed from 7.1 to 3.53.
The home based other selection item changed from 8 to 7.
The home based other urban trip length changed from 7.5 to 3.53.
The home based other rural trip length changed from 7.9 to 3.53.
The commercial based commute selection item changed from 8 to 7.
The commercial based commute urban trip length changed from 9.5 to 3.40.
The commercial based commute rural trip length changed from 14.7 to 3.4.
The commercial based non-work selection item changed from 8 to 7.
The commercial based non-work urban trip length changed from 7.35 to 3.4.
The commercial based non-work rural trip length changed from 6.6 to 3.4.
The commercial based customer selection item changed from 8 to 7.
The commercial based customer urban trip length changed from 7.35 to 3.4.
The commercial based customer rural trip length changed from 6.6 to 3.4.

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	2.58	16.30	21.32	-	0.58	0.58	0.00
Bldg Const Worker Trips	0.01	0.01	0.15	0.00	0.00	0.00	0.00
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	2.59	16.31	21.47	0.00	0.58	0.58	0.00

Max lbs/day all phases	2.59	16.31	21.47	0.00	0.58	0.58	0.00
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*** 2010***

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	2.58	15.79	21.63	-	0.53	0.53	0.00
Bldg Const Worker Trips	0.01	0.01	0.13	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.41	-	-	-	-	-	-
Arch Coatings Worker Trips	0.01	0.01	0.13	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.13	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.80	4.64	6.80	-	0.13	0.13	0.00
Asphalt On-Road Diesel	0.01	0.13	0.03	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Maximum lbs/day	3.95	20.58	28.79	0.00	0.66	0.66	0.00
Max lbs/day all phases	3.95	20.58	28.79	0.00	0.66	0.66	0.00

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions

Start Month/Year for Phase 2: May '08

Phase 2 Duration: 2.6 months

On-Road Truck Travel (VMT): 32

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
0	Excavators	180	0.580	8.0
0	Graders	174	0.575	8.0
0	Off Highway Trucks	417	0.490	8.0
0	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions

Start Month/Year for Phase 3: Jul '08

Phase 3 Duration: 21.4 months

Start Month/Year for SubPhase Building: Jul '08

SubPhase Building Duration: 21.4 months

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
0	Cranes	190	0.430	8.0
0	Off Highway Trucks	417	0.490	8.0
0	Other Equipment	190	0.620	8.0
0	Rough Terrain Forklifts	94	0.475	8.0
0	Rubber Tired Dozers	352	0.590	8.0
0	Rubber Tired Loaders	165	0.465	8.0

Start Month/Year for SubPhase Architectural Coatings: Feb '10

SubPhase Architectural Coatings Duration: 2.1 months

Start Month/Year for SubPhase Asphalt: Mar '10

SubPhase Asphalt Duration: 1.1 months

Acres to be Paved: 1.2

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
0	Graders	174	0.575	8.0
0	Pavers	132	0.590	8.0
0	Rollers	114	0.430	8.0

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.00	0.04	0.02	0	0.00
Hearth - No summer emissions					
Landscaping	0.01	0.00	0.09	0.00	0.00
Consumer Prdcts	0.15	-	-	-	-
Architectural Coatings	0.01	-	-	-	-
TOTALS (lbs/day, unmitigated)	0.17	0.04	0.11	0.00	0.00

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	0.15	0.20	1.69	0.00	0.17
TOTAL EMISSIONS (lbs/day)	0.15	0.20	1.69	0.00	0.17

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 60 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	2.25	10.52 trips/dwelling unit	3.00	31.56
			Sum of Total Trips	31.56
			Total Vehicle Miles Traveled	111.41

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	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	68.80	31.20	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)	3.5	3.5	3.5	3.4	3.4	3.4
Rural Trip Length (miles)	3.5	3.5	3.5	3.4	3.4	3.4
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

The Trip Rate and/or Acreage values for Single family housing have changed from the defaults 9.57/1. to 10.52/2.25

Changes made to the default values for Construction

Site Grading Fugitive Dust Option changed from Level 1 to Level 2
Architectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013
Architectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013

Changes made to the default values for Area

The wood stove percentage changed from 35 to 0.
The wood fireplace percentage changed from 10 to 0.
The natural gas fireplace percentage changed from 55 to 100.
The landscape year changed from 2005 to 2011.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2010.
The home based work selection item changed from 8 to 7.
The home based work urban trip length changed from 10.8 to 3.53.
The home based work rural trip length changed from 16.8 to 3.53.
The home based shopping selection item changed from 8 to 7.
The home based shopping urban trip length changed from 7.3 to 3.53.
The home based shopping rural trip length changed from 7.1 to 3.53.
The home based other selection item changed from 8 to 7.
The home based other urban trip length changed from 7.5 to 3.53.
The home based other rural trip length changed from 7.9 to 3.53.
The commercial based commute selection item changed from 8 to 7.
The commercial based commute urban trip length changed from 9.5 to 3.40.
The commercial based commute rural trip length changed from 14.7 to 3.4.
The commercial based non-work selection item changed from 8 to 7.
The commercial based non-work urban trip length changed from 7.35 to 3.4.
The commercial based non-work rural trip length changed from 6.6 to 3.4.
The commercial based customer selection item changed from 8 to 7.
The commercial based customer urban trip length changed from 7.35 to 3.4.
The commercial based customer rural trip length changed from 6.6 to 3.4.

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URBEMIS 2002 For Windows 8.7.0

File Name: H:\Sierra Colina EIS\AQ\URBEMIS files Sierra Colina\Sierra Colina Alt 3.urb
 Project Name: Sierra Colina
 Project Location: Mountain Counties and Rural Counties
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
 (Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2008 *** TOTALS (lbs/day,unmitigated)	4.15	26.21	34.49	0.00	27.55	0.98	26.57
*** 2009 *** TOTALS (lbs/day,unmitigated)	4.14	25.35	34.84	0.00	0.91	0.90	0.01
*** 2010 *** TOTALS (lbs/day,unmitigated)	4.13	24.56	35.18	0.00	0.83	0.82	0.01
*** 2011 *** TOTALS (lbs/day,unmitigated)	8.90	31.92	47.45	0.00	1.04	1.02	0.02

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	2.08	0.48	1.33	0.01	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	1.77	2.30	19.76	0.01	1.99

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	3.85	2.78	21.08	0.02	2.00

URBEMIS 2002 For Windows 8.7.0

File Name: H:\Sierra Colina EIS\AQ\URBEMIS files Sierra Colina\Sierra Colina Alt 3.urb
 Project Name: Sierra Colina
 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
*** 2008 *** TOTALS (lbs/day,unmitigated)	4.15	26.21	34.49	0.00	27.55	0.98	26.57
*** 2009 *** TOTALS (lbs/day,unmitigated)	4.14	25.35	34.84	0.00	0.91	0.90	0.01
*** 2010 *** TOTALS (lbs/day,unmitigated)	4.13	24.56	35.18	0.00	0.83	0.82	0.01
*** 2011 *** TOTALS (lbs/day,unmitigated)	8.90	31.92	47.45	0.00	1.04	1.02	0.02

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	1.95	0.77	0.33	0.00	0.03

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	2.05	2.75	24.08	0.01	1.99

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	4.00	3.52	24.41	0.01	2.02

URBEMIS 2002 For Windows 8.7.0

File Name: H:\Sierra Colina EIS\AQ\URBEMIS files Sierra Colina\Sierra Colina Alt 3.urb
Project Name: Sierra Colina
Project Location: Mountain Counties and Rural Counties
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATES (Winter Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.04	0.46	0.20	0	0.00
Hearth	0.02	0.31	0.13	0.00	0.02
Landscaping - No winter emissions					
Consumer Prdcts	1.81	-	-	-	-
Architectural Coatings	0.09	-	-	-	-
TOTALS (lbs/day, unmitigated)	1.95	0.77	0.33	0.00	0.03

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	2.05	2.75	24.08	0.01	1.99
TOTAL EMISSIONS (lbs/day)	2.05	2.75	24.08	0.01	1.99

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 40 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	12.33	10.00 trips/dwelling unit	37.00	370.00
			Sum of Total Trips	370.00
			Total Vehicle Miles Traveled	1,306.10

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	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	68.80	31.20	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)	3.5	3.5	3.5	3.4	3.4	3.4
Rural Trip Length (miles)	3.5	3.5	3.5	3.4	3.4	3.4
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

The Trip Rate and/or Acreage values for Single family housing
have changed from the defaults 9.57/12.33 to 10/12.33

Changes made to the default values for Construction

Site Grading Fugitive Dust Option changed from Level 1 to Level 2
Architectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013
Architectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013

Changes made to the default values for Area

The wood stove percentage changed from 35 to 0.
The wood fireplace percentage changed from 10 to 0.
The natural gas fireplace percentage changed from 55 to 100.
The landscape year changed from 2005 to 2011.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2010.
The home based work selection item changed from 8 to 7.
The home based work urban trip length changed from 10.8 to 3.53.
The home based work rural trip length changed from 16.8 to 3.53.
The home based shopping selection item changed from 8 to 7.
The home based shopping urban trip length changed from 7.3 to 3.53.
The home based shopping rural trip length changed from 7.1 to 3.53.
The home based other selection item changed from 8 to 7.
The home based other urban trip length changed from 7.5 to 3.53.
The home based other rural trip length changed from 7.9 to 3.53.
The commercial based commute selection item changed from 8 to 7.
The commercial based commute urban trip length changed from 9.5 to 3.40.
The commercial based commute rural trip length changed from 14.7 to 3.4.
The commercial based non-work selection item changed from 8 to 7.
The commercial based non-work urban trip length changed from 7.35 to 3.4.
The commercial based non-work rural trip length changed from 6.6 to 3.4.
The commercial based customer selection item changed from 8 to 7.
The commercial based customer urban trip length changed from 7.35 to 3.4.
The commercial based customer rural trip length changed from 6.6 to 3.4.

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	4.00	25.26	33.05	-	0.89	0.89	0.00
Bldg Const Worker Trips	0.14	0.08	1.79	0.00	0.01	0.00	0.01
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	4.14	25.35	34.84	0.00	0.91	0.90	0.01

Max lbs/day all phases	4.14	25.35	34.84	0.00	0.91	0.90	0.01
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*** 2010***

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	4.00	24.48	33.53	-	0.82	0.82	0.00
Bldg Const Worker Trips	0.12	0.08	1.65	0.00	0.01	0.00	0.01
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	4.13	24.56	35.18	0.00	0.83	0.82	0.01

Max lbs/day all phases	4.13	24.56	35.18	0.00	0.83	0.82	0.01
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*** 2011***

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	4.00	24.48	33.53	-	0.82	0.82	0.00
Bldg Const Worker Trips	0.12	0.08	1.65	0.00	0.01	0.00	0.01
Arch Coatings Off-Gas	3.32	-	-	-	-	-	-
Arch Coatings Worker Trips	0.12	0.08	1.65	0.00	0.01	0.00	0.01
Asphalt Off-Gas	0.09	-	-	-	-	-	-
Asphalt Off-Road Diesel	1.24	7.19	10.54	-	0.20	0.20	0.00
Asphalt On-Road Diesel	0.00	0.08	0.02	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Maximum lbs/day	8.90	31.92	47.45	0.00	1.04	1.02	0.02

Max lbs/day all phases	8.90	31.92	47.45	0.00	1.04	1.02	0.02
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Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions

Start Month/Year for Phase 2: May '08

Phase 2 Duration: 4 months

On-Road Truck Travel (VMT): 22

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
0	Excavators	180	0.580	8.0
0	Graders	174	0.575	8.0
0	Off Highway Trucks	417	0.490	8.0
0	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions

Start Month/Year for Phase 3: Sep '08

Phase 3 Duration: 32 months

Start Month/Year for SubPhase Building: Sep '08

SubPhase Building Duration: 32 months

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
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0	Cranes	190	0.430	8.0
0	Off Highway Trucks	417	0.490	8.0
0	Other Equipment	190	0.620	8.0
0	Rough Terrain Forklifts	94	0.475	8.0
0	Rubber Tired Dozers	352	0.590	8.0
0	Rubber Tired Loaders	165	0.465	8.0

Start Month/Year for SubPhase Architectural Coatings: Jan '11

SubPhase Architectural Coatings Duration: 3.2 months

Start Month/Year for SubPhase Asphalt: Mar '11

SubPhase Asphalt Duration: 1.6 months

Acres to be Paved: 1.15

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
0	Graders	174	0.575	8.0
0	Pavers	132	0.590	8.0
0	Rollers	114	0.430	8.0

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.04	0.46	0.20	0	0.00
Hearth - No summer emissions					
Landscaping	0.14	0.02	1.13	0.01	0.00
Consumer Prdcts	1.81	-	-	-	-
Architectural Coatings	0.09	-	-	-	-
TOTALS (lbs/day, unmitigated)	2.08	0.48	1.33	0.01	0.00

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	1.77	2.30	19.76	0.01	1.99
TOTAL EMISSIONS (lbs/day)	1.77	2.30	19.76	0.01	1.99

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 60 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	12.33	10.00 trips/dwelling unit	37.00	370.00
			Sum of Total Trips	370.00
			Total Vehicle Miles Traveled	1,306.10

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	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	68.80	31.20	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)	3.5	3.5	3.5	3.4	3.4	3.4
Rural Trip Length (miles)	3.5	3.5	3.5	3.4	3.4	3.4
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

The Trip Rate and/or Acreage values for Single family housing have changed from the defaults 9.57/12.33 to 10/12.33

Changes made to the default values for Construction

Site Grading Fugitive Dust Option changed from Level 1 to Level 2
Architectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013
Architectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013

Changes made to the default values for Area

The wood stove percentage changed from 35 to 0.
The wood fireplace percentage changed from 10 to 0.
The natural gas fireplace percentage changed from 55 to 100.
The landscape year changed from 2005 to 2011.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2010.
The home based work selection item changed from 8 to 7.
The home based work urban trip length changed from 10.8 to 3.53.
The home based work rural trip length changed from 16.8 to 3.53.
The home based shopping selection item changed from 8 to 7.
The home based shopping urban trip length changed from 7.3 to 3.53.
The home based shopping rural trip length changed from 7.1 to 3.53.
The home based other selection item changed from 8 to 7.
The home based other urban trip length changed from 7.5 to 3.53.
The home based other rural trip length changed from 7.9 to 3.53.
The commercial based commute selection item changed from 8 to 7.
The commercial based commute urban trip length changed from 9.5 to 3.40.
The commercial based commute rural trip length changed from 14.7 to 3.4.
The commercial based non-work selection item changed from 8 to 7.
The commercial based non-work urban trip length changed from 7.35 to 3.4.
The commercial based non-work rural trip length changed from 6.6 to 3.4.
The commercial based customer selection item changed from 8 to 7.
The commercial based customer urban trip length changed from 7.35 to 3.4.
The commercial based customer rural trip length changed from 6.6 to 3.4.

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URBEMIS 2002 For Windows 8.7.0

File Name: H:\Sierra Colina EIS\AQ\URBEMIS files Sierra Colina\Sierra Colina Alt 4.urb
 Project Name: Sierra Colina
 Project Location: Mountain Counties and Rural Counties
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
 (Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2008 *** TOTALS (lbs/day,unmitigated)	4.18	26.22	34.86	0.00	27.55	0.98	26.57
*** 2009 *** TOTALS (lbs/day,unmitigated)	4.16	25.36	35.18	0.00	0.91	0.90	0.01
*** 2010 *** TOTALS (lbs/day,unmitigated)	4.15	24.57	35.49	0.00	0.83	0.82	0.01
*** 2011 *** TOTALS (lbs/day,unmitigated)	9.52	31.93	48.06	0.00	1.04	1.02	0.02

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	3.01	0.60	1.91	0.01	0.01

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	2.20	2.85	24.41	0.01	2.46

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	5.21	3.45	26.33	0.02	2.47

URBEMIS 2002 For Windows 8.7.0

File Name: H:\Sierra Colina EIS\AQ\URBEMIS files Sierra Colina\Sierra Colina Alt 4.urb
 Project Name: Sierra Colina
 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
*** 2008 *** TOTALS (lbs/day,unmitigated)	4.18	26.22	34.86	0.00	27.55	0.98	26.57
*** 2009 *** TOTALS (lbs/day,unmitigated)	4.16	25.36	35.18	0.00	0.91	0.90	0.01
*** 2010 *** TOTALS (lbs/day,unmitigated)	4.15	24.57	35.49	0.00	0.83	0.82	0.01
*** 2011 *** TOTALS (lbs/day,unmitigated)	9.52	31.93	48.06	0.00	1.04	1.02	0.02

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	2.81	0.97	0.41	0.00	0.03

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	2.53	3.40	29.76	0.01	2.46

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	5.34	4.37	30.17	0.02	2.49

URBEMIS 2002 For Windows 8.7.0

File Name: H:\Sierra Colina EIS\AQ\URBEMIS files Sierra Colina\Sierra Colina Alt 4.urb
Project Name: Sierra Colina
Project Location: Mountain Counties and Rural Counties
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATES (Winter Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.04	0.58	0.25	0	0.00
Hearth	0.02	0.39	0.17	0.00	0.03
Landscaping - No winter emissions					
Consumer Prdcts	2.64	-	-	-	-
Architectural Coatings	0.10	-	-	-	-
TOTALS (lbs/day, unmitigated)	2.81	0.97	0.41	0.00	0.03

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	1.88	2.53	22.13	0.01	1.83
Condo/townhouse general	0.65	0.87	7.63	0.00	0.63
TOTAL EMISSIONS (lbs/day)	2.53	3.40	29.76	0.01	2.46

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 40 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	11.33	10.00 trips/dwelling unit	34.00	340.00
Condo/townhouse general	1.25	5.86 trips/dwelling unit	20.00	117.20
Sum of Total Trips				457.20
Total Vehicle Miles Traveled				1,613.92

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	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	68.80	31.20	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)	3.5	3.5	3.5	3.4	3.4	3.4
Rural Trip Length (miles)	3.5	3.5	3.5	3.4	3.4	3.4
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

The Trip Rate and/or Acreage values for Single family housing
have changed from the defaults 9.57/11.33 to 10/11.33
The Trip Rate and/or Acreage values for Condominium/townhouse general
have changed from the defaults 6.9/1.25 to 5.86/1.25

Changes made to the default values for Construction

Site Grading Fugitive Dust Option changed from Level 1 to Level 2
Architectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013
Architectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013

Changes made to the default values for Area

The wood stove percentage changed from 35 to 0.
The wood fireplace percentage changed from 10 to 0.
The natural gas fireplace percentage changed from 55 to 100.
The landscape year changed from 2005 to 2011.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2010.
The home based work selection item changed from 8 to 7.
The home based work urban trip length changed from 10.8 to 3.53.
The home based work rural trip length changed from 16.8 to 3.53.
The home based shopping selection item changed from 8 to 7.
The home based shopping urban trip length changed from 7.3 to 3.53.
The home based shopping rural trip length changed from 7.1 to 3.53.
The home based other selection item changed from 8 to 7.
The home based other urban trip length changed from 7.5 to 3.53.
The home based other rural trip length changed from 7.9 to 3.53.
The commercial based commute selection item changed from 8 to 7.
The commercial based commute urban trip length changed from 9.5 to 3.40.
The commercial based commute rural trip length changed from 14.7 to 3.4.
The commercial based non-work selection item changed from 8 to 7.
The commercial based non-work urban trip length changed from 7.35 to 3.4.
The commercial based non-work rural trip length changed from 6.6 to 3.4.
The commercial based customer selection item changed from 8 to 7.
The commercial based customer urban trip length changed from 7.35 to 3.4.
The commercial based customer rural trip length changed from 6.6 to 3.4.

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	4.00	25.26	33.05	-	0.89	0.89	0.00
Bldg Const Worker Trips	0.16	0.10	2.13	0.00	0.01	0.00	0.01
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	4.16	25.36	35.18	0.00	0.91	0.90	0.01

Max lbs/day all phases	4.16	25.36	35.18	0.00	0.91	0.90	0.01
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*** 2010***

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	4.00	24.48	33.53	-	0.82	0.82	0.00
Bldg Const Worker Trips	0.15	0.09	1.96	0.00	0.01	0.00	0.01
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	4.15	24.57	35.49	0.00	0.83	0.82	0.01

Max lbs/day all phases 4.15 24.57 35.49 0.00 0.83 0.82 0.01

*** 2011***

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	4.00	24.48	33.53	-	0.82	0.82	0.00
Bldg Const Worker Trips	0.15	0.09	1.96	0.00	0.01	0.00	0.01
Arch Coatings Off-Gas	3.90	-	-	-	-	-	-
Arch Coatings Worker Trips	0.15	0.09	1.96	0.00	0.01	0.00	0.01
Asphalt Off-Gas	0.08	-	-	-	-	-	-
Asphalt Off-Road Diesel	1.24	7.19	10.54	-	0.20	0.20	0.00
Asphalt On-Road Diesel	0.00	0.07	0.01	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Maximum lbs/day	9.52	31.93	48.06	0.00	1.04	1.02	0.02

Max lbs/day all phases 9.52 31.93 48.06 0.00 1.04 1.02 0.02

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions
Start Month/Year for Phase 2: May '08
Phase 2 Duration: 4 months
On-Road Truck Travel (VMT): 22
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
0	Excavators	180	0.580	8.0
0	Graders	174	0.575	8.0
0	Off Highway Trucks	417	0.490	8.0
0	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions
Start Month/Year for Phase 3: Sep '08
Phase 3 Duration: 32 months
Start Month/Year for SubPhase Building: Sep '08
SubPhase Building Duration: 32 months
Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
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0	Cranes	190	0.430	8.0
0	Off Highway Trucks	417	0.490	8.0
0	Other Equipment	190	0.620	8.0
0	Rough Terrain Forklifts	94	0.475	8.0
0	Rubber Tired Dozers	352	0.590	8.0
0	Rubber Tired Loaders	165	0.465	8.0

Start Month/Year for SubPhase Architectural Coatings: Jan '11

SubPhase Architectural Coatings Duration: 3.2 months

Start Month/Year for SubPhase Asphalt: Mar '11

SubPhase Asphalt Duration: 1.6 months

Acres to be Paved: 1.01

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
0	Graders	174	0.575	8.0
0	Pavers	132	0.590	8.0
0	Rollers	114	0.430	8.0

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.04	0.58	0.25	0	0.00
Hearth - No summer emissions					
Landscaping	0.22	0.03	1.67	0.01	0.00
Consumer Prdcts	2.64	-	-	-	-
Architectural Coatings	0.10	-	-	-	-
TOTALS (lbs/day, unmitigated)	3.01	0.60	1.91	0.01	0.01

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Single family housing	1.63	2.12	18.16	0.01	1.83
Condo/townhouse general	0.57	0.73	6.26	0.00	0.63
TOTAL EMISSIONS (lbs/day)	2.20	2.85	24.41	0.01	2.46

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 60 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip Rate	No. Units	Total Trips
Single family housing	11.33	10.00 trips/dwelling unit	34.00	340.00
Condo/townhouse general	1.25	5.86 trips/dwelling unit	20.00	117.20
Sum of Total Trips				457.20
Total Vehicle Miles Traveled				1,613.92

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	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	68.80	31.20	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)	3.5	3.5	3.5	3.4	3.4	3.4
Rural Trip Length (miles)	3.5	3.5	3.5	3.4	3.4	3.4
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

The Trip Rate and/or Acreage values for Single family housing
have changed from the defaults 9.57/11.33 to 10/11.33
The Trip Rate and/or Acreage values for Condominium/townhouse general
have changed from the defaults 6.9/1.25 to 5.86/1.25

Changes made to the default values for Construction

Site Grading Fugitive Dust Option changed from Level 1 to Level 2
Architectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013
Architectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013

Changes made to the default values for Area

The wood stove percentage changed from 35 to 0.
The wood fireplace percentage changed from 10 to 0.
The natural gas fireplace percentage changed from 55 to 100.
The landscape year changed from 2005 to 2011.
The residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.
The nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2010.
The home based work selection item changed from 8 to 7.
The home based work urban trip length changed from 10.8 to 3.53.
The home based work rural trip length changed from 16.8 to 3.53.
The home based shopping selection item changed from 8 to 7.
The home based shopping urban trip length changed from 7.3 to 3.53.
The home based shopping rural trip length changed from 7.1 to 3.53.
The home based other selection item changed from 8 to 7.
The home based other urban trip length changed from 7.5 to 3.53.
The home based other rural trip length changed from 7.9 to 3.53.
The commercial based commute selection item changed from 8 to 7.
The commercial based commute urban trip length changed from 9.5 to 3.40.
The commercial based commute rural trip length changed from 14.7 to 3.4.
The commercial based non-work selection item changed from 8 to 7.
The commercial based non-work urban trip length changed from 7.35 to 3.4.
The commercial based non-work rural trip length changed from 6.6 to 3.4.
The commercial based customer selection item changed from 8 to 7.
The commercial based customer urban trip length changed from 7.35 to 3.4.
The commercial based customer rural trip length changed from 6.6 to 3.4.