# APPENDIX F:
# AIR QUALITY ASSESSMENT

# AIR QUALITY ANALYSIS

# EAST GARRISON SPECIFIC PLAN

# MONTEREY COUNTY, CALIFORNIA

Prepared for:

Michael Brandman Associates
Attn: Jason Brandman
2000 Crow Canyon Place, Suite 415
San Ramon, California 94583-1300

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# AIR QUALITY

## Climate and Meteorology

The East Garrison Specific Plan site is located on the grounds of the Fort Ord Military Reservation. The East Garrison site is situated on low hills overlooking the Sabinas River Valley. The site is located five (5) miles southeast of downtown Salinas, and approximately ten (10) miles northeast of downtown Monterey. The closest point of Monterey Bay at Marina State Beach is approximately five (5) miles to the northwest.

The project site experiences a "Mediterranean" climate with warm, dry summers and mild, rainy winters. Daily variations in the valley climate are influenced by the interaction between ocean and land air masses that create on-shore (up-valley) winds in the daytime and weak offshore (down-valley) breezes at night. Inversion layers, which tend to aggravate pollution problems created by automobile emissions, are present in the valley a significant part of the year.

Meteorological conditions in the North Central Coast Air Basin [NCCAB] (Monterey, Santa Cruz and San Benito counties) are generally favorable in terms of maintaining relatively good air quality. Onshore winds across Monterey Bay normally bring clean air into the region. Degraded air quality may sometimes be experienced in San Benito County due to airflow from the Santa Clara Valley and dust and odor may be experienced around agricultural operations or other localized sources. The East Garrison site is shielded from both any substantial intrusion from polluted airsheds and there are few localized sources of emission. The emissions from the Moss Landing Power Plant as a major emitter generally blow up the Salinas River Valley north of Salinas and do not often blow across the project site. Project site air quality responds very favorably to the effects of meteorology and topography.

## Ambient Air Quality Standards (AAQS)

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for administering the Federal Clean Air Act Amendments of 1990. As a regulatory agency, EPA's principal functions include setting national ambient air quality standards (AAQS). These standards define the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect "sensitive receptors" defined as that segment of the public most susceptible to respiratory distress or infection such as asthmatics, the very young, the elderly, people weak from other illness or disease, or persons in heavy work or exercise. Since California already had standards in existence before federal AAQS were established, and because of unique meteorological problems in the state, there is considerable diversity between state and federal standards currently in effect in California as shown in Table 1. The state standards are in most cases more stringent than the federal standards.

Table 1
Ambient Air Quality Standards

The Federal Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called "PM-2.5"). New national AAQS were adopted on July 17, 1997.

Evaluation of the most current data on the health effects of inhalation of fine particulate matter prompted the California Air Resources Board to recommend the adoption of an annual statewide PM-2.5 standard that is more stringent than the federal standard. This standard was adopted on June 20, 2002, and went into effect in July 2003. The State PM-2.5 standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard.

Planning and enforcement of the federal standards for PM-2.5 and for ozone (8-hour) were put on hold through a decision by the U.S. Court of Appeals. The Appeals Court ruled that EPA did not have discretionary authority to adopt national clean air standards without specific congressional approval. The U.S. Supreme Court heard the appeal in late 2000. In a unanimous decision published at the end of February 2001, the court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court also ruled that health-based standards did not require preparation of a cost-benefit analysis. The Court did find, however, that there was some inconsistency between existing and "new" standards in their respective attainment schedules. These attainment planning schedule inconsistencies centered mainly on the 8-hour ozone standard. EPA subsequently agreed to downgrade the attainment designation for a large number of communities to “nonattainment” for the 8-hour ozone standard. Because the NCCAB meets both the 1- and 8-hour federal ozone standards, the EPA action will not substantially alter the attainment planning process for the region.

Violations of ambient air quality standards are determined through data collected at air quality monitoring stations located throughout the air basin, including a monitoring station located in Salinas. This station measures regional pollution levels such as dust (PM-10) and photochemical smog (ozone). The station also monitors nitrogen dioxide ($NO_2$), carbon monoxide (CO) and ultra-fine particulate matter (PM-2.5). Because of the short distance separation from the project site to Salinas, pollution levels in Salinas are considered representative of East Garrison baseline conditions.

Table 2 shows that only one measurement in the last five years exceeded a state AAQS (for PM-10 in 1999). No federal standards were exceeded in the last five years of published data. The one observed violation of the state PM-10 standard was likely associated with the Los Padres National Forest wild fires which are not considered representative of “normal” ambient conditions in the project area. The air quality emphasis in the project vicinity is therefore to maintain the generally good air quality currently experienced rather than on control programs to achieve attainment.

**Table 2**
**Project Area Air Quality Summary**
**(Days Standards Were Exceeded and Maximum Concentrations)**
**(Items Shown as Ratios = Number Exceeding/Number of Samples)**

| Pollutant/Standard | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|
| **Ozone** | | | | | |
| 1-hour > 0.09 ppm | 0 | 0 | 0 | 0 | 0 |
| 1-hour > 0.12 ppm | 0 | 0 | 0 | 0 | 0 |
| 8-hour > 0.09 ppm | 0 | 0 | 0 | 0 | 0 |
| Max. 1-hour Conc. (ppm) | 0.08 | 0.08 | 0.09 | 0.08 | 0.08 |
| **Carbon Monoxide** | | | | | |
| 1-hour > 20. ppm | 0 | 0 | 0 | 0 | 0 |
| 8-hour > 9. ppm | 0 | 0 | 0 | 0 | 0 |
| Max. 1-hour Conc. (ppm) | 3.8 | 3.8 | 3.5 | 3.3 | 2.3 |
| Max. 8-hour Conc. (ppm) | 2.2 | 1.8 | 1.4 | 1.6 | 1.4 |
| **Nitrogen Dioxide** | | | | | |
| 1-hour > 0.25 ppm | 0 | 0 | 0 | 0 | 0 |
| Max. 1-hour Conc. (ppm) | 0.08 | 0.05 | 0.07 | 0.04 | 0.05 |
| **Inhalable Particulates (PM-10)** | | | | | |
| 24-Hour > 50 $\mu g/m^3$ | 1/61 | 1/60 | 0/62 | 1/75 | 0/63 |
| 24-Hour > 150 $\mu g/m^3$ | 0/61 | 0/60 | 0/62 | 0/75 | 0/63 |
| Max. 24-Hour Conc. ($\mu g/m^3$) | 53. | 51. | 37. | 51. | 46. |
| **Ultra-Fine Particulates (PM-2.5)** | | | | | |
| 24-Hour > 65 $\mu g/m^3$ | - | 0/102 | 0/73 | 0/58 | 0/61 |
| Max. 24-Hour Conc. | - | 30.8 | 26.4 | 25.6 | 23.5 |

- = Missing data or no measurements.

Source: MBUAPCD, Salinas Air Quality Monitoring Station.

## Air Quality Planning

The federal 1-hour ozone standard was achieved in 1990 in the NCCAB. Consistent with federal attainment planning guidelines, the APCD prepared a Redesignation Request and Maintenance Plan for the basin. The U.S. EPA redesignated the basin to a "maintenance area" in March 1997, for the 1-hour federal ozone standard. The basin is an attainment or unclassified area for all other national AAQS.

The air basin is classified as a moderate non-attainment air basin for the more stringent 1-hour state ozone standard. The basin is also in non-attainment for the state PM-10 standard. As noted above, these standards are typically met in the Salinas area. Ozone violations occur mainly at the Pinnacles air monitoring station due to pollution spillover from Santa Clara County. PM-10 violations are more widespread, but occur most frequently at Davenport and Moss Landing. The attainment status of the North Central Coast Air Basin is summarized as follows:

**Attainment Status of the North Central Coast Air Basin**

| **Pollutant** | **Federal** | **State** |
|---|---|---|
| Ozone ($_3$) – 1-hour | Maintenance | Moderate Non-attainment |
| Ozone ($_3$) – 8-hour | Attainment | N/A |
| Carbon Monoxide (CO) | Unclassified/ Attainment | Monterey-Attainment<br>San Benito-Unclassified<br>Santa Cruz-Unclassified |
| Nitrogen Dioxide ($NO_2$) | Unclassified/ Attainment | Attainment |
| Sulfur Dioxide ($SO_2$) | Unclassified | Attainment |
| Inhalable Particulates (PM-10) | Attainment | Non-attainment |
| Inhalable Particulates (PM-2.5) | Unclassified | N/A |

Planning for attainment of state standards is embodied in the 1991 AQMP. The 1997 update demonstrates that the 20 percent reduction target in ozone precursor emissions from the 1987 baseline has been met and that no new control measures (contingency measures) are needed beyond those already in the plan. The 2000 AQMP update for state standards concluded that the NCCAB will remain on the borderline between attainment and non-attainment of the state 1-hour ozone standard. A combination of meteorological variability, pollution transport from outside the air basin and local sources will all contribute to a continuing small, but non-zero, number of violations.

Planning for PM-10 attainment is conducted separately from ozone planning. Reports by the MBUAPCD indicate that basin-wide attainment of the PM-10 standard due to in-basin sources

was likely within this decade. The effects of local contamination, and "natural" sources such as sea salt or smoke from wildfires may maintain isolated PM-10 "hot spots" beyond 2010.

A general development project such as East Garrison relates to the air quality planning process through consistency with growth projection for the region. If the project represents an increment of growth that has been forecast by the Association of Monterey Bay Area Governments (AMBAG), then the project will not interfere with regional attainment of state air quality standards and maintenance of federal standards. Consistency with growth projection is therefore one threshold of significance that must be evaluated during the CEQA process.

# IMPACTS AND MITIGATION MEASURES

## Standards of Significance

The Environmental Checklist Form (Appendix G of the CEQA Guidelines) provides the following guidance for determining a project's impact on air quality:

> Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations: Would the project:
>
> 1. Conflict with or obstruct implementation of the applicable air quality plan?
>
> 2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
>
> 3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
>
> 4. Expose sensitive receptors to substantial pollutant concentrations?
>
> 5. Create objectionable odors affecting a substantial number of people?

Many pollutants require additional chemical transformation upon release before they reach their most unhealthful from. This process may require several hours, or even days. The impact from any individual project will be diluted to undetectable levels at the completion of this process. There is no analysis mechanism to directly assess the regional impact of any single project. The MBUAPCD has therefore developed emission levels as surrogate standards even though their impact to air quality cannot be directly evaluated. The matrix of emission levels responsive to the CEQA Guidelines questions above are shown in Table 3.

## Overview

A primarily residential development such as the proposed East Garrison Specific Plan will impact air quality primarily through increased automotive emissions. These emissions will be widely dispersed in space and time by the mobility of the source. While individual projects do not generally, in themselves, result in exceedances of the ozone standards, they can result in exceedances of ambient standards for localized pollutants (i.e., PM-10 and CO). Secondary emissions during construction and from increased fossil-fueled energy utilization will be generated, but these are usually much smaller in both duration and volume than the mobile source emissions generated by project operations.

## Table 3

***Checklist for Significance of Air Quality Impacts***

Would the project:

1. Conflict with or obstruct implementation of the applicable air quality plan?

    a. Emit 137 lb/day or more of VOC or NOx?
    b. Be inconsistent with the AQMP?

2. Violate any air quality standard or contribute substantially to an existing or project air quality violation?

    a. Emit 137 lb/day or more of VOC or NOx?
    b. Directly emit 550 lb/day or more of CO?
    c. Generate traffic that significantly effects roadway levels of service?
    d. Directly emit 82 lb/day or more of PM-10 onsite during operation or construction?
    e. Generate traffic on unpaved roads that creates 82 lb/day or more of PM-10?
    f. Directly emit 150 lb/day or more of SOx?

3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

    a. Be inconsistent with the AQMP for projects above *de minimus* levels?

4. Expose sensitive receptors to substantial pollutant concentrations?

    a. Cause a violation of any CO, PM-10 or toxic air contaminant standards at an existing or reasonably foreseeable sensitive receptor?

5. Create or expose a substantial number of people to objectionable odors?

Source: MBUAPCD, "CEQA Air Quality Guidelines" (Rev. September 2002).

## Construction Impacts

Development of roads, driveways, building pads and structures will create temporary emissions of fugitive dust from soil disturbance and combustion emissions from on-site construction equipment and from off-site trucks moving dirt, delivering construction materials, and from worker travel to and from the site during construction. The MBUAPCD, in its "CEQA Air Quality Guidelines," states that construction equipment emissions have been incorporated and are accounted for in the AQMP as a specific source category. The only recommended analysis element for construction in the air district's guidelines is for dust created by soil disturbance and off-road equipment travel.

The air district recommends use of a detailed evaluation of PM-10 emissions during construction that breaks down various activities into miles of travel on paved or unpaved surfaces, and amount of material handled, stockpiled or transported on any given day. This breakdown involves information on soil silt content, vehicle speed, equipment weight, wind speed, drop heights and other details that vary from minute-to-minute and day-by-day. There is not enough project-specific information on proposed site development that would allow for such a detailed assessment without a great deal of speculation. "Default" assumptions on dust generation have therefore been used to assess construction-related PM-10 emissions.

MBUAPCD Guidelines distinguish between projects with major earthworks versus those with minimal required grading. East Garrison, because of its size, is likely a "major grading" project. The daily PM-10 emissions from an earthmoving project are estimated to be 38 pounds per day, per acre disturbed. A disturbance area exceeding 2.2 acres may cause the daily PM-10 significance threshold of 82 pounds per day to be exceeded. The disturbance area threshold is based upon the use of routine watering as the only dust mitigation measure. With the use of best available control measures (BACM), a somewhat larger area could be under daily disturbance while maintaining PM-10 emissions at less than 82 pounds per day. With the use of BACMs, California Air Resources Board (ARB) emissions estimates (www.arb.ca.gov/emisinv/areasrc) suggest that the major earthmoving emission factor of 38 pounds per day could be reduced to the "minimal earthmoving" factor of 10 pounds per day. The ARB uses the 10-pound per day estimate for all construction projects in the NCCAB assuming that use of BACMs is a standard requirement. Project-related construction grading PM-10 impacts could be maintained at less-than-significant levels if:

1. The monthly maximum disturbance area is maintained at 8.1 acres or less.

2. Use of BACMs is standard requirement for all grading operations. A menu of control measures comprising BACMs is identified in the mitigation summary.

For construction projects involving major earth-moving activities, there is no effective way to restrict the disturbance acreage to 8.1 acres in any given month. Equipment moves from location-to-location hourly or daily. There is no enforcement mechanism that can restrict their movement and verify compliance. Because of the inability to guarantee that the critical disturbance size will not be exceeded, the short-term PM-10 impact should be considered as

temporarily significant and not mitigable. Use of BACMs for PM-10 will minimize the impact, but the emissions significance threshold (82 lb/day) could be occasionally exceeded.

In addition to smaller particles that will remain suspended in the air semi-indefinitely, construction dust comprises large diameter inert silicates that are chemically non-reactive and are further readily-filtered out by human breathing passages. They settle out again soon after they are released into the air. These fugitive dust particles are, therefore, more of a potential soiling nuisance as they settle out on parked cars, landscape foliage or outdoor furniture rather than any adverse health hazard.

## Operational Impacts

The primary source of long-term emissions associated with the proposed project is motor vehicle trips to and from the project site. Generally, vehicle trips associated with the project are home-work trips, home-shopping trips, home-school trips and visitors and deliveries. The number of trips associated with proposed land uses on the site is approximately 14,000 trips per day at full project build-out. The emissions associated with this level of trip-making, and the associated "area source" emissions, were calculated using the ARB's URBEMIS2002 computer model assuming a Year 2005 as a worst-case build-out scenario. The results are summarized in Table 4.

Emissions for three of the five pollutants analyzed are above the MBUAPCD CEQA-significance threshold. Project-related mobile plus area sources range from less than 2 percent of the threshold for SOx to a maximum of 364 percent of the CO threshold.

Project build-out will not occur by 2005, but rather will be spread over a number of years. Build-out will occur with a "cleaner" vehicle fleet than in 2005. For a 2020 build-out year, emissions will be lower, but still not fully reduced to less-than-significant, seen as follows:

| | **Emissions (pounds per day)** | | | | |
|---|---|---|---|---|---|
| **Source** | **ROG** | **NOx** | **CO** | **PM-10** | **SOx** |
| Mobile | 49.8 | 49.4 | 571.6 | 147.6 | 1.0 |
| Area Sources | 75.4 | 18.7 | 25.8 | 0.1 | 0.6 |
| **TOTAL** | **125.2** | **68.1** | **597.4** | **147.7** | **1.6** |
| MBUAPCD Threshold | 137 | 137 | 550 | 82 | 150 |

CO emissions would exceed the threshold by 47.4 pounds per day, and PM-10 emissions from roadway dust, tire wear and engine exhaust would be at 80-percent above threshold. Local CO emissions impacts are explicitly analyzed below, but PM-10 impacts are both local and regional. Roadway dust characteristics depend mainly upon vehicle-miled-traveled (VMT). VMT for build-out in 2005 or 2020 will be essentially identical. There are therefore no substantial opportunities to reduce these emissions through mitigation. Impacts are considered significant

and unmitigable to less-than-significant because of PM-10 resulting from total project travel demand.

The proposed project will be developed in conjunction with numerous other cumulative developments. The project by itself cause MBUAPCD significance thresholds to be exceeded. The addition of cumulative regional growth will exacerbate the degree of regional excess. Regional air quality impacts are therefore considered to be both individually and cumulatively on a regional scale.

**Table 4**

**Project Operational Source Emissions (2005)**

| Source | Emissions (pounds per day) | | | | |
|---|---|---|---|---|---|
| | **ROG** | **NOx** | **CO** | **PM-10** | **SOx** |
| Mobile | 188.6 | 191.1 | 1,976.7 | 148.3 | 1.6 |
| Area Sources | 75.4 | 18.7 | 25.8 | 0.1 | 0.5 |
| **TOTAL** | **264.0** | **209.8** | **2,002.5** | **148.4** | **2.1** |
| MBUAPCD Threshold | 137 | 137 | 550 | 82 | 150 |

Source: URBEMIS2002 model run, output in appendix.

Locally, project implementation could cause violations of air quality standards around points of traffic congestion (called "hot spots"). A hot spot analysis is generally required if daily project-related CO emissions exceed 550 pounds per day, or if they cause intersections levels of service to substantially worsen at intersections that already operate at a degraded level of service. A micro-scale CO screening procedure described in Chapter of the MBUAPCD "CEQA Air Quality Guidelines" (Rev. 2002) was therefore conducted for any project area intersections where congestion effects may possibly create CO "hot spots." Intersections selected for analysis included:

1. If project traffic were to cause the level of service to worsen form "D" or better to "E" or worse, or,

2. If project traffic were to increase the delay by 10 seconds or more at already congested intersections.

Calculations were made for existing conditions, assuming the project were fully built-out instantaneously (worst-case), and for future (2020) build-out. Build-out included a 1,470 dwelling unit alternative, and a 2,880 home alternative. The calculations included a non-local CO background level shown in Table 7-7 of the CEQA Guidelines. Because the guideline CO input data does not go beyond 2010, the emissions factors for 2010 were used for 2020 even though cars will be "cleaner" in 2020 than in 2010 (worst-case). The results of the micro-scale impact analysis are shown in Table 5.

The most stringent 1-hour CO standard is 20 ppm. The most stringent 8-hour CO standard is 9 ppm. Maximum 1-hour exposures are far below the 1-hour clean air standard. Peak 1-hour levels are substantially below the allowable 8-hour exposure. Since 8-hour CO exposures are less than the peak hour, and since even the maximum 1-hour is below the 8-hour standard local, 8-hour CO exposures will be well within acceptable levels.

The CO "hot spot" calculations include the background traffic condition, anticipated cumulative growth, plus the proposed project. The combined effects of all these CO contributors is well below the most stringent 1-hour or 8-hour CO standards. Local micro-scale air quality impacts are considered individually and cumulatively less-than-significant.

## AQMP Consistency Analysis

Determination of project consistency with the 2000 Air Quality Management Plan is necessary to identify project impacts on air quality, and to meet CEQA requirements. The AQMP incorporates population forecasts that are based on vacant land, General Plan land use designations, development potential and expected annual rates of growth. For a primarily residential project, consistency with the AQMP is determined by comparing the project population with the population forecasts for the applicable jurisdiction and year of project completion. A proposed project is consistent with the AQMP if the population increase resulting from the project will not cause the estimated cumulative population to be exceeded for the year of project completion.

## Table 5

## One-Hour CO Concentrations (ppm)

### A.M. PEAK HOUR

| Intersection | Existing | Exist. + Proj. | 2020 | | |
|---|---|---|---|---|---|
| | | | No Proj. | 1,470 D.U. | 2,880 D.U. |
| Hwy. 1 SB Ramp at Reservation | 4.0 | 4.1 | - | - | - |
| Reservation at S Davis | 4.2 | 4.6 | - | - | - |
| Light Fighter at First St. | - | - | 5.0 | 5.3 | 5.4 |
| Light Fighter at Second St. | - | - | 4.7 | 4.9 | 5.0 |

### P.M. PEAK HOUR

| Intersection | Existing | Exist. + Proj. | 2020 | | |
|---|---|---|---|---|---|
| | | | No Proj. | 1,470 D.U. | 2,880 D.U. |
| S Davis at W Blanco | 6.4 | 6.5 | - | - | - |
| Reservation at Del Monte | - | - | 5.6 | - | 5.6 |
| Intergarrison at New Collector | - | - | - | 4.7 | 4.7 |
| Reservation at S Davis | 4.2 | 4.7 | - | - | - |

AMBAG's population forecasts for the North Central Coast Air Basin for the unincorporated portion of Monterey County are as follows:

| | |
|---|---|
| Year 2000-2005 | + 4,468 residents |
| Year 2005-2010 | + 7,185 residents |
| Year 2010-1015 | + 6,809 residents |
| Year 2015-2020 | + 7,909 residents |
| Year 2005-2020 | + 21,903 residents |
| Yearly average | + 1,460/year |

Source: MBUAPCD CEQA Air Quality Guidelines, Table 5-6.

The proposed development of 1,470 homes and perhaps 4,680 residents, when spread over many years, is consistent with overall growth projections. The project represents slightly over 20 percent of the anticipated growth in unincorporated areas of Monterey County in the next 15 years. The proposed project will result in a population increase that is within the growth that is accommodated by the AQMP between 2005 and 2020. Therefore, the East Garrison project is consistent with the 2000 AQMP.

## Analysis of Alternatives

A 2,880 dwelling unit alternative will create basically almost twice the air quality impact of a 1,470 dwelling unit alternative. Whereas only the road-dust PM-10 emissions and a small amount of CO would exceed significance thresholds for a year 2020 build-out, more pollutants would have a significant air quality impact as seen in Table 6. The severity of "excess" PM-10 and/or CO emissions would be increased, and ROG emissions would be considered to have a significant impact under this 2,880 D.U. alternative that is not significant at 1,470 D.U.

## Table 6

## Daily Operational Impact Comparison (2020)

| Source | Emissions (pounds per day) | | | | |
|---|---|---|---|---|---|
| | **ROG** | **NOx** | **CO** | **PM-10** | **SOx** |
| 1,470 D.U. | 125 | 68 | 597 | 148 | 2 |
| 2,880 D.U. | 231 | 117 | 977 | 239 | 3 |
| MBUAPCD Threshold | 137 | 137 | 550 | 82 | 150 |

Source: URBEMIS2002 Computer Model.

## MITIGATION

Maintaining a less-than-significant PM-10 impact during construction grading requires use of best available control measures (BACMs). BACMs for this project include:

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Sweep streets daily (with water sweepers), if visible soil materials is carried onto adjacent public streets.
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more).
- Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.
- Limit the area subject to excavation, grading and other construction activity at any one time to as small as practically possible.

Implementation of the above measures will maintain PM-10 impacts from construction activities at minimum, but nevertheless, significant levels.

Operational emissions from site-related traffic and from residential "area sources" will have a significant PM-10 impact due to roadway dust generation. CO emissions may exceed MBUAPCD significance thresholds for a substantial length of time, but local CO "hot spot" potential was demonstrated to be negligible. It would require a 45 percent reduction in VMT to reduce PM-10 emissions from site-related traffic to less-than-significant. The emissions reduction efficiency of measures such as encouraging walking, bicycles or using multi-occupant vehicles is perhaps 2 to 3 percent. Project-related PM-10 emissions would have a significant, and non-mitigable, air quality impact.

Regional vehicular exhaust and "area source" emissions (energy consumption, consumer products, fireplaces, etc.) will exceed significance thresholds until near 2020. Mitigation is recommended to reduce these emissions to the extent possible:

- Encourage future site access by transit or para-transit systems.
- Incorporate bicycle connections between amenities in the EGSP area.
- Construct homes that exceed the minimum energy efficiency standard by at least ten (10) percent.
- Wire homes with 200 volts for electrical vehicle charging.
- Wire homes with multiple data channel access to assist in in-home employment.

The 2,880 D.U. alternative would increase the severity of "excess" emissions. Smog-forming ROG emissions would exceed significance thresholds that are not exceeded under the 1,400 D.U. alternative. Air quality impact significance would be substantially exacerbated under this alternative.

**The Following Appendix to Giroux & Associates Environmental Consultants Air Quality Analysis Is Available for Review at the Monterey County Planning and Building Inspection Department:**

Appendix: URBEMIS2002 Model Input/Output

# APPENDIX

# URBEMIS2002

# Model Input/Output

1,470 D.U. – 2005
1,470 D.U. - 2020
2,880 D.U. - 2020

URBEMIS 2002 For Windows 7.4.2

ile Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\East-Garrison-05.urb
roject Name: East Garison - 2005
roject Location: North Central Coast (Monterey area)
n-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

ONSTRUCTION EMISSION ESTIMATES

| *** 2003 *** | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 8.54 | 4.63 | 100.53 | 0.01 | 735.07 | 0.07 | 735.00 |

| *** 2004 *** | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 6,022.32 | 6.62 | 158.60 | 0.02 | 2.10 | 0.14 | 1.96 |

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 75.41 | 18.66 | 25.77 | 0.55 | 0.07 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 188.60 | 191.06 | 1,976.73 | 1.56 | 148.30 |

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 264.01 | 209.72 | 2,002.50 | 2.11 | 148.37 |

URBEMIS 2002 For Windows 7.4.2

ile Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\East-Garrison-05.urb
roject Name: East Garison - 2005
roject Location: North Central Coast (Monterey area)
n-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

onstruction Start Month and Year: June, 2003
onstruction Duration: 12
otal Land Use Area to be Developed: 0 acres
laximum Acreage Disturbed Per Day: 73.5 acres
ingle Family Units: 1470 Multi-Family Units: 0
etail/Office/Institutional/Industrial Square Footage: 0

ONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

| Source | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| *** 2003*** | | | | | | | |
| hase 1 - Demolition Emissions | | | | | | | |
| ugitive Dust | - | - | - | - | 0.00 | - | 0.00 |
| ff-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 |
| hase 2 - Site Grading Emissions | | | | | | | |
| ugitive Dust | - | - | - | - | 735.00 | - | 735.00 |
| ff-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 | 735.00 | 0.00 | 735.00 |
| Phase 3 - Building Construction | | | | | | | |
| Bldg Const Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| Bldg Const Worker Trips | 8.54 | 4.63 | 100.53 | 0.01 | 1.05 | 0.07 | 0.98 |
| 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 | 8.54 | 4.63 | 100.53 | 0.01 | 1.05 | 0.07 | 0.98 |
| Max lbs/day all phases | 8.54 | 4.63 | 100.53 | 0.01 | 735.07 | 0.07 | 735.00 |
| *** 2004*** | | | | | | | |
| 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 | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| Bldg Const Worker Trips | 7.83 | 4.31 | 92.51 | 0.01 | 1.05 | 0.07 | 0.98 |
| Arch Coatings Off-Gas | 6,007.62 | - | - | - | - | - | - |
| Arch Coatings Worker Trips | 7.35 | 3.31 | 79.30 | 0.01 | 1.05 | 0.07 | 0.98 |
| 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 | 6,022.32 | 6.62 | 158.60 | 0.02 | 2.10 | 0.14 | 1.96 |
| Max lbs/day all phases | 6,022.32 | 6.62 | 158.60 | 0.02 | 2.10 | 0.14 | 1.96 |

'hase 1 - Demolition Assumptions:  Phase Turned OFF

'hase 2 - Site Grading Assumptions
tart Month/Year for Phase 2: Jun '03
'hase 2 Duration: 1.2 months
)n-Road Truck Travel (VMT): 0
)ff-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|

'hase 3 - Building Construction Assumptions
tart Month/Year for Phase 3: Jul '03
?hase 3 Duration: 10.2 months
Start Month/Year for SubPhase Building: Jul '03
SubPhase Building Duration: 10.2 months
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|

Start Month/Year for SubPhase Architectural Coatings: May '04
SubPhase Architectural Coatings Duration: 1 months
Start Month/Year for SubPhase Asphalt: May '04
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 0
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|

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

| Source | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Natural Gas | 1.42 | 18.42 | 7.84 | - | 0.04 |
| Wood Stoves - No summer emissions | | | | | |
| Fireplaces - No summer emissions | | | | | |
| Landscaping | 2.07 | 0.24 | 17.93 | 0.55 | 0.04 |
| Consumer Prdcts | 71.92 | - | - | - | - |
| TOTALS(lbs/day,unmitigated) | 75.41 | 18.66 | 25.77 | 0.55 | 0.07 |

UNMITIGATED OPERATIONAL EMISSIONS

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| ingle family housing | 188.60 | 191.06 | 1,976.73 | 1.56 | 148.30 |
| OTAL EMISSIONS (lbs/day) | 188.60 | 191.06 | 1,976.73 | 1.56 | 148.30 |

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

PERATIONAL (Vehicle) EMISSION ESTIMATES

nalysis Year: 2005 Temperature (F): 75 Season: Summer

MFAC Version: EMFAC2002 (9/2002)

ummary of Land Uses:

| nit Type | Trip Rate | Size | Total Trips |
|---|---|---|---|
| ingle family housing | 9.57 trips / dwelling units | 1,470.00 | 14,067.90 |

ehicle Assumptions:

leet Mix:

| ehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| ight Auto | 58.50 | 3.40 | 95.80 | 0.80 |
| ight Truck < 3,750 lbs | 10.70 | 7.30 | 91.80 | 0.90 |
| ight Truck 3,751- 5,750 | 17.50 | 1.10 | 98.60 | 0.30 |
| ed Truck 5,751- 8,500 | 8.30 | 6.80 | 84.20 | 9.00 |
| Lite-Heavy 8,501-10,000 | 1.00 | 15.40 | 72.10 | 12.50 |
| Lite-Heavy 10,001-14,000 | 0.30 | 0.00 | 56.40 | 43.60 |
| Med-Heavy 14,001-33,000 | 1.00 | 10.00 | 25.50 | 64.50 |
| Heavy-Heavy 33,001-60,000 | 0.60 | 2.60 | 3.00 | 94.40 |
| Line Haul > 60,000 lbs | 0.00 | 0.00 | 0.00 | 100.00 |
| Urban Bus | 0.00 | 1.50 | 45.60 | 52.90 |
| Motorcycle | 1.20 | 85.30 | 14.70 | 0.00 |
| School Bus | 0.10 | 8.30 | 23.40 | 68.30 |
| Motor Home | 0.80 | 3.30 | 90.60 | 6.10 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 10.0 | 5.0 | 6.5 | 9.6 | 9.6 | 9.6 |
| Rural Trip Length (miles) | 10.0 | 5.0 | 6.5 | 9.6 | 9.6 | 9.6 |
| Trip Speeds (mph) | 30.0 | 20.0 | 25.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 22.6 | 27.4 | 50.0 | | | |

hanges made to the default values for Land Use Trip Percentages

hanges made to the default values for Construction

hanges made to the default values for Area

hanges made to the default values for Operations

he light auto percentage changed from 56.1 to 58.5.
he light auto non-catalyst percentage changed from 2.3 to 3.4.
'he light auto catalyst percentage changed from 97.1 to 95.8.
'he light auto diesel percentage changed from 0.6 to 0.8.
'he light truck < 3750 lbs percentage changed from 15.1 to 10.7.
'he light truck < 3750 lbs non-catalyst percentage changed from 4.0 to 7.3.
'he light truck < 3750 lbs catalyst percentage changed from 93.4 to 91.8.
'he light truck < 3750 lbs diesel percentage changed from 2.6 to 0.9.
'he light truck 3751-5750 percentage changed from 15.5 to 17.5.
'he light truck 3751-5750 non-catalyst percentage changed from 1.9 to 1.1.
'he light truck 3751-5750 catalyst percentage changed from 96.8 to 98.6.
'he light truck 3751-5750 diesel percentage changed from 1.3 to 0.3.
'he med truck 5751-8500 percentage changed from 6.8 to 8.3.
'he med truck 5751-8500 non-catalyst percentage changed from 1.5 to 6.8.
'he med truck 5751-8500 catalyst percentage changed from 95.6 to 84.2.
'he med truck 5751-8500 diesel percentage changed from 2.9 to 9.0.
The lite-heavy truck 8501-10000 non-catalyst percentage changed from 0.0 to 15.4.
The lite-heavy truck 8501-10000 catalyst percentage changed from 80.0 to 72.1.
The lite-heavy truck 8501-10000 diesel percentage changed from 20.0 to 12.5.
The lite-heavy truck 10001-14000 catalyst percentage changed from 66.7 to 56.4.
The lite-heavy truck 10001-14000 diesel percentage changed from 33.3 to 43.6.
The med-heavy truck 14001-33000 catalyst percentage changed from 20.0 to 25.5.
The med-heavy truck 14001-33000 diesel percentage changed from 70.0 to 64.5.
The heavy-heavy truck 33001-60000 percentage changed from 0.8 to 0.6.
The heavy-heavy truck 33001-60000 diesel percentage changed from 0.0 to 2.6.
The heavy-heavy truck 33001-60000 catalyst percentage changed from 12.5 to 3.0.
The heavy-heavy truck 33001-60000 diesel percentage changed from 87.5 to 94.4.
The urban bus percentage changed from 0.1 to 0.0.
The urban bus diesel percentage changed from 0.0 to 1.5.
The urban bus catalyst percentage changed from 0.0 to 45.6.
The urban bus diesel percentage changed from 100.0 to 52.9.
The motorcycle percentage changed from 1.6 to 1.2.
The motorcycle diesel percentage changed from 87.5 to 85.3.
The motorcycle catalyst percentage changed from 12.5 to 14.7.
The school bus percentage changed from 0.3 to 0.1.
The school bus diesel percentage changed from 0.0 to 8.3.
The school bus catalyst percentage changed from 0.0 to 23.4.
The school bus diesel percentage changed from 100.0 to 68.3.
The motorhome percentage changed from 1.4 to 0.8.
The motorhome diesel percentage changed from 14.3 to 3.3.
The motorhome catalyst percentage changed from 78.6 to 90.6.
The motorhome diesel percentage changed from 7.1 to 6.1.
The operational emission year changed from 2004 to 2005.
The operational winter selection item changed from 3 to 2.
The operational summer selection item changed from 6 to 5.

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\East-Garrison-05.urb
Project Name: East Garison - ~~2005~~ 2020 (147020)
Project Location: North Central Coast (Monterey area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

| *** 2003 *** | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 8.54 | 4.63 | 100.53 | 0.01 | 735.07 | 0.07 | 735.00 |

| *** 2004 *** | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 6,022.32 | 6.62 | 158.60 | 0.02 | 2.10 | 0.14 | 1.96 |

AREA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 75.41 | 18.66 | 25.77 | 0.55 | 0.07 |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 49.79 | 49.45 | 571.62 | 1.01 | 147.57 |

SUM OF AREA AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 125.20 | 68.11 | 597.39 | 1.56 | 147.64 |

URBEMIS 2002 For Windows 7.4.2

File Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\East-Garrison-05.urb
Project Name: East Garison - 2005
Project Location: North Central Coast (Monterey area)
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: June, 2003
Construction Duration: 12
Total Land Use Area to be Developed: 0 acres
Maximum Acreage Disturbed Per Day: 73.5 acres
Single Family Units: 1470 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 |
|---|---|---|---|---|---|---|---|
| *** 2003*** | | | | | | | |
| 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 | - | - | - | - | 735.00 | - | 735.00 |
| 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 | 735.00 | 0.00 | 735.00 |
| Phase 3 - Building Construction | | | | | | | |
| Bldg Const Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| Bldg Const Worker Trips | 8.54 | 4.63 | 100.53 | 0.01 | 1.05 | 0.07 | 0.98 |
| 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 | 8.54 | 4.63 | 100.53 | 0.01 | 1.05 | 0.07 | 0.98 |
| Max lbs/day all phases | 8.54 | 4.63 | 100.53 | 0.01 | 735.07 | 0.07 | 735.00 |
| *** 2004*** | | | | | | | |
| 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 | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| Bldg Const Worker Trips | 7.83 | 4.31 | 92.51 | 0.01 | 1.05 | 0.07 | 0.98 |
| Arch Coatings Off-Gas | 6,007.62 | - | - | - | - | - | - |
| Arch Coatings Worker Trips | 7.35 | 3.31 | 79.30 | 0.01 | 1.05 | 0.07 | 0.98 |
| 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 | 6,022.32 | 6.62 | 158.60 | 0.02 | 2.10 | 0.14 | 1.96 |
| Max lbs/day all phases | 6,022.32 | 6.62 | 158.60 | 0.02 | 2.10 | 0.14 | 1.96 |

'hase 1 - Demolition Assumptions:  Phase Turned OFF

'hase 2 - Site Grading Assumptions
;tart Month/Year for Phase 2: Jun '03
'hase 2 Duration: 1.2 months
)n-Road Truck Travel (VMT): 0
)ff-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|

'hase 3 - Building Construction Assumptions
;tart Month/Year for Phase 3: Jul '03
'hase 3 Duration: 10.2 months
Start Month/Year for SubPhase Building: Jul '03
SubPhase Building Duration: 10.2 months
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|

Start Month/Year for SubPhase Architectural Coatings: May '04
SubPhase Architectural Coatings Duration: 1 months
Start Month/Year for SubPhase Asphalt: May '04
SubPhase Asphalt Duration: 0.5 months
Acres to be Paved: 0
Off-Road Equipment

| No. | Type | Horsepower | Load Factor | Hours/Day |
|---|---|---|---|---|

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

| Source | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Natural Gas | 1.42 | 18.42 | 7.84 | - | 0.04 |
| Wood Stoves - No summer emissions | | | | | |
| Fireplaces - No summer emissions | | | | | |
| Landscaping | 2.07 | 0.24 | 17.93 | 0.55 | 0.04 |
| Consumer Prdcts | 71.92 | - | - | - | - |
| TOTALS(lbs/day,unmitigated) | 75.41 | 18.66 | 25.77 | 0.55 | 0.07 |

UNMITIGATED OPERATIONAL EMISSIONS

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Single family housing | 49.79 | 49.45 | 571.62 | 1.01 | 147.57 |
| TOTAL EMISSIONS (lbs/day) | 49.79 | 49.45 | 571.62 | 1.01 | 147.57 |

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2020 Temperature (F): 75 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

| Unit Type | Trip Rate | Size | Total Trips |
|---|---|---|---|
| Single family housing | 9.57 trips / dwelling units | 1,470.00 | 14,067.90 |

Vehicle Assumptions:

Fleet Mix:

| Vehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 59.00 | 0.40 | 99.50 | 0.10 |
| Light Truck < 3,750 lbs | 10.80 | 1.10 | 98.60 | 0.30 |
| Light Truck 3,751- 5,750 | 17.80 | 0.20 | 99.70 | 0.10 |
| Med Truck 5,751- 8,500 | 8.50 | 1.60 | 94.00 | 4.40 |
| Lite-Heavy 8,501-10,000 | 0.70 | 3.80 | 80.40 | 15.80 |
| Lite-Heavy 10,001-14,000 | 0.20 | 0.00 | 58.30 | 41.70 |
| Med-Heavy 14,001-33,000 | 0.70 | 2.70 | 20.30 | 77.00 |
| Heavy-Heavy 33,001-60,000 | 0.40 | 0.30 | 2.60 | 97.10 |
| Line Haul > 60,000 lbs | 0.00 | 0.00 | 0.00 | 100.00 |
| Urban Bus | 0.00 | 1.10 | 42.10 | 56.80 |
| Motorcycle | 0.60 | 57.00 | 43.00 | 0.00 |
| School Bus | 0.10 | 1.70 | 27.60 | 70.70 |
| Motor Home | 1.20 | 0.20 | 92.00 | 7.80 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 10.0 | 5.0 | 6.5 | 9.6 | 9.6 | 9.6 |
| Rural Trip Length (miles) | 10.0 | 5.0 | 6.5 | 9.6 | 9.6 | 9.6 |
| Trip Speeds (mph) | 30.0 | 20.0 | 25.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 22.6 | 27.4 | 50.0 | | | |

:hanges made to the default values for Land Use Trip Percentages

:hanges made to the default values for Construction

:hanges made to the default values for Area

:hanges made to the default values for Operations

The light auto percentage changed from 54.4 to 59.0.
The light auto catalyst percentage changed from 99.4 to 99.5.
The light auto diesel percentage changed from 0.2 to 0.1.
The light truck < 3750 lbs percentage changed from 15.3 to 10.8.
The light truck < 3750 lbs non-catalyst percentage changed from 0.7 to 1.1.
The light truck < 3750 lbs catalyst percentage changed from 98.0 to 98.6.
The light truck < 3750 lbs diesel percentage changed from 1.3 to 0.3.
The light truck 3751-5750 percentage changed from 16.4 to 17.8.
The light truck 3751-5750 non-catalyst percentage changed from 0.6 to 0.2.
The light truck 3751-5750 catalyst percentage changed from 98.8 to 99.7.
The light truck 3751-5750 diesel percentage changed from 0.6 to 0.1.
The med truck 5751-8500 percentage changed from 7.3 to 8.5.
The med truck 5751-8500 non-catalyst percentage changed from 0.0 to 1.6.
The med truck 5751-8500 catalyst percentage changed from 98.6 to 94.0.
The med truck 5751-8500 diesel percentage changed from 1.4 to 4.4.
The lite-heavy truck 8501-10000 percentage changed from 1.1 to 0.7.
The lite-heavy truck 8501-10000 non-catalyst percentage changed from 0.0 to 3.8.
The lite-heavy truck 8501-10000 catalyst percentage changed from 81.8 to 80.4.
The lite-heavy truck 8501-10000 diesel percentage changed from 18.2 to 15.8.
The lite-heavy truck 10001-14000 percentage changed from 0.3 to 0.2.
The lite-heavy truck 10001-14000 catalyst percentage changed from 66.7 to 58.3.
The lite-heavy truck 10001-14000 diesel percentage changed from 33.3 to 41.7.
The med-heavy truck 14001-33000 percentage changed from 1.0 to 0.7.
The med-heavy truck 14001-33000 non-catalyst percentage changed from 0.0 to 2.7.
The med-heavy truck 14001-33000 catalyst percentage changed from 20.0 to 20.3.
The med-heavy truck 14001-33000 diesel percentage changed from 80.0 to 77.0.
The heavy-heavy truck 33001-60000 percentage changed from 0.8 to 0.4.
The heavy-heavy truck 33001-60000 diesel percentage changed from 0.0 to 0.3.
The heavy-heavy truck 33001-60000 catalyst percentage changed from 0.0 to 2.6.
The heavy-heavy truck 33001-60000 diesel percentage changed from 100.0 to 97.1.
The urban bus percentage changed from 0.2 to 0.0.
The urban bus diesel percentage changed from 0.0 to 1.1.
The urban bus catalyst percentage changed from 50.0 to 42.1.
The urban bus diesel percentage changed from 50.0 to 56.8.
The motorcycle percentage changed from 1.6 to 0.6.
The motorcycle diesel percentage changed from 50.0 to 57.0.
The motorcycle catalyst percentage changed from 50.0 to 43.0.
The school bus diesel percentage changed from 0.0 to 1.7.
The school bus catalyst percentage changed from 0.0 to 27.6.
The school bus diesel percentage changed from 100.0 to 70.7.
The motorhome percentage changed from 1.5 to 1.2.
The motorhome diesel percentage changed from 0.0 to 0.2.
The motorhome catalyst percentage changed from 93.3 to 92.0.
The motorhome diesel percentage changed from 6.7 to 7.8.
The operational emission year changed from 2004 to 2020.
The operational winter selection item changed from  3 to 2.
The operational summer selection item changed from  6 to 5.

URBEMIS 2002 For Windows 7.4.2

ile Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\East-Garrison-2020.urb
roject Name: East Garison - ~~2005~~ 2020 (2880 D.U.)
roject Location: North Central Coast (Monterey area)
n-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

ONSTRUCTION EMISSION ESTIMATES

| *** 2003 *** | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 16.74 | 9.06 | 196.96 | 0.02 | 735.13 | 0.13 | 735.00 |

| *** 2004 *** | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 11,798.83 | 12.98 | 310.72 | 0.04 | 4.08 | 0.26 | 3.82 |

REA SOURCE EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 147.74 | 36.55 | 50.49 | 1.08 | 0.14 |

PERATIONAL (VEHICLE) EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 82.98 | 80.18 | 926.82 | 1.63 | 239.27 |

UM OF AREA AND OPERATIONAL EMISSION ESTIMATES

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| TOTALS (lbs/day,unmitigated) | 230.72 | 116.74 | 977.30 | 2.71 | 239.41 |

URBEMIS 2002 For Windows 7.4.2

ile Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\East-Garrison-2020.urb
roject Name: East Garison - 2005
roject Location: North Central Coast (Monterey area)
n-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

onstruction Start Month and Year: June, 2003
onstruction Duration: 12
otal Land Use Area to be Developed: 0 acres
laximum Acreage Disturbed Per Day: 73.5 acres
ingle Family Units: 2880 Multi-Family Units: 0
etail/Office/Institutional/Industrial Square Footage: 0

ONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

| Source | ROG | NOx | CO | SO2 | PM10 TOTAL | PM10 EXHAUST | PM10 DUST |
|---|---|---|---|---|---|---|---|
| *** 2003*** | | | | | | | |
| hase 1 - Demolition Emissions | | | | | | | |
| ugitive Dust | - | - | - | - | 0.00 | - | 0.00 |
| ff-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 |
| hase 2 - Site Grading Emissions | | | | | | | |
| ugitive Dust | - | - | - | - | 735.00 | - | 735.00 |
| ff-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 | 735.00 | 0.00 | 735.00 |
| hase 3 - Building Construction | | | | | | | |
| ldg Const Off-Road Diesel | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| ldg Const Worker Trips | 16.74 | 9.06 | 196.96 | 0.02 | 2.04 | 0.13 | 1.91 |
| 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 | 16.74 | 9.06 | 196.96 | 0.02 | 2.04 | 0.13 | 1.91 |
| Max lbs/day all phases | 16.74 | 9.06 | 196.96 | 0.02 | 735.13 | 0.13 | 735.00 |
| *** 2004*** | | | | | | | |
| 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 | 0.00 | 0.00 | 0.00 | - | 0.00 | 0.00 | 0.00 |
| Bldg Const Worker Trips | 15.34 | 8.44 | 181.25 | 0.02 | 2.04 | 0.13 | 1.91 |
| Arch Coatings Off-Gas | 11,770.04 | - | - | - | - | - | - |
| Arch Coatings Worker Trips | 14.40 | 6.49 | 155.36 | 0.02 | 2.04 | 0.13 | 1.91 |
| 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 | 11,798.83 | 12.98 | 310.72 | 0.04 | 4.08 | 0.26 | 3.82 |
| Max lbs/day all phases | 11,798.83 | 12.98 | 310.72 | 0.04 | 4.08 | 0.26 | 3.82 |

'hase 1 - Demolition Assumptions:  Phase Turned OFF

'hase 2 - Site Grading Assumptions
tart Month/Year for Phase 2: Jun '03
'hase 2 Duration: 1.2 months
n-Road Truck Travel (VMT): 0
)ff-Road Equipment
 No.  Type  Horsepower  Load Factor  Hours/Day

'hase 3 - Building Construction Assumptions
tart Month/Year for Phase 3: Jul '03
'hase 3 Duration: 10.2 months
 Start Month/Year for SubPhase Building: Jul '03
 SubPhase Building Duration: 10.2 months
 Off-Road Equipment
 No.  Type  Horsepower  Load Factor  Hours/Day
 Start Month/Year for SubPhase Architectural Coatings: May '04
 SubPhase Architectural Coatings Duration: 1 months
 Start Month/Year for SubPhase Asphalt: May '04
 SubPhase Asphalt Duration: 0.5 months
 Acres to be Paved: 0
 Off-Road Equipment
 No.  Type  Horsepower  Load Factor  Hours/Day

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

| Source | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| Natural Gas | 2.79 | 36.09 | 15.36 | - | 0.07 |
| Wood Stoves - No summer emissions | | | | | |
| Fireplaces - No summer emissions | | | | | |
| Landscaping | 4.06 | 0.46 | 35.13 | 1.08 | 0.07 |
| Consumer Prdcts | 140.90 | - | - | - | - |
| TOTALS(lbs/day,unmitigated) | 147.74 | 36.55 | 50.49 | 1.08 | 0.14 |

UNMITIGATED OPERATIONAL EMISSIONS

| | ROG | NOx | CO | SO2 | PM10 |
|---|---|---|---|---|---|
| ingle family housing | 82.98 | 80.18 | 926.82 | 1.63 | 239.27 |
| OTAL EMISSIONS (lbs/day) | 82.98 | 80.18 | 926.82 | 1.63 | 239.27 |

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

PERATIONAL (Vehicle) EMISSION ESTIMATES

nalysis Year: 2020 Temperature (F): 75 Season: Summer

MFAC Version: EMFAC2002 (9/2002)

ummary of Land Uses:

| nit Type | Trip Rate | Size | Total Trips |
|---|---|---|---|
| ingle family housing | 7.92 trips / dwelling units | 2,880.00 | 22,809.60 |

ehicle Assumptions:

leet Mix:

| ehicle Type | Percent Type | Non-Catalyst | Catalyst | Diesel |
|---|---|---|---|---|
| Light Auto | 59.00 | 0.40 | 99.50 | 0.10 |
| Light Truck < 3,750 lbs | 10.80 | 1.10 | 98.60 | 0.30 |
| Light Truck 3,751- 5,750 | 17.80 | 0.20 | 99.70 | 0.10 |
| ed Truck 5,751- 8,500 | 8.50 | 1.60 | 94.00 | 4.40 |
| Lite-Heavy 8,501-10,000 | 0.70 | 3.80 | 80.40 | 15.80 |
| Lite-Heavy 10,001-14,000 | 0.20 | 0.00 | 58.30 | 41.70 |
| ed-Heavy 14,001-33,000 | 0.70 | 2.70 | 20.30 | 77.00 |
| Heavy-Heavy 33,001-60,000 | 0.40 | 0.30 | 2.60 | 97.10 |
| Line Haul > 60,000 lbs | 0.00 | 0.00 | 0.00 | 100.00 |
| rban Bus | 0.00 | 1.10 | 42.10 | 56.80 |
| otorcycle | 0.60 | 57.00 | 43.00 | 0.00 |
| School Bus | 0.10 | 1.70 | 27.60 | 70.70 |
| otor Home | 1.20 | 0.20 | 92.00 | 7.80 |

Travel Conditions

| | Residential | | | Commercial | | |
|---|---|---|---|---|---|---|
| | Home-Work | Home-Shop | Home-Other | Commute | Non-Work | Customer |
| Urban Trip Length (miles) | 10.0 | 5.0 | 6.5 | 9.6 | 9.6 | 9.6 |
| Rural Trip Length (miles) | 10.0 | 5.0 | 6.5 | 9.6 | 9.6 | 9.6 |
| Trip Speeds (mph) | 30.0 | 20.0 | 25.0 | 30.0 | 30.0 | 30.0 |
| % of Trips - Residential | 22.6 | 27.4 | 50.0 | | | |

hanges made to the default values for Land Use Trip Percentages

hanges made to the default values for Construction

hanges made to the default values for Area

hanges made to the default values for Operations

'he light auto percentage changed from 54.4 to 59.0.
'he light auto catalyst percentage changed from 99.4 to 99.5.
'he light auto diesel percentage changed from 0.2 to 0.1.
'he light truck < 3750 lbs percentage changed from 15.3 to 10.8.
'he light truck < 3750 lbs non-catalyst percentage changed from 0.7 to 1.1.
'he light truck < 3750 lbs catalyst percentage changed from 98.0 to 98.6.
'he light truck < 3750 lbs diesel percentage changed from 1.3 to 0.3.
'he light truck 3751-5750 percentage changed from 16.4 to 17.8.
'he light truck 3751-5750 non-catalyst percentage changed from 0.6 to 0.2.
'he light truck 3751-5750 catalyst percentage changed from 98.8 to 99.7.
'he light truck 3751-5750 diesel percentage changed from 0.6 to 0.1.
'he med truck 5751-8500 percentage changed from 7.3 to 8.5.
'he med truck 5751-8500 non-catalyst percentage changed from 0.0 to 1.6.
'he med truck 5751-8500 catalyst percentage changed from 98.6 to 94.0.
'he med truck 5751-8500 diesel percentage changed from 1.4 to 4.4.
'he lite-heavy truck 8501-10000 percentage changed from 1.1 to 0.7.
'he lite-heavy truck 8501-10000 non-catalyst percentage changed from 0.0 to 3.8.
'he lite-heavy truck 8501-10000 catalyst percentage changed from 81.8 to 80.4.
'he lite-heavy truck 8501-10000 diesel percentage changed from 18.2 to 15.8.
'he lite-heavy truck 10001-14000 percentage changed from 0.3 to 0.2.
'he lite-heavy truck 10001-14000 catalyst percentage changed from 66.7 to 58.3.
'he lite-heavy truck 10001-14000 diesel percentage changed from 33.3 to 41.7.
'he med-heavy truck 14001-33000 percentage changed from 1.0 to 0.7.
'he med-heavy truck 14001-33000 non-catalyst percentage changed from 0.0 to 2.7.
'he med-heavy truck 14001-33000 catalyst percentage changed from 20.0 to 20.3.
'he med-heavy truck 14001-33000 diesel percentage changed from 80.0 to 77.0.
'he heavy-heavy truck 33001-60000 percentage changed from 0.8 to 0.4.
'he heavy-heavy truck 33001-60000 diesel percentage changed from 0.0 to 0.3.
'he heavy-heavy truck 33001-60000 catalyst percentage changed from 0.0 to 2.6.
'he heavy-heavy truck 33001-60000 diesel percentage changed from 100.0 to 97.1.
The urban bus percentage changed from 0.2 to 0.0.
The urban bus diesel percentage changed from 0.0 to 1.1.
The urban bus catalyst percentage changed from 50.0 to 42.1.
The urban bus diesel percentage changed from 50.0 to 56.8.
The motorcycle percentage changed from 1.6 to 0.6.
The motorcycle diesel percentage changed from 50.0 to 57.0.
The motorcycle catalyst percentage changed from 50.0 to 43.0.
The school bus diesel percentage changed from 0.0 to 1.7.
The school bus catalyst percentage changed from 0.0 to 27.6.
The school bus diesel percentage changed from 100.0 to 70.7.
The motorhome percentage changed from 1.5 to 1.2.
The motorhome diesel percentage changed from 0.0 to 0.2.
The motorhome catalyst percentage changed from 93.3 to 92.0.
The motorhome diesel percentage changed from 6.7 to 7.8.
The operational emission year changed from 2004 to 2020.
The operational winter selection item changed from  3 to 2.
The operational summer selection item changed from  6 to 5.