

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Sara Gerrick\Application Data\Urbemis\Version9a\Projects\Mission College Construction Phase I 2009.urb924

Project Name: Mission College Construction Phase I 2009

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

|                                   | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10 Dust</u> | <u>PM10 Exhaust</u> | <u>PM10</u> | <u>PM2.5 Dust</u> | <u>PM2.5 Exhaust</u> | <u>PM2.5</u> | <u>CO2</u> |
|-----------------------------------|------------|------------|-----------|------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|------------|
| 2009 TOTALS (lbs/day unmitigated) | 3.22       | 26.53      | 14.23     | 0.00       | 24.40            | 1.34                | 25.74       | 5.10              | 1.23                 | 6.33         | 2,349.17   |
| 2009 TOTALS (lbs/day mitigated)   | 3.22       | 22.56      | 14.23     | 0.00       | 2.27             | 0.20                | 2.47        | 0.47              | 0.19                 | 0.66         | 2,349.17   |
| 2010 TOTALS (lbs/day unmitigated) | 4.30       | 19.16      | 28.38     | 0.02       | 0.08             | 1.29                | 1.37        | 0.03              | 1.18                 | 1.21         | 3,354.34   |
| 2010 TOTALS (lbs/day mitigated)   | 4.30       | 17.11      | 28.38     | 0.02       | 0.08             | 0.53                | 0.61        | 0.03              | 0.49                 | 0.52         | 3,354.34   |
| 2011 TOTALS (lbs/day unmitigated) | 43.47      | 15.41      | 11.26     | 0.00       | 0.01             | 1.34                | 1.35        | 0.00              | 1.23                 | 1.23         | 1,498.22   |
| 2011 TOTALS (lbs/day mitigated)   | 39.13      | 13.14      | 11.26     | 0.00       | 0.01             | 0.21                | 0.22        | 0.00              | 0.19                 | 0.20         | 1,498.22   |

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

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|  | <u>ROG</u>   | <u>NOx</u>   | <u>CO</u>    | <u>SO2</u>  | <u>PM10 Dust</u> | <u>PM10 Exhaust</u> | <u>PM10</u>  | <u>PM2.5 Dust</u> | <u>PM2.5 Exhaust</u> | <u>PM2.5</u> | <u>CO2</u>      |
|--|--------------|--------------|--------------|-------------|------------------|---------------------|--------------|-------------------|----------------------|--------------|-----------------|
| Time Slice 7/1/2009-12/31/2009<br>Active Days: 132 | <u>3.22</u>  | <u>26.53</u> | <u>14.23</u> | <u>0.00</u> | <u>24.40</u>     | <u>1.34</u>         | <u>25.74</u> | <u>5.10</u>       | <u>1.23</u>          | <u>6.33</u>  | <u>2,349.17</u> |
| Fine Grading 07/01/2009-12/31/2009                 | 3.22         | 26.53        | 14.23        | 0.00        | 24.40            | 1.34                | 25.74        | 5.10              | 1.23                 | 6.33         | 2,349.17        |
| Fine Grading Dust                                  | 0.00         | 0.00         | 0.00         | 0.00        | 24.40            | 0.00                | 24.40        | 5.10              | 0.00                 | 5.10         | 0.00            |
| Fine Grading Off Road Diesel                       | 3.18         | 26.46        | 12.98        | 0.00        | 0.00             | 1.33                | 1.33         | 0.00              | 1.23                 | 1.23         | 2,247.32        |
| Fine Grading On Road Diesel                        | 0.00         | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 0.00            |
| Fine Grading Worker Trips                          | 0.04         | 0.07         | 1.25         | 0.00        | 0.00             | 0.00                | 0.01         | 0.00              | 0.00                 | 0.00         | 101.85          |
| Time Slice 1/1/2010-12/31/2010<br>Active Days: 261 | <u>4.30</u>  | <u>19.16</u> | <u>28.38</u> | <u>0.02</u> | <u>0.08</u>      | <u>1.29</u>         | <u>1.37</u>  | <u>0.03</u>       | <u>1.18</u>          | <u>1.21</u>  | <u>3,354.34</u> |
| Building 01/01/2010-12/31/2010                     | 4.30         | 19.16        | 28.38        | 0.02        | 0.08             | 1.29                | 1.37         | 0.03              | 1.18                 | 1.21         | 3,354.34        |
| Building Off Road Diesel                           | 3.65         | 16.55        | 11.20        | 0.00        | 0.00             | 1.19                | 1.19         | 0.00              | 1.10                 | 1.10         | 1,621.20        |
| Building Vendor Trips                              | 0.13         | 1.72         | 1.38         | 0.00        | 0.01             | 0.06                | 0.08         | 0.00              | 0.06                 | 0.06         | 343.89          |
| Building Worker Trips                              | 0.52         | 0.89         | 15.79        | 0.01        | 0.07             | 0.04                | 0.10         | 0.02              | 0.03                 | 0.05         | 1,389.26        |
| Time Slice 1/3/2011-6/30/2011<br>Active Days: 104  | <u>43.47</u> | 0.03         | 0.54         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 51.72           |
| Coating 01/01/2011-06/30/2011                      | 43.47        | 0.03         | 0.54         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 51.72           |
| Architectural Coating                              | 43.45        | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 0.00            |
| Coating Worker Trips                               | 0.02         | 0.03         | 0.54         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 51.72           |
| Time Slice 7/1/2011-12/30/2011<br>Active Days: 131 | 2.60         | <u>15.41</u> | <u>11.26</u> | <u>0.00</u> | <u>0.01</u>      | <u>1.34</u>         | <u>1.35</u>  | <u>0.00</u>       | <u>1.23</u>          | <u>1.23</u>  | <u>1,498.22</u> |
| Asphalt 07/01/2011-12/31/2011                      | 2.60         | 15.41        | 11.26        | 0.00        | 0.01             | 1.34                | 1.35         | 0.00              | 1.23                 | 1.23         | 1,498.22        |
| Paving Off-Gas                                     | 0.05         | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 0.00            |
| Paving Off Road Diesel                             | 2.48         | 15.15        | 9.07         | 0.00        | 0.00             | 1.33                | 1.33         | 0.00              | 1.22                 | 1.22         | 1,272.04        |
| Paving On Road Diesel                              | 0.01         | 0.14         | 0.05         | 0.00        | 0.00             | 0.01                | 0.01         | 0.00              | 0.00                 | 0.00         | 22.23           |
| Paving Worker Trips                                | 0.07         | 0.12         | 2.14         | 0.00        | 0.01             | 0.01                | 0.02         | 0.00              | 0.00                 | 0.01         | 203.95          |

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Phase Assumptions

Phase: Fine Grading 7/1/2009 - 12/31/2009 - Default Fine Site Grading Description

Total Acres Disturbed: 9.78

Maximum Daily Acreage Disturbed: 2.44

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 7/1/2011 - 12/31/2011 - Default Paving Description

Acres to be Paved: 2.44

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 1/1/2010 - 12/31/2010 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

10/22/2008 2:08:31 PM

Phase: Architectural Coating 1/1/2011 - 6/30/2011 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

|  | <u>ROG</u>  | <u>NOx</u>   | <u>CO</u>    | <u>SO2</u>  | <u>PM10 Dust</u> | <u>PM10 Exhaust</u> | <u>PM10</u> | <u>PM2.5 Dust</u> | <u>PM2.5 Exhaust</u> | <u>PM2.5</u> | <u>CO2</u>      |
|--|-------------|--------------|--------------|-------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|-----------------|
| Time Slice 7/1/2009-12/31/2009<br>Active Days: 132 | <u>3.22</u> | <u>22.56</u> | <u>14.23</u> | <u>0.00</u> | <u>2.27</u>      | <u>0.20</u>         | <u>2.47</u> | <u>0.47</u>       | <u>0.19</u>          | <u>0.66</u>  | <u>2,349.17</u> |
| Fine Grading 07/01/2009-12/31/2009                 | 3.22        | 22.56        | 14.23        | 0.00        | 2.27             | 0.20                | 2.47        | 0.47              | 0.19                 | 0.66         | 2,349.17        |
| Fine Grading Dust                                  | 0.00        | 0.00         | 0.00         | 0.00        | 2.26             | 0.00                | 2.26        | 0.47              | 0.00                 | 0.47         | 0.00            |
| Fine Grading Off Road Diesel                       | 3.18        | 22.49        | 12.98        | 0.00        | 0.00             | 0.20                | 0.20        | 0.00              | 0.18                 | 0.18         | 2,247.32        |
| Fine Grading On Road Diesel                        | 0.00        | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00        | 0.00              | 0.00                 | 0.00         | 0.00            |
| Fine Grading Worker Trips                          | 0.04        | 0.07         | 1.25         | 0.00        | 0.00             | 0.00                | 0.01        | 0.00              | 0.00                 | 0.00         | 101.85          |
| Time Slice 1/1/2010-12/31/2010<br>Active Days: 261 | <u>4.30</u> | <u>17.11</u> | <u>28.38</u> | <u>0.02</u> | <u>0.08</u>      | <u>0.53</u>         | <u>0.61</u> | <u>0.03</u>       | <u>0.49</u>          | <u>0.52</u>  | <u>3,354.34</u> |
| Building 01/01/2010-12/31/2010                     | 4.30        | 17.11        | 28.38        | 0.02        | 0.08             | 0.53                | 0.61        | 0.03              | 0.49                 | 0.52         | 3,354.34        |
| Building Off Road Diesel                           | 3.65        | 14.49        | 11.20        | 0.00        | 0.00             | 0.43                | 0.43        | 0.00              | 0.40                 | 0.40         | 1,621.20        |
| Building Vendor Trips                              | 0.13        | 1.72         | 1.38         | 0.00        | 0.01             | 0.06                | 0.08        | 0.00              | 0.06                 | 0.06         | 343.89          |
| Building Worker Trips                              | 0.52        | 0.89         | 15.79        | 0.01        | 0.07             | 0.04                | 0.10        | 0.02              | 0.03                 | 0.05         | 1,389.26        |

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|  |              |              |              |             |             |             |             |             |             |             |                 |
|--|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|
| Time Slice 1/3/2011-6/30/2011<br>Active Days: 104  | <u>39.13</u> | 0.03         | 0.54         | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 51.72           |
| Coating 01/01/2011-06/30/2011                      | 39.13        | 0.03         | 0.54         | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 51.72           |
| Architectural Coating                              | 39.11        | 0.00         | 0.00         | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00            |
| Coating Worker Trips                               | 0.02         | 0.03         | 0.54         | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 51.72           |
| Time Slice 7/1/2011-12/30/2011<br>Active Days: 131 | 2.60         | <u>13.14</u> | <u>11.26</u> | <u>0.00</u> | <u>0.01</u> | <u>0.21</u> | <u>0.22</u> | <u>0.00</u> | <u>0.19</u> | <u>0.20</u> | <u>1,498.22</u> |
| Asphalt 07/01/2011-12/31/2011                      | 2.60         | 13.14        | 11.26        | 0.00        | 0.01        | 0.21        | 0.22        | 0.00        | 0.19        | 0.20        | 1,498.22        |
| Paving Off-Gas                                     | 0.05         | 0.00         | 0.00         | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00            |
| Paving Off Road Diesel                             | 2.48         | 12.88        | 9.07         | 0.00        | 0.00        | 0.20        | 0.20        | 0.00        | 0.18        | 0.18        | 1,272.04        |
| Paving On Road Diesel                              | 0.01         | 0.14         | 0.05         | 0.00        | 0.00        | 0.01        | 0.01        | 0.00        | 0.00        | 0.00        | 22.23           |
| Paving Worker Trips                                | 0.07         | 0.12         | 2.14         | 0.00        | 0.01        | 0.01        | 0.02        | 0.00        | 0.00        | 0.01        | 203.95          |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 7/1/2009 - 12/31/2009 - Default Fine Site Grading Description

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

Page: 6

**10/22/2008 2:08:31 PM**

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Paving 7/1/2011 - 12/31/2011 - Default Paving Description

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

Page: 7

**10/22/2008 2:08:31 PM**

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 1/1/2010 - 12/31/2010 - Default Building Construction Description

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Generator Sets, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Generator Sets, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 1/1/2011 - 6/30/2011 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name:

Project Name: Mission College

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

|                               | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10</u> | <u>PM2.5</u> | <u>CO2</u> |
|-------------------------------|------------|------------|-----------|------------|-------------|--------------|------------|
| TOTALS (lbs/day, unmitigated) | 3.17       | 4.51       | 5.32      | 0.00       | 0.02        | 0.02         | 5,387.53   |

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

|                               | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10</u> | <u>PM2.5</u> | <u>CO2</u> |
|-------------------------------|------------|------------|-----------|------------|-------------|--------------|------------|
| TOTALS (lbs/day, unmitigated) | 12.14      | 9.94       | 117.37    | 0.27       | 48.80       | 9.20         | 27,393.94  |

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

|                               | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10</u> | <u>PM2.5</u> | <u>CO2</u> |
|-------------------------------|------------|------------|-----------|------------|-------------|--------------|------------|
| TOTALS (lbs/day, unmitigated) | 15.31      | 14.45      | 122.69    | 0.27       | 48.82       | 9.22         | 32,781.47  |

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| <u>Source</u>                 | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10</u> | <u>PM2.5</u> | <u>CO2</u> |
|-------------------------------|------------|------------|-----------|------------|-------------|--------------|------------|
| Natural Gas                   | 0.33       | 4.49       | 3.77      | 0.00       | 0.01        | 0.01         | 5,384.72   |
| Hearth - No Summer Emissions  |            |            |           |            |             |              |            |
| Landscape                     | 0.12       | 0.02       | 1.55      | 0.00       | 0.01        | 0.01         | 2.81       |
| Consumer Products             | 0.00       |            |           |            |             |              |            |
| Architectural Coatings        | 2.72       |            |           |            |             |              |            |
| TOTALS (lbs/day, unmitigated) | 3.17       | 4.51       | 5.32      | 0.00       | 0.02        | 0.02         | 5,387.53   |

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

| <u>Source</u>                 | <u>ROG</u> | <u>NOX</u> | <u>CO</u> | <u>SO2</u> | <u>PM10</u> | <u>PM25</u> | <u>CO2</u> |
|-------------------------------|------------|------------|-----------|------------|-------------|-------------|------------|
| Junior college (2 yrs)        | 12.14      | 9.94       | 117.37    | 0.27       | 48.80       | 9.20        | 27,393.94  |
| TOTALS (lbs/day, unmitigated) | 12.14      | 9.94       | 117.37    | 0.27       | 48.80       | 9.20        | 27,393.94  |

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

| Land Use Type          | Acreage | Trip Rate | Unit Type  | No. Units | Total Trips | Total VMT |
|------------------------|---------|-----------|------------|-----------|-------------|-----------|
| Junior college (2 yrs) |         | 8.23      | 1000 sq ft | 464.20    | 3,820.37    | 28,490.38 |
|                        |         |           |            |           | 3,820.37    | 28,490.38 |

Vehicle Fleet Mix

| Vehicle Type                        | Percent Type | Non-Catalyst | Catalyst | Diesel |
|-------------------------------------|--------------|--------------|----------|--------|
| Light Auto                          | 54.0         | 0.0          | 100.0    | 0.0    |
| Light Truck < 3750 lbs              | 12.6         | 0.0          | 99.2     | 0.8    |
| Light Truck 3751-5750 lbs           | 19.9         | 0.0          | 100.0    | 0.0    |
| Med Truck 5751-8500 lbs             | 6.6          | 0.0          | 100.0    | 0.0    |
| Lite-Heavy Truck 8501-10,000 lbs    | 0.9          | 0.0          | 77.8     | 22.2   |
| Lite-Heavy Truck 10,001-14,000 lbs  | 0.6          | 0.0          | 50.0     | 50.0   |
| Med-Heavy Truck 14,001-33,000 lbs   | 1.0          | 0.0          | 20.0     | 80.0   |
| Heavy-Heavy Truck 33,001-60,000 lbs | 0.3          | 0.0          | 0.0      | 100.0  |
| Other Bus                           | 0.1          | 0.0          | 0.0      | 100.0  |
| Urban Bus                           | 0.1          | 0.0          | 0.0      | 100.0  |
| Motorcycle                          | 3.2          | 34.4         | 65.6     | 0.0    |
| School Bus                          | 0.1          | 0.0          | 0.0      | 100.0  |
| Motor Home                          | 0.6          | 0.0          | 83.3     | 16.7   |

Travel Conditions

|                           | Residential |           |            | Commuter | Commercial |          |
|---------------------------|-------------|-----------|------------|----------|------------|----------|
|                           | Home-Work   | Home-Shop | Home-Other |          | Non-Work   | Customer |
| Urban Trip Length (miles) | 10.8        | 7.3       | 7.5        | 9.5      | 7.4        | 7.4      |

Travel Conditions

|                                       | Residential |           |            | Commercial |          |          |
|---------------------------------------|-------------|-----------|------------|------------|----------|----------|
|                                       | Home-Work   | Home-Shop | Home-Other | Commute    | Non-Work | Customer |
| Rural Trip Length (miles)             | 16.8        | 7.1       | 7.9        | 14.7       | 6.6      | 6.6      |
| Trip speeds (mph)                     | 35.0        | 35.0      | 35.0       | 35.0       | 35.0     | 35.0     |
| % of Trips - Residential              | 32.9        | 18.0      | 49.1       |            |          |          |
| % of Trips - Commercial (by land use) |             |           |            |            |          |          |
| Junior college (2 yrs)                |             |           |            | 5.0        | 2.5      | 92.5     |

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\Sara Gerrick\Application Data\Urbemis\Version9a\Projects\Mission College Construction Phase 2 2013.urb924

Project Name: Mission College Phase 2 2013

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

|                                   | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10 Dust</u> | <u>PM10 Exhaust</u> | <u>PM10</u> | <u>PM2.5 Dust</u> | <u>PM2.5 Exhaust</u> | <u>PM2.5</u> | <u>CO2</u> |
|-----------------------------------|------------|------------|-----------|------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|------------|
| 2013 TOTALS (lbs/day unmitigated) | 3.31       | 40.95      | 16.90     | 0.07       | 52.67            | 1.68                | 54.34       | 10.98             | 1.54                 | 12.53        | 7,780.81   |
| 2013 TOTALS (lbs/day mitigated)   | 3.31       | 40.00      | 16.90     | 0.07       | 52.67            | 1.30                | 53.97       | 10.98             | 1.20                 | 12.18        | 7,780.81   |
| 2014 TOTALS (lbs/day unmitigated) | 2.44       | 19.12      | 11.57     | 0.00       | 6.10             | 0.89                | 6.99        | 1.28              | 0.82                 | 2.09         | 2,349.46   |
| 2014 TOTALS (lbs/day mitigated)   | 2.44       | 19.12      | 11.57     | 0.00       | 6.10             | 0.89                | 6.99        | 1.28              | 0.82                 | 2.09         | 2,349.46   |
| 2015 TOTALS (lbs/day unmitigated) | 0.93       | 6.44       | 7.18      | 0.00       | 0.02             | 0.37                | 0.39        | 0.01              | 0.34                 | 0.34         | 1,325.59   |
| 2015 TOTALS (lbs/day mitigated)   | 0.93       | 5.53       | 7.18      | 0.00       | 0.02             | 0.07                | 0.09        | 0.01              | 0.06                 | 0.07         | 1,325.59   |
| 2016 TOTALS (lbs/day unmitigated) | 8.74       | 8.41       | 7.90      | 0.00       | 0.01             | 0.64                | 0.65        | 0.00              | 0.59                 | 0.59         | 1,163.65   |
| 2016 TOTALS (lbs/day mitigated)   | 7.86       | 7.16       | 7.90      | 0.00       | 0.01             | 0.10                | 0.11        | 0.00              | 0.09                 | 0.09         | 1,163.65   |

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

|  | <u>ROG</u>  | <u>NOx</u>   | <u>CO</u>    | <u>SO2</u>  | <u>PM10 Dust</u> | <u>PM10 Exhaust</u> | <u>PM10</u>  | <u>PM2.5 Dust</u> | <u>PM2.5 Exhaust</u> | <u>PM2.5</u> | <u>CO2</u>      |
|--|-------------|--------------|--------------|-------------|------------------|---------------------|--------------|-------------------|----------------------|--------------|-----------------|
| Time Slice 7/1/2013-12/31/2013<br>Active Days: 132 | <u>3.31</u> | <u>40.95</u> | <u>16.90</u> | <u>0.07</u> | <u>52.67</u>     | <u>1.68</u>         | <u>54.34</u> | <u>10.98</u>      | <u>1.54</u>          | <u>12.53</u> | <u>7,780.81</u> |
| Demolition 07/01/2013-12/31/2013                   | 3.31        | 40.95        | 16.90        | 0.07        | 52.67            | 1.68                | 54.34        | 10.98             | 1.54                 | 12.53        | 7,780.81        |
| Fugitive Dust                                      | 0.00        | 0.00         | 0.00         | 0.00        | 52.42            | 0.00                | 52.42        | 10.90             | 0.00                 | 10.90        | 0.00            |
| Demo Off Road Diesel                               | 0.91        | 6.35         | 4.40         | 0.00        | 0.00             | 0.44                | 0.44         | 0.00              | 0.41                 | 0.41         | 700.30          |
| Demo On Road Diesel                                | 2.36        | 34.56        | 11.59        | 0.06        | 0.24             | 1.23                | 1.48         | 0.08              | 1.13                 | 1.21         | 6,978.42        |
| Demo Worker Trips                                  | 0.03        | 0.05         | 0.91         | 0.00        | 0.00             | 0.00                | 0.01         | 0.00              | 0.00                 | 0.00         | 102.09          |
| Time Slice 1/1/2014-12/31/2014<br>Active Days: 261 | <u>2.44</u> | <u>19.12</u> | <u>11.57</u> | <u>0.00</u> | <u>6.10</u>      | <u>0.89</u>         | <u>6.99</u>  | <u>1.28</u>       | <u>0.82</u>          | <u>2.09</u>  | <u>2,349.46</u> |
| Fine Grading 01/01/2014-12/31/2014                 | 2.44        | 19.12        | 11.57        | 0.00        | 6.10             | 0.89                | 6.99         | 1.28              | 0.82                 | 2.09         | 2,349.46        |
| Fine Grading Dust                                  | 0.00        | 0.00         | 0.00         | 0.00        | 6.10             | 0.00                | 6.10         | 1.27              | 0.00                 | 1.27         | 0.00            |
| Fine Grading Off Road Diesel                       | 2.41        | 19.08        | 10.74        | 0.00        | 0.00             | 0.89                | 0.89         | 0.00              | 0.82                 | 0.82         | 2,247.32        |
| Fine Grading On Road Diesel                        | 0.00        | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 0.00            |
| Fine Grading Worker Trips                          | 0.03        | 0.04         | 0.84         | 0.00        | 0.00             | 0.00                | 0.01         | 0.00              | 0.00                 | 0.00         | 102.14          |
| Time Slice 1/1/2015-12/31/2015<br>Active Days: 261 | <u>0.93</u> | <u>6.44</u>  | <u>7.18</u>  | <u>0.00</u> | <u>0.02</u>      | <u>0.37</u>         | <u>0.39</u>  | <u>0.01</u>       | <u>0.34</u>          | <u>0.34</u>  | <u>1,325.59</u> |
| Building 01/01/2015-12/31/2015                     | 0.93        | 6.44         | 7.18         | 0.00        | 0.02             | 0.37                | 0.39         | 0.01              | 0.34                 | 0.34         | 1,325.59        |
| Building Off Road Diesel                           | 0.83        | 6.06         | 4.31         | 0.00        | 0.00             | 0.35                | 0.35         | 0.00              | 0.32                 | 0.32         | 893.39          |
| Building Vendor Trips                              | 0.02        | 0.24         | 0.25         | 0.00        | 0.00             | 0.01                | 0.01         | 0.00              | 0.01                 | 0.01         | 85.59           |
| Building Worker Trips                              | 0.08        | 0.14         | 2.62         | 0.00        | 0.02             | 0.01                | 0.03         | 0.01              | 0.01                 | 0.01         | 346.61          |

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|                                |             |             |             |             |             |             |             |             |             |             |                 |
|--------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|
| Time Slice 1/1/2016-6/30/2016  | <u>8.74</u> | 0.00        | 0.07        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 10.42           |
| Active Days: 130               |             |             |             |             |             |             |             |             |             |             |                 |
| Coating 01/01/2016-06/30/2016  | 8.74        | 0.00        | 0.07        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 10.42           |
| Architectural Coating          | 8.73        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00            |
| Coating Worker Trips           | 0.00        | 0.00        | 0.07        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 10.42           |
| Time Slice 7/1/2016-12/30/2016 | 1.37        | <u>8.41</u> | <u>7.90</u> | <u>0.00</u> | <u>0.01</u> | <u>0.64</u> | <u>0.65</u> | <u>0.00</u> | <u>0.59</u> | <u>0.59</u> | <u>1,163.65</u> |
| Active Days: 131               |             |             |             |             |             |             |             |             |             |             |                 |
| Asphalt 07/01/2016-12/31/2016  | 1.37        | 8.41        | 7.90        | 0.00        | 0.01        | 0.64        | 0.65        | 0.00        | 0.59        | 0.59        | 1,163.65        |
| Paving Off-Gas                 | 0.01        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00            |
| Paving Off Road Diesel         | 1.32        | 8.33        | 6.64        | 0.00        | 0.00        | 0.63        | 0.63        | 0.00        | 0.58        | 0.58        | 979.23          |
| Paving On Road Diesel          | 0.00        | 0.02        | 0.01        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 5.56            |
| Paving Worker Trips            | 0.04        | 0.07        | 1.25        | 0.00        | 0.01        | 0.00        | 0.01        | 0.00        | 0.00        | 0.01        | 178.87          |

Phase Assumptions

Phase: Demolition 7/1/2013 - 12/31/2013 - Type Your Description Here  
 Building Volume Total (cubic feet): 1.47E+07  
 Building Volume Daily (cubic feet): 124800  
 On Road Truck Travel (VMT): 1733.33  
 Off-Road Equipment:  
 1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day  
 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day  
 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 1/1/2014 - 12/31/2014 - Default Fine Site Grading Description  
 Total Acres Disturbed: 2.43  
 Maximum Daily Acreage Disturbed: 0.61  
 Fugitive Dust Level of Detail: Default  
 10 lbs per acre-day  
 On Road Truck Travel (VMT): 0

Page: 4

**10/22/2008 1:14:53 PM**

Off-Road Equipment:

- 1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
- 1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 7/1/2016 - 12/31/2016 - Default Paving Description

Acres to be Paved: 0.61

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 1/1/2015 - 12/31/2015 - Default Building Construction Description

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 1/1/2016 - 6/30/2016 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated



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|  |      |             |             |             |             |             |             |             |             |             |                 |
|--|------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|
| Time Slice 7/1/2016-12/30/2016<br>Active Days: 131 | 1.37 | <u>7.16</u> | <u>7.90</u> | <u>0.00</u> | <u>0.01</u> | <u>0.10</u> | <u>0.11</u> | <u>0.00</u> | <u>0.09</u> | <u>0.09</u> | <u>1,163.65</u> |
| Asphalt 07/01/2016-12/31/2016                      | 1.37 | 7.16        | 7.90        | 0.00        | 0.01        | 0.10        | 0.11        | 0.00        | 0.09        | 0.09        | 1,163.65        |
| Paving Off-Gas                                     | 0.01 | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00            |
| Paving Off Road Diesel                             | 1.32 | 7.08        | 6.64        | 0.00        | 0.00        | 0.09        | 0.09        | 0.00        | 0.09        | 0.09        | 979.23          |
| Paving On Road Diesel                              | 0.00 | 0.02        | 0.01        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 5.56            |
| Paving Worker Trips                                | 0.04 | 0.07        | 1.25        | 0.00        | 0.01        | 0.00        | 0.01        | 0.00        | 0.00        | 0.01        | 178.87          |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Demolition 7/1/2013 - 12/31/2013 - Type Your Description Here

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Paving 7/1/2016 - 12/31/2016 - Default Paving Description

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

Page: 7

**10/22/2008 1:14:53 PM**

For Pavers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 1/1/2015 - 12/31/2015 - Default Building Construction Description

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 1/1/2016 - 6/30/2016 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Page: 8

**10/22/2008 1:14:53 PM**

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name:

Project Name: Mission College Construction Phase 3 2017

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

|                                   | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10 Dust</u> | <u>PM10 Exhaust</u> | <u>PM10</u> | <u>PM2.5 Dust</u> | <u>PM2.5 Exhaust</u> | <u>PM2.5</u> | <u>CO2</u> |
|-----------------------------------|------------|------------|-----------|------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|------------|
| 2017 TOTALS (lbs/day unmitigated) | 2.05       | 14.72      | 10.46     | 0.00       | 13.10            | 0.68                | 13.78       | 2.74              | 0.62                 | 3.36         | 2,349.55   |
| 2017 TOTALS (lbs/day mitigated)   | 2.05       | 12.52      | 10.46     | 0.00       | 1.22             | 0.10                | 1.32        | 0.26              | 0.10                 | 0.35         | 2,349.55   |
| 2018 TOTALS (lbs/day unmitigated) | 1.95       | 10.25      | 13.89     | 0.01       | 0.04             | 0.56                | 0.60        | 0.02              | 0.51                 | 0.53         | 2,551.37   |
| 2018 TOTALS (lbs/day mitigated)   | 1.95       | 9.14       | 13.89     | 0.01       | 0.04             | 0.24                | 0.28        | 0.02              | 0.22                 | 0.23         | 2,551.37   |
| 2019 TOTALS (lbs/day unmitigated) | 18.93      | 9.37       | 9.70      | 0.00       | 0.01             | 0.67                | 0.68        | 0.00              | 0.62                 | 0.62         | 1,488.42   |
| 2019 TOTALS (lbs/day mitigated)   | 17.04      | 8.20       | 9.70      | 0.00       | 0.01             | 0.18                | 0.19        | 0.00              | 0.16                 | 0.16         | 1,488.42   |

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

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|  | <u>ROG</u>   | <u>NOx</u>   | <u>CO</u>    | <u>SO2</u>  | <u>PM10 Dust</u> | <u>PM10 Exhaust</u> | <u>PM10</u>  | <u>PM2.5 Dust</u> | <u>PM2.5 Exhaust</u> | <u>PM2.5</u> | <u>CO2</u>      |
|--|--------------|--------------|--------------|-------------|------------------|---------------------|--------------|-------------------|----------------------|--------------|-----------------|
| Time Slice 6/1/2017-12/29/2017<br>Active Days: 152 | <u>2.05</u>  | <u>14.72</u> | <u>10.46</u> | <u>0.00</u> | <u>13.10</u>     | <u>0.68</u>         | <u>13.78</u> | <u>2.74</u>       | <u>0.62</u>          | <u>3.36</u>  | <u>2,349.55</u> |
| Fine Grading 06/01/2017-12/31/2017                 | 2.05         | 14.72        | 10.46        | 0.00        | 13.10            | 0.68                | 13.78        | 2.74              | 0.62                 | 3.36         | 2,349.55        |
| Fine Grading Dust                                  | 0.00         | 0.00         | 0.00         | 0.00        | 13.10            | 0.00                | 13.10        | 2.74              | 0.00                 | 2.74         | 0.00            |
| Fine Grading Off Road Diesel                       | 2.03         | 14.69        | 9.80         | 0.00        | 0.00             | 0.68                | 0.68         | 0.00              | 0.62                 | 0.62         | 2,247.32        |
| Fine Grading On Road Diesel                        | 0.00         | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 0.00            |
| Fine Grading Worker Trips                          | 0.02         | 0.03         | 0.66         | 0.00        | 0.00             | 0.00                | 0.01         | 0.00              | 0.00                 | 0.00         | 102.23          |
| Time Slice 1/1/2018-12/31/2018<br>Active Days: 261 | <u>1.95</u>  | <u>10.25</u> | <u>13.89</u> | <u>0.01</u> | <u>0.04</u>      | <u>0.56</u>         | <u>0.60</u>  | <u>0.02</u>       | <u>0.51</u>          | <u>0.53</u>  | <u>2,551.37</u> |
| Building 01/01/2018-12/31/2018                     | 1.95         | 10.25        | 13.89        | 0.01        | 0.04             | 0.56                | 0.60         | 0.02              | 0.51                 | 0.53         | 2,551.37        |
| Building Off Road Diesel                           | 1.78         | 9.66         | 9.01         | 0.00        | 0.00             | 0.52                | 0.52         | 0.00              | 0.48                 | 0.48         | 1,621.20        |
| Building Vendor Trips                              | 0.04         | 0.37         | 0.44         | 0.00        | 0.01             | 0.01                | 0.02         | 0.00              | 0.01                 | 0.02         | 184.14          |
| Building Worker Trips                              | 0.13         | 0.23         | 4.44         | 0.01        | 0.04             | 0.02                | 0.06         | 0.01              | 0.02                 | 0.03         | 746.03          |
| Time Slice 1/1/2019-6/28/2019<br>Active Days: 129  | <u>18.93</u> | <u>0.01</u>  | <u>0.12</u>  | <u>0.00</u> | <u>0.00</u>      | <u>0.00</u>         | <u>0.00</u>  | <u>0.00</u>       | <u>0.00</u>          | <u>0.00</u>  | <u>22.59</u>    |
| Coating 01/01/2019-06/30/2019                      | 18.93        | 0.01         | 0.12         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 22.59           |
| Architectural Coating                              | 18.93        | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 0.00            |
| Coating Worker Trips                               | 0.00         | 0.01         | 0.12         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 22.59           |
| Time Slice 7/1/2019-12/31/2019<br>Active Days: 132 | <u>1.54</u>  | <u>9.37</u>  | <u>9.70</u>  | <u>0.00</u> | <u>0.01</u>      | <u>0.67</u>         | <u>0.68</u>  | <u>0.00</u>       | <u>0.62</u>          | <u>0.62</u>  | <u>1,488.42</u> |
| Asphalt 07/01/2019-12/31/2019                      | 1.54         | 9.37         | 9.70         | 0.00        | 0.01             | 0.67                | 0.68         | 0.00              | 0.62                 | 0.62         | 1,488.42        |
| Paving Off-Gas                                     | 0.03         | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 0.00            |
| Paving Off Road Diesel                             | 1.48         | 9.28         | 8.57         | 0.00        | 0.00             | 0.66                | 0.66         | 0.00              | 0.61                 | 0.61         | 1,272.04        |
| Paving On Road Diesel                              | 0.00         | 0.03         | 0.01         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 11.84           |
| Paving Worker Trips                                | 0.03         | 0.06         | 1.13         | 0.00        | 0.01             | 0.01                | 0.02         | 0.00              | 0.00                 | 0.01         | 204.54          |

Phase Assumptions

Phase: Fine Grading 6/1/2017 - 12/31/2017 - Default Fine Site Grading Description

Total Acres Disturbed: 5.23

Maximum Daily Acreage Disturbed: 1.31

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 7/1/2019 - 12/31/2019 - Default Paving Description

Acres to be Paved: 1.31

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 1/1/2018 - 12/31/2018 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

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Phase: Architectural Coating 1/1/2019 - 6/30/2019 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

|  | <u>ROG</u>  | <u>NOx</u>   | <u>CO</u>    | <u>SO2</u>  | <u>PM10 Dust</u> | <u>PM10 Exhaust</u> | <u>PM10</u> | <u>PM2.5 Dust</u> | <u>PM2.5 Exhaust</u> | <u>PM2.5</u> | <u>CO2</u>      |
|--|-------------|--------------|--------------|-------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|-----------------|
| Time Slice 6/1/2017-12/29/2017<br>Active Days: 152 | <u>2.05</u> | <u>12.52</u> | <u>10.46</u> | <u>0.00</u> | <u>1.22</u>      | <u>0.10</u>         | <u>1.32</u> | <u>0.26</u>       | <u>0.10</u>          | <u>0.35</u>  | <u>2,349.55</u> |
| Fine Grading 06/01/2017-12/31/2017                 | 2.05        | 12.52        | 10.46        | 0.00        | 1.22             | 0.10                | 1.32        | 0.26              | 0.10                 | 0.35         | 2,349.55        |
| Fine Grading Dust                                  | 0.00        | 0.00         | 0.00         | 0.00        | 1.21             | 0.00                | 1.21        | 0.25              | 0.00                 | 0.25         | 0.00            |
| Fine Grading Off Road Diesel                       | 2.03        | 12.48        | 9.80         | 0.00        | 0.00             | 0.10                | 0.10        | 0.00              | 0.09                 | 0.09         | 2,247.32        |
| Fine Grading On Road Diesel                        | 0.00        | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00        | 0.00              | 0.00                 | 0.00         | 0.00            |
| Fine Grading Worker Trips                          | 0.02        | 0.03         | 0.66         | 0.00        | 0.00             | 0.00                | 0.01        | 0.00              | 0.00                 | 0.00         | 102.23          |
| Time Slice 1/1/2018-12/31/2018<br>Active Days: 261 | <u>1.95</u> | <u>9.14</u>  | <u>13.89</u> | <u>0.01</u> | <u>0.04</u>      | <u>0.24</u>         | <u>0.28</u> | <u>0.02</u>       | <u>0.22</u>          | <u>0.23</u>  | <u>2,551.37</u> |
| Building 01/01/2018-12/31/2018                     | 1.95        | 9.14         | 13.89        | 0.01        | 0.04             | 0.24                | 0.28        | 0.02              | 0.22                 | 0.23         | 2,551.37        |
| Building Off Road Diesel                           | 1.78        | 8.54         | 9.01         | 0.00        | 0.00             | 0.21                | 0.21        | 0.00              | 0.19                 | 0.19         | 1,621.20        |
| Building Vendor Trips                              | 0.04        | 0.37         | 0.44         | 0.00        | 0.01             | 0.01                | 0.02        | 0.00              | 0.01                 | 0.02         | 184.14          |
| Building Worker Trips                              | 0.13        | 0.23         | 4.44         | 0.01        | 0.04             | 0.02                | 0.06        | 0.01              | 0.02                 | 0.03         | 746.03          |

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|                                |              |             |             |             |             |             |             |             |             |             |                 |
|--------------------------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|
| Time Slice 1/1/2019-6/28/2019  | <u>17.04</u> | 0.01        | 0.12        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 22.59           |
| Active Days: 129               |              |             |             |             |             |             |             |             |             |             |                 |
| Coating 01/01/2019-06/30/2019  | 17.04        | 0.01        | 0.12        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 22.59           |
| Architectural Coating          | 17.04        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00            |
| Coating Worker Trips           | 0.00         | 0.01        | 0.12        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 22.59           |
| Time Slice 7/1/2019-12/31/2019 | 1.54         | <u>8.20</u> | <u>9.70</u> | <u>0.00</u> | <u>0.01</u> | <u>0.18</u> | <u>0.19</u> | <u>0.00</u> | <u>0.16</u> | <u>0.16</u> | <u>1,488.42</u> |
| Active Days: 132               |              |             |             |             |             |             |             |             |             |             |                 |
| Asphalt 07/01/2019-12/31/2019  | 1.54         | 8.20        | 9.70        | 0.00        | 0.01        | 0.18        | 0.19        | 0.00        | 0.16        | 0.16        | 1,488.42        |
| Paving Off-Gas                 | 0.03         | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00            |
| Paving Off Road Diesel         | 1.48         | 8.11        | 8.57        | 0.00        | 0.00        | 0.17        | 0.17        | 0.00        | 0.16        | 0.16        | 1,272.04        |
| Paving On Road Diesel          | 0.00         | 0.03        | 0.01        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 11.84           |
| Paving Worker Trips            | 0.03         | 0.06        | 1.13        | 0.00        | 0.01        | 0.01        | 0.02        | 0.00        | 0.00        | 0.01        | 204.54          |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/1/2017 - 12/31/2017 - Default Fine Site Grading Description

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

**10/21/2008 1:54:17 PM**

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Paving 7/1/2019 - 12/31/2019 - Default Paving Description

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 1/1/2018 - 12/31/2018 - Default Building Construction Description

Page: 7

**10/21/2008 1:54:17 PM**

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Generator Sets, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Generator Sets, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 1/1/2019 - 6/30/2019 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name:

Project Name: Mission College Construction Phase 4 2021

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

|                                   | <u>ROG</u> | <u>NOx</u> | <u>CO</u> | <u>SO2</u> | <u>PM10 Dust</u> | <u>PM10 Exhaust</u> | <u>PM10</u> | <u>PM2.5 Dust</u> | <u>PM2.5 Exhaust</u> | <u>PM2.5</u> | <u>CO2</u> |
|-----------------------------------|------------|------------|-----------|------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|------------|
| 2021 TOTALS (lbs/day unmitigated) | 1.68       | 11.17      | 9.52      | 0.00       | 10.30            | 0.49                | 10.79       | 2.15              | 0.45                 | 2.60         | 2,349.67   |
| 2021 TOTALS (lbs/day mitigated)   | 1.68       | 9.50       | 9.52      | 0.00       | 0.96             | 0.08                | 1.04        | 0.20              | 0.07                 | 0.27         | 2,349.67   |
| 2022 TOTALS (lbs/day unmitigated) | 1.53       | 8.62       | 11.02     | 0.01       | 0.03             | 0.41                | 0.45        | 0.01              | 0.38                 | 0.39         | 2,356.17   |
| 2022 TOTALS (lbs/day mitigated)   | 1.53       | 7.68       | 11.02     | 0.01       | 0.03             | 0.18                | 0.21        | 0.01              | 0.16                 | 0.18         | 2,356.17   |
| 2023 TOTALS (lbs/day unmitigated) | 14.72      | 8.75       | 9.26      | 0.00       | 0.01             | 0.62                | 0.63        | 0.00              | 0.57                 | 0.58         | 1,486.12   |
| 2023 TOTALS (lbs/day mitigated)   | 13.25      | 7.65       | 9.26      | 0.00       | 0.01             | 0.16                | 0.17        | 0.00              | 0.15                 | 0.15         | 1,486.12   |

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

10/21/2008 2:01:24 PM

|  | <u>ROG</u>   | <u>NOx</u>   | <u>CO</u>    | <u>SO2</u>  | <u>PM10 Dust</u> | <u>PM10 Exhaust</u> | <u>PM10</u>  | <u>PM2.5 Dust</u> | <u>PM2.5 Exhaust</u> | <u>PM2.5</u> | <u>CO2</u>      |
|--|--------------|--------------|--------------|-------------|------------------|---------------------|--------------|-------------------|----------------------|--------------|-----------------|
| Time Slice 6/1/2021-12/31/2021<br>Active Days: 154 | <u>1.68</u>  | <u>11.17</u> | <u>9.52</u>  | <u>0.00</u> | <u>10.30</u>     | <u>0.49</u>         | <u>10.79</u> | <u>2.15</u>       | <u>0.45</u>          | <u>2.60</u>  | <u>2,349.67</u> |
| Fine Grading 06/01/2021-12/31/2021                 | 1.68         | 11.17        | 9.52         | 0.00        | 10.30            | 0.49                | 10.79        | 2.15              | 0.45                 | 2.60         | 2,349.67        |
| Fine Grading Dust                                  | 0.00         | 0.00         | 0.00         | 0.00        | 10.30            | 0.00                | 10.30        | 2.15              | 0.00                 | 2.15         | 0.00            |
| Fine Grading Off Road Diesel                       | 1.67         | 11.16        | 9.17         | 0.00        | 0.00             | 0.49                | 0.49         | 0.00              | 0.45                 | 0.45         | 2,247.32        |
| Fine Grading On Road Diesel                        | 0.00         | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 0.00            |
| Fine Grading Worker Trips                          | 0.01         | 0.02         | 0.36         | 0.00        | 0.00             | 0.00                | 0.01         | 0.00              | 0.00                 | 0.00         | 102.35          |
| Time Slice 1/3/2022-12/30/2022<br>Active Days: 260 | <u>1.53</u>  | <u>8.62</u>  | <u>11.02</u> | <u>0.01</u> | <u>0.03</u>      | <u>0.41</u>         | <u>0.45</u>  | <u>0.01</u>       | <u>0.38</u>          | <u>0.39</u>  | <u>2,356.17</u> |
| Building 01/01/2022-12/31/2022                     | 1.53         | 8.62         | 11.02        | 0.01        | 0.03             | 0.41                | 0.45         | 0.01              | 0.38                 | 0.39         | 2,356.17        |
| Building Off Road Diesel                           | 1.46         | 8.36         | 8.72         | 0.00        | 0.00             | 0.39                | 0.39         | 0.00              | 0.36                 | 0.36         | 1,621.20        |
| Building Vendor Trips                              | 0.02         | 0.16         | 0.24         | 0.00        | 0.01             | 0.01                | 0.01         | 0.00              | 0.01                 | 0.01         | 145.43          |
| Building Worker Trips                              | 0.05         | 0.10         | 2.06         | 0.01        | 0.03             | 0.01                | 0.04         | 0.01              | 0.01                 | 0.02         | 589.54          |
| Time Slice 1/2/2023-6/30/2023<br>Active Days: 130  | <u>14.72</u> | <u>0.00</u>  | <u>0.06</u>  | <u>0.00</u> | <u>0.00</u>      | <u>0.00</u>         | <u>0.00</u>  | <u>0.00</u>       | <u>0.00</u>          | <u>0.00</u>  | <u>17.58</u>    |
| Coating 01/01/2023-06/30/2023                      | 14.72        | 0.00         | 0.06         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 17.58           |
| Architectural Coating                              | 14.72        | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 0.00            |
| Coating Worker Trips                               | 0.00         | 0.00         | 0.06         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 17.58           |
| Time Slice 7/3/2023-12/29/2023<br>Active Days: 130 | <u>1.42</u>  | <u>8.75</u>  | <u>9.26</u>  | <u>0.00</u> | <u>0.01</u>      | <u>0.62</u>         | <u>0.63</u>  | <u>0.00</u>       | <u>0.57</u>          | <u>0.58</u>  | <u>1,486.12</u> |
| Asphalt 07/01/2023-12/31/2023                      | 1.42         | 8.75         | 9.26         | 0.00        | 0.01             | 0.62                | 0.63         | 0.00              | 0.57                 | 0.58         | 1,486.12        |
| Paving Off-Gas                                     | 0.02         | 0.00         | 0.00         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 0.00            |
| Paving Off Road Diesel                             | 1.38         | 8.70         | 8.54         | 0.00        | 0.00             | 0.62                | 0.62         | 0.00              | 0.57                 | 0.57         | 1,272.04        |
| Paving On Road Diesel                              | 0.00         | 0.01         | 0.01         | 0.00        | 0.00             | 0.00                | 0.00         | 0.00              | 0.00                 | 0.00         | 9.38            |
| Paving Worker Trips                                | 0.02         | 0.03         | 0.72         | 0.00        | 0.01             | 0.00                | 0.01         | 0.00              | 0.00                 | 0.01         | 204.70          |

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Phase Assumptions

Phase: Fine Grading 6/1/2021 - 12/31/2021 - Default Fine Site Grading Description

Total Acres Disturbed: 4.13

Maximum Daily Acreage Disturbed: 1.03

Fugitive Dust Level of Detail: Default

10 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 7/1/2023 - 12/31/2023 - Default Paving Description

Acres to be Paved: 1.03

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 1/1/2022 - 12/31/2022 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

10/21/2008 2:01:24 PM

Phase: Architectural Coating 1/1/2023 - 6/30/2023 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

|  | <u>ROG</u>  | <u>NOx</u>  | <u>CO</u>    | <u>SO2</u>  | <u>PM10 Dust</u> | <u>PM10 Exhaust</u> | <u>PM10</u> | <u>PM2.5 Dust</u> | <u>PM2.5 Exhaust</u> | <u>PM2.5</u> | <u>CO2</u>      |
|--|-------------|-------------|--------------|-------------|------------------|---------------------|-------------|-------------------|----------------------|--------------|-----------------|
| Time Slice 6/1/2021-12/31/2021<br>Active Days: 154 | <u>1.68</u> | <u>9.50</u> | <u>9.52</u>  | <u>0.00</u> | <u>0.96</u>      | <u>0.08</u>         | <u>1.04</u> | <u>0.20</u>       | <u>0.07</u>          | <u>0.27</u>  | <u>2,349.67</u> |
| Fine Grading 06/01/2021-12/31/2021                 | 1.68        | 9.50        | 9.52         | 0.00        | 0.96             | 0.08                | 1.04        | 0.20              | 0.07                 | 0.27         | 2,349.67        |
| Fine Grading Dust                                  | 0.00        | 0.00        | 0.00         | 0.00        | 0.95             | 0.00                | 0.95        | 0.20              | 0.00                 | 0.20         | 0.00            |
| Fine Grading Off Road Diesel                       | 1.67        | 9.48        | 9.17         | 0.00        | 0.00             | 0.07                | 0.07        | 0.00              | 0.07                 | 0.07         | 2,247.32        |
| Fine Grading On Road Diesel                        | 0.00        | 0.00        | 0.00         | 0.00        | 0.00             | 0.00                | 0.00        | 0.00              | 0.00                 | 0.00         | 0.00            |
| Fine Grading Worker Trips                          | 0.01        | 0.02        | 0.36         | 0.00        | 0.00             | 0.00                | 0.01        | 0.00              | 0.00                 | 0.00         | 102.35          |
| Time Slice 1/3/2022-12/30/2022<br>Active Days: 260 | <u>1.53</u> | <u>7.68</u> | <u>11.02</u> | <u>0.01</u> | <u>0.03</u>      | <u>0.18</u>         | <u>0.21</u> | <u>0.01</u>       | <u>0.16</u>          | <u>0.18</u>  | <u>2,356.17</u> |
| Building 01/01/2022-12/31/2022                     | 1.53        | 7.68        | 11.02        | 0.01        | 0.03             | 0.18                | 0.21        | 0.01              | 0.16                 | 0.18         | 2,356.17        |
| Building Off Road Diesel                           | 1.46        | 7.42        | 8.72         | 0.00        | 0.00             | 0.16                | 0.16        | 0.00              | 0.15                 | 0.15         | 1,621.20        |
| Building Vendor Trips                              | 0.02        | 0.16        | 0.24         | 0.00        | 0.01             | 0.01                | 0.01        | 0.00              | 0.01                 | 0.01         | 145.43          |
| Building Worker Trips                              | 0.05        | 0.10        | 2.06         | 0.01        | 0.03             | 0.01                | 0.04        | 0.01              | 0.01                 | 0.02         | 589.54          |

**10/21/2008 2:01:24 PM**

|  |              |             |             |             |             |             |             |             |             |             |                 |
|--|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|
| Time Slice 1/2/2023-6/30/2023<br>Active Days: 130  | <u>13.25</u> | 0.00        | 0.06        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 17.58           |
| Coating 01/01/2023-06/30/2023                      | 13.25        | 0.00        | 0.06        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 17.58           |
| Architectural Coating                              | 13.25        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00            |
| Coating Worker Trips                               | 0.00         | 0.00        | 0.06        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 17.58           |
| Time Slice 7/3/2023-12/29/2023<br>Active Days: 130 | 1.42         | <u>7.65</u> | <u>9.26</u> | <u>0.00</u> | <u>0.01</u> | <u>0.16</u> | <u>0.17</u> | <u>0.00</u> | <u>0.15</u> | <u>0.15</u> | <u>1,486.12</u> |
| Asphalt 07/01/2023-12/31/2023                      | 1.42         | 7.65        | 9.26        | 0.00        | 0.01        | 0.16        | 0.17        | 0.00        | 0.15        | 0.15        | 1,486.12        |
| Paving Off-Gas                                     | 0.02         | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00            |
| Paving Off Road Diesel                             | 1.38         | 7.60        | 8.54        | 0.00        | 0.00        | 0.15        | 0.15        | 0.00        | 0.14        | 0.14        | 1,272.04        |
| Paving On Road Diesel                              | 0.00         | 0.01        | 0.01        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        | 9.38            |
| Paving Worker Trips                                | 0.02         | 0.03        | 0.72        | 0.00        | 0.01        | 0.00        | 0.01        | 0.00        | 0.00        | 0.01        | 204.70          |

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 6/1/2021 - 12/31/2021 - Default Fine Site Grading Description

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stabilizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

For Graders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Graders, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

**10/21/2008 2:01:24 PM**

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Water Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Water Trucks, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Paving 7/1/2023 - 12/31/2023 - Default Paving Description

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cement and Mortar Mixers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Building Construction 1/1/2022 - 12/31/2022 - Default Building Construction Description

Page: 7

**10/21/2008 2:01:24 PM**

For Cranes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Cranes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Forklifts, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Generator Sets, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Generator Sets, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Diesel Oxidation Catalyst 15% mitigation reduces emissions by:

NOX: 15%

The following mitigation measures apply to Phase: Architectural Coating 1/1/2023 - 6/30/2023 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Carbon Dioxide Emissions Inventory

Project: Mission College - 2025

CH<sub>4</sub> has GWP of 25, and NO<sub>2</sub> has GWP of 298, per Oct. 2007 4th IPCC Assessment  
Assume approximately 5.5 days of full operations per week

Date: 11/1/08

| Project Land Uses                  | Units or Sq. Ft. |
|------------------------------------|------------------|
| Residential, Single-Family (units) | 0                |
| Residential, Multi-Family (units)  | 0                |
| Retail/Shopping (square feet)      | 0                |
| Institutional                      | 196,320          |
| Supermarket                        | 0                |

Transportation Emissions

|                              | Trips <sup>1</sup> | VMT <sup>2</sup> | CO <sub>2</sub> emissions    | CH <sub>4</sub> rate <sup>4</sup> | N <sub>2</sub> O rate <sup>4</sup> | CO <sub>2</sub> -equiv. emissions |
|------------------------------|--------------------|------------------|------------------------------|-----------------------------------|------------------------------------|-----------------------------------|
| Daily Vehicle Trips, Project | 3,820              | 22,385           | 3,928 tons/year <sup>2</sup> | 0.0465                            | 0.05                               | 3,994 tons/year                   |
| Project Population           | 0                  |                  | 3,395 tons/year <sup>3</sup> | 0.04 kg/day                       | 1.12 kg/day                        | 0.0012 tons/day                   |
|                              |                    |                  | Alternative methodology      | 0.0012 tons/day                   | 0.4514 tons/year                   | 0.4514 tons/year                  |

| Bay Area (on-road trans. only) <sup>5</sup> | Pro. % of Bay Area Tot. |
|---|-------------------------|
| 36,300,000 tons/year (2000)                 | 0.01%                   |

<sup>1</sup> From Project Transportation Analysis  
<sup>2</sup> From URBEMIS 2007

<sup>3</sup> Alternative calculation of CO<sub>2</sub>, from California ARB, "Proposed Methodology to Model Carbon Dioxide Emissions and Estimate Fuel Economy." Fleet average for 2010 (project, latest year available), in grams per mile.  
<http://www.arb.ca.gov/msei/onroad/downloads/pubs/co2final.pdf>

<sup>4</sup> Calif. Climate Action Registry (CCAR) Protocol ver 3.0; rate in grams/mile; assumes 60% cars, 35% light trucks, 5% heavy diesel trucks & older vehicles.

<sup>5</sup> BAAQMD, "Source Inventory of Bay Area Greenhouse Gas Emissions," Nov. 2006. All figures are for CO<sub>2</sub>-equivalent emissions.  
[http://www.baaqmd.gov/pln/ghg\\_emission\\_inventory.pdf](http://www.baaqmd.gov/pln/ghg_emission_inventory.pdf)

Electricity Consumption (based on average PG&E residential customer use (2000), according to CEC)

|                            | 2,050 mWh | lbs./MWh (from CCAR Protocol, version 3.0) | CO <sub>2</sub> | CH <sub>4</sub> | NO <sub>2</sub> | 902 tons/year | W/O MITIGATION | 722 tons/year | WITH MITIGATION |
|----------------------------|-----------|--|-----------------|-----------------|-----------------|---------------|----------------|---------------|-----------------|
| Colleges (see rates below) | 2,050 mWh |  | 878.71          | 0.0067          | 0.0037          | 901           | 901            | 0.17          | 1.13            |
| Total                      | 2,050     |  |                 |                 |                 |               |                |               |                 |

Explanation:

Reduction accounts for the college being closed on Sunday and only partial use on Saturdays.

Total CO<sub>2</sub>-equivalent Emissions

|                      | (tons/year) |  |
|----------------------|-------------|--|
| Construction         | 1182.6      |  |
| Transport.           | 3,994       |  |
| Heating <sup>7</sup> | 226         | 4,220 Subtotal (direct)  |
| Electricity          | 722         | total (2002), which is 0.006% of Bay Area                                    |
| Landfill             | 329         | 65,200,000 tons/year <sup>2</sup> (mbl./htg. only)                           |
| Total                | 6,453       | 1,051 Subtotal (indirect)  |
|                      |             | 0.0076% of Bay Area Total (2002), which is 85,400,000 tons/year <sup>3</sup> |
|                      |             | 0.0015% of State Limit (2007), which is 427,000,000 tons/year <sup>5</sup>   |

Note: In general, include the following population-based Landfill Gas calculation only for Residential Projects

Solid Waste (population-based; per person)

|                                    |           |  |
|------------------------------------|-----------|--|
| BAAQMD Source Inventory, Nov. 2006 | 3.6       | 3.6 million tons/year CO2-equivalent from landfills (2002)                     |
|                                    | 11.5      | million tons/year CO2-equivalent from landfill combustion (2002); not included |
|                                    | 15.1      | 3.6 million tons/year solid waste total (2002)                                 |
|                                    | 6,772,000 | Bay Area population, 2002  |
|                                    | 2.2       | 0.5 tons/year/person (2002)  |
|                                    |           | CO <sub>2</sub> -equivalent Emissions (Landfills)                              |
|                                    |           | 0 tons/year anaerobic decomposition only                                       |
|                                    |           | 0 tons/year including landfill combustion                                      |

Percent of Project Emissions

|             |       |
|-------------|-------|
| Transport.  | 61.9% |
| Heating     | 3.5%  |
| Electricity | 11.2% |
| Landfill    | 5.1%  |
| Total       | 81.7% |

Landfill Emissions based on solid waste generation for non-residential projects

Solid Waste Generation (pounds/sq. ft./day); adapted from California Integrated Waste Mgmt. Board

<http://www.ciwmb.ca.gov/WasteChar/WasteGenRates/default.htm>

|               | pounds/day | tons/year |   |
|---------------|------------|-----------|---|
| Institutional | 0.02       | 0.00365   | 919 lbs. CO <sub>2</sub> -equivalent per ton <sup>8</sup> |
| Retail        | 0.03       | 0.005475  |   |
| Grocery Store | 0.03       | 0.0056575 |   |
|               |            |           | CO <sub>2</sub> -equivalent Emissions (Landfills)         |
|               |            |           | 329 tons/year anaerobic decomposition only                |

<sup>8</sup> Energy Information Administration, Voluntary Reporting of Greenhouse Gases Program: Fuel and Energy Source Codes and Emission Coefficients, fn. 2, 4

<http://www.eia>

Commercial Electricity Use, PG&E systemwide; kWh per conditioned sq. ft./yr; from CEC: <http://www.consumerenergycenter.org/pv4newbuildings/downloads/ll-6A.pdf>

|                |       |              |       |
|----------------|-------|--------------|-------|
| Institutional  | 12.84 | Warehouse    | 6.04  |
| Restaurant     | 35.62 | Schools      | 6.82  |
| Retail         | 13.84 | Colleges     | 10.44 |
| Grocery        | 46.96 | Hospitals    | 21.2  |
| Ref. Warehouse | 22.36 | Lodging      | 10.87 |
|                |       | Misc. cmrcl. | 12    |

[Use this section if emissions not available from URBEMIS.]

| Natural Gas Emissions              | Land Uses | Usage <sup>9</sup> | Usage (cu. ft.) | CO <sub>2</sub> Emissions          |                                    |             | CH <sub>4</sub> Emissions          |                                    |             | N <sub>2</sub> O Emissions        |                                   |             | CO <sub>2</sub> -equivalent Emissions (tons/year) |
|------------------------------------|-----------|--------------------|-----------------|------------------------------------|------------------------------------|-------------|------------------------------------|------------------------------------|-------------|-----------------------------------|-----------------------------------|-------------|---|
|                                    |           |                    |                 | CO <sub>2</sub> rate <sup>10</sup> | CO <sub>2</sub> rate <sup>11</sup> | (tons/year) | CH <sub>4</sub> rate <sup>10</sup> | CH <sub>4</sub> rate <sup>11</sup> | (tons/year) | N <sub>2</sub> rate <sup>10</sup> | N <sub>2</sub> rate <sup>11</sup> | (tons/year) |   |
| Residential, Single-Family (units) | 0         | 6665               | 0               | 52.78                              | 119,599                            | 0           | 0.0059                             | 13                                 | 0.00        | 0.0001                            | 0.2                               | 0.0         | 0   |
| Residential, Multi-Family (units)  | 0         | 4011.5             | 0               | 52.78                              | 119,599                            | 0           | 0.0059                             | 13                                 | 0.00        | 0.0001                            | 0.2                               | 0.0         | 0   |
| Retail/Shopping (square feet)      | 0         | 2.9                | 0               | 52.78                              | 119,599                            | 0           | 0.0059                             | 13                                 | 0.00        | 0.0001                            | 0.2                               | 0.0         | 0   |
| Colleges                           | 196,320   | 2                  | 392,640         | 52.78                              | 119,599                            | 282         | 0.0059                             | 13                                 | 0.03        | 0.0001                            | 0.2                               | 0.0         | 283   |
| Total                              |           |                    |                 |                                    |                                    | 282         |                                    |                                    | 0.03        |                                   | 0.00                              |             | 283   |
|                                    |           |                    |                 |                                    |                                    | #DIV/0!     |                                    |                                    | #DIV/0!     |                                   | #DIV/0!                           |             | #DIV/0!   |
|                                    |           |                    |                 |                                    |                                    | ton/yr/pers |                                    |                                    | ton/yr/pers |                                   | ton/yr/pers                       |             | ton/yr/pers                                       |

| Explanation:                           |
|--|
| If applicable, enter percent reduction |
| 20%                                    |
| Assumed, based on IFFD certification   |
| 226 tons/year                          |

<sup>9</sup> URBEMIS 2007. For residential, in cu. ft./unit/month; for commercial, in cu. ft./sq. ft./month

<sup>10</sup> CCAR Protocol ver 2.2; rate in kg/million BTU

<sup>11</sup> Rate in lbs/million std cu. ft. (@2.2lb/ka x 1.030 MM BTU/MM cu. ft.)

Construction Emissions

|   | Pounds Per Day | Tons Per Year |
|---|----------------|---------------|
| Maximum CO <sub>2</sub> -equivalent Emissions from Table 4.5-3 (pounds per day) | 8,248          | 1182.646929   |