

Appendix A.
Air Quality Modeling Output



Appendices

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Urbemis 2007 Version 9.2.2

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\CNB-10.0E\Technical Studies\Air\SeashoreVillage.urb9

Project Name: Seashore Village

Project Location: Orange County

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>
2008 TOTALS (lbs/day unmitigated)	3.37	36.97	16.55	0.03	23.99	1.87	25.86	5.00	1.72	6.72	4,171.01
2008 TOTALS (lbs/day mitigated)	3.37	36.97	16.55	0.03	23.99	1.87	25.86	5.00	1.72	6.72	4,171.01
2009 TOTALS (lbs/day unmitigated)	13.27	24.45	17.93	0.01	0.04	1.81	1.85	0.01	1.66	1.68	2,725.05
2009 TOTALS (lbs/day mitigated)	13.27	24.45	17.93	0.01	0.04	1.81	1.85	0.01	1.66	1.68	2,725.05

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)	1.54	0.33	2.29	0.00	0.01	0.01	403.33

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)	2.02	2.69	22.99	0.02	3.24	0.64	1,958.34

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)	3.56	3.02	25.28	0.02	3.25	0.65	2,361.67

Time Slice 7/15/2009-8/7/2009 Active	10.80	10.63	8.61	0.01	0.02	0.67	0.69	0.01	0.62	0.62	1,382.35
Building 05/06/2008-08/07/2009	1.44	10.61	8.16	0.00	0.02	0.67	0.69	0.01	0.61	0.62	1,328.91
Building Off Road Diesel	1.30	9.79	4.94	0.00	0.00	0.63	0.63	0.00	0.58	0.58	893.39
Building Vendor Trips	0.05	0.66	0.48	0.00	0.00	0.03	0.03	0.00	0.02	0.03	112.86
Building Worker Trips	0.09	0.16	2.74	0.00	0.02	0.01	0.02	0.01	0.01	0.01	322.66
Coating 07/06/2009-08/07/2009	9.36	0.03	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.44
Architectural Coating	9.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.03	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.44

Phase Assumptions

Phase: Demolition 3/3/2008 - 4/4/2008 - Default Demolition Description

Building Volume Total (cubic feet): 1706342

Building Volume Daily (cubic feet): 56843.15

On Road Truck Travel (VMT): 789.49

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 4/5/2008 - 5/5/2008 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 1.49

Maximum Daily Acreage Disturbed: 0.37

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 7/6/2009 - 7/14/2009 - Default Paving Description

Acres to be Paved: 0.67

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

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Phase: Building Construction 5/6/2008 - 8/7/2009 - 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 7/6/2009 - 8/7/2009 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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 3/3/2008-4/4/2008 Active	<u>3.37</u>	<u>36.97</u>	<u>16.55</u>	<u>0.03</u>	<u>23.99</u>	<u>1.87</u>	<u>25.86</u>	<u>5.00</u>	<u>1.72</u>	<u>6.72</u>	<u>4,171.01</u>
Demolition 03/03/2008-04/04/2008	3.37	36.97	16.55	0.03	23.99	1.87	25.86	5.00	1.72	6.72	4,171.01
Fugitive Dust	0.00	0.00	0.00	0.00	23.87	0.00	23.87	4.97	0.00	4.97	0.00
Demo Off Road Diesel	1.31	8.68	4.91	0.00	0.00	0.68	0.68	0.00	0.62	0.62	700.30
Demo On Road Diesel	2.02	28.22	10.51	0.03	0.11	1.19	1.30	0.04	1.09	1.13	3,346.17
Demo Worker Trips	0.04	0.07	1.13	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.55
Time Slice 4/7/2008-5/5/2008 Active	3.35	28.07	14.69	0.00	0.59	1.41	2.00	0.12	1.30	1.43	2,371.86
Fine Grading 04/05/2008-05/05/2008	3.35	28.07	14.69	0.00	0.59	1.41	2.00	0.12	1.30	1.43	2,371.86
Fine Grading Dust	0.00	0.00	0.00	0.00	0.58	0.00	0.58	0.12	0.00	0.12	0.00
Fine Grading Off Road Diesel	3.31	28.00	13.56	0.00	0.00	1.41	1.41	0.00	1.30	1.30	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	1.13	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.55
Time Slice 5/6/2008-12/31/2008 Active	1.54	11.35	8.54	0.00	0.02	0.70	0.72	0.01	0.65	0.65	1,329.07
Building 05/06/2008-08/07/2009	1.54	11.35	8.54	0.00	0.02	0.70	0.72	0.01	0.65	0.65	1,329.07
Building Off Road Diesel	1.39	10.47	5.09	0.00	0.00	0.67	0.67	0.00	0.61	0.61	893.39
Building Vendor Trips	0.06	0.70	0.51	0.00	0.00	0.03	0.03	0.00	0.03	0.03	112.86
Building Worker Trips	0.09	0.18	2.94	0.00	0.02	0.01	0.02	0.01	0.01	0.01	322.82

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Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 4/5/2008 - 5/5/2008 - Default Fine Site Grading/Excavation Description

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 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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	0.02	0.31	0.13	0.00	0.00	0.00	399.73
Hearth - No Summer Emissions							
Landscape	0.23	0.02	2.16	0.00	0.01	0.01	3.60
Consumer Products	1.23						
Architectural Coatings	0.06						
TOTALS (lbs/day, unmitigated)	1.54	0.33	2.29	0.00	0.01	0.01	403.33

Area Source Changes to DefaultsOperational 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>
Single family housing	1.23	1.67	14.26	0.01	2.01	0.40	1,214.60
Condo/townhouse general	0.79	1.02	8.73	0.01	1.23	0.24	743.74
TOTALS (lbs/day, unmitigated)	2.02	2.69	22.99	0.02	3.24	0.64	1,958.34

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2009 Temperature (F): 80 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
Single family housing	1.00	9.57	dwelling units	12.00	114.84	1,160.21
Condo/townhouse general	0.49	5.86	dwelling units	12.00	70.32	710.43
					185.16	1,870.64

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	49.0	2.0	97.6	0.4
Light Truck < 3750 lbs	10.9	3.7	90.8	5.5
Light Truck 3751-5750 lbs	21.7	0.9	98.6	0.5
Med Truck 5751-8500 lbs	9.5	1.1	98.9	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	75.0	25.0
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	0.9	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	3.5	77.1	22.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	10.0	80.0	10.0

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\CNB-10.0E\Technical Studies\Air\SeashoreVillage.urb9

Project Name: Seashore Village

Project Location: Orange County

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>
2008 TOTALS (lbs/day unmitigated)	3.37	36.97	16.55	0.03	23.99	1.87	25.86	5.00	1.72	6.72	4,171.01
2008 TOTALS (lbs/day mitigated)	3.37	36.97	16.55	0.03	23.99	1.87	25.86	5.00	1.72	6.72	4,171.01
2009 TOTALS (lbs/day unmitigated)	13.27	24.45	17.93	0.01	0.04	1.81	1.85	0.01	1.66	1.68	2,725.05
2009 TOTALS (lbs/day mitigated)	13.27	24.45	17.93	0.01	0.04	1.81	1.85	0.01	1.66	1.68	2,725.05

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)	5.07	0.62	10.56	0.03	1.62	1.56	820.42

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)	1.92	2.82	19.71	0.02	2.85	0.57	1,562.01

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)	6.99	3.44	30.27	0.05	4.47	2.13	2,382.43

Time Slice 7/15/2009-8/7/2009 Active	10.80	10.63	8.61	0.01	0.02	0.67	0.69	0.01	0.62	0.62	1,382.35
Building 05/06/2008-08/07/2009	1.44	10.61	8.16	0.00	0.02	0.67	0.69	0.01	0.61	0.62	1,328.91
Building Off Road Diesel	1.30	9.79	4.94	0.00	0.00	0.63	0.63	0.00	0.58	0.58	893.39
Building Vendor Trips	0.05	0.66	0.48	0.00	0.00	0.03	0.03	0.00	0.02	0.03	112.86
Building Worker Trips	0.09	0.16	2.74	0.00	0.02	0.01	0.02	0.01	0.01	0.01	322.66
Coating 07/06/2009-08/07/2009	9.36	0.03	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.44
Architectural Coating	9.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.03	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.44

Phase Assumptions

Phase: Demolition 3/3/2008 - 4/4/2008 - Default Demolition Description

Building Volume Total (cubic feet): 1706342

Building Volume Daily (cubic feet): 56843.15

On Road Truck Travel (VMT): 789.49

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 4/5/2008 - 5/5/2008 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 1.45

Maximum Daily Acreage Disturbed: 0.36

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 7/6/2009 - 7/14/2009 - Default Paving Description

Acres to be Paved: 0.67

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

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Phase: Building Construction 5/6/2008 - 8/7/2009 - 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 7/6/2009 - 8/7/2009 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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 Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 3/3/2008-4/4/2008 Active	<u>3.37</u>	<u>36.97</u>	<u>16.55</u>	<u>0.03</u>	<u>23.99</u>	<u>1.87</u>	<u>25.86</u>	<u>5.00</u>	<u>1.72</u>	<u>6.72</u>	<u>4,171.01</u>
Demolition 03/03/2008-04/04/2008	3.37	36.97	16.55	0.03	23.99	1.87	25.86	5.00	1.72	6.72	4,171.01
Fugitive Dust	0.00	0.00	0.00	0.00	23.87	0.00	23.87	4.97	0.00	4.97	0.00
Demo Off Road Diesel	1.31	8.68	4.91	0.00	0.00	0.68	0.68	0.00	0.62	0.62	700.30
Demo On Road Diesel	2.02	28.22	10.51	0.03	0.11	1.19	1.30	0.04	1.09	1.13	3,346.17
Demo Worker Trips	0.04	0.07	1.13	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.55
Time Slice 4/7/2008-5/5/2008 Active	3.35	28.07	14.69	0.00	0.57	1.41	1.99	0.12	1.30	1.42	2,371.86
Fine Grading 04/05/2008-05/05/2008	3.35	28.07	14.69	0.00	0.57	1.41	1.99	0.12	1.30	1.42	2,371.86
Fine Grading Dust	0.00	0.00	0.00	0.00	0.57	0.00	0.57	0.12	0.00	0.12	0.00
Fine Grading Off Road Diesel	3.31	28.00	13.56	0.00	0.00	1.41	1.41	0.00	1.30	1.30	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	1.13	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.55
Time Slice 5/6/2008-12/31/2008 Active	1.54	11.35	8.54	0.00	0.02	0.70	0.72	0.01	0.65	0.65	1,329.07
Building 05/06/2008-08/07/2009	1.54	11.35	8.54	0.00	0.02	0.70	0.72	0.01	0.65	0.65	1,329.07
Building Off Road Diesel	1.39	10.47	5.09	0.00	0.00	0.67	0.67	0.00	0.61	0.61	893.39
Building Vendor Trips	0.06	0.70	0.51	0.00	0.00	0.03	0.03	0.00	0.03	0.03	112.86
Building Worker Trips	0.09	0.18	2.94	0.00	0.02	0.01	0.02	0.01	0.01	0.01	322.82

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 4/5/2008 - 5/5/2008 - Default Fine Site Grading/Excavation Description

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 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stabilizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

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 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter 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	0.02	0.31	0.13	0.00	0.00	0.00	399.73
Hearth	3.76	0.31	10.43	0.03	1.62	1.56	420.69
Landscaping - No Winter Emissions							
Consumer Products	1.23						
Architectural Coatings	0.06						
TOTALS (lbs/day, unmitigated)	5.07	0.62	10.56	0.03	1.62	1.56	820.42

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter 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>
Single family housing	1.04	1.53	10.71	0.01	1.55	0.31	848.54
Condo/townhouse general	0.88	1.29	9.00	0.01	1.30	0.26	713.47
TOTALS (lbs/day, unmitigated)	1.92	2.82	19.71	0.02	2.85	0.57	1,562.01

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2009 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreeage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	1.00	7.35	dwelling units	12.00	88.20	891.07
Condo/townhouse general	0.45	6.18	dwelling units	12.00	74.16	749.22
					162.36	1,640.29

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	49.0	2.0	97.6	0.4
Light Truck < 3750 lbs	10.9	3.7	90.8	5.5
Light Truck 3751-5750 lbs	21.7	0.9	98.6	0.5
Med Truck 5751-8500 lbs	9.5	1.1	98.9	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	75.0	25.0
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	0.9	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	3.5	77.1	22.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	10.0	80.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\CNB-10.0E\Technical Studies\Air\ExistingUses.urb9

Project Name: Existing-SeashoreVillage

Project Location: Orange County

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)	3.03	0.55	1.83	0.00	0.00	0.00	678.61

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)	4.00	5.27	45.05	0.04	6.36	1.26	3,837.99

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)	7.03	5.82	46.88	0.04	6.36	1.26	4,516.60

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	0.04	0.53	0.23	0.00	0.00	0.00	675.86
Hearth - No Summer Emissions							
Landscape	0.13	0.02	1.60	0.00	0.00	0.00	2.75
Consumer Products	2.77						
Architectural Coatings	0.09						
TOTALS (lbs/day, unmitigated)	3.03	0.55	1.83	0.00	0.00	0.00	678.61

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	4.00	5.27	45.05	0.04	6.36	1.26	3,837.99
TOTALS (lbs/day, unmitigated)	4.00	5.27	45.05	0.04	6.36	1.26	3,837.99

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2009 Temperature (F): 80 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
Apartments low rise	1.45	6.72	dwelling units	54.00	362.88	3,666.10
					362.88	3,666.10

Vehicle Fleet Mix

Vehicle Type	Percent	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	49.0		2.0	97.6	0.4
Light Truck < 3750 lbs	10.9		3.7	90.8	5.5
Light Truck 3751-5750 lbs	21.7		0.9	98.6	0.5
Med Truck 5751-8500 lbs	9.5		1.1	98.9	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6		0.0	75.0	25.0
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	0.9		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	3.5		77.1	22.9	0.0
School Bus	0.1		0.0	0.0	100.0
Motor Home	1.0		10.0	80.0	10.0

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Urbemis 2007 Version 9.2.2
 Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\CNB-10.0E\Technical Studies\Air\ExistingUses.urb9
 Project Name: Existing-SeashoreVillage
 Project Location: Orange County
 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)	11.36	1.17	23.66	0.07	3.63	3.50	1,541.41

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)	4.29	6.30	44.06	0.03	6.36	1.26	3,491.15

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)	15.65	7.47	67.72	0.10	9.99	4.76	5,032.56

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter 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	0.04	0.53	0.23	0.00	0.00	0.00	675.86
Hearth	8.46	0.64	23.43	0.07	3.63	3.50	865.55
Landscaping - No Winter Emissions							
Consumer Products	2.77						
Architectural Coatings	0.09						
TOTALS (lbs/day, unmitigated)	11.36	1.17	23.66	0.07	3.63	3.50	1,541.41

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25	CO2
Apartments low rise	4.29	6.30	44.06	0.03	6.36	1.26	3,491.15
TOTALS (lbs/day, unmitigated)	4.29	6.30	44.06	0.03	6.36	1.26	3,491.15

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2009 Temperature (F): 60 Season: Winter

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
Apartments low rise	1.45	6.72	dwelling units	54.00	362.88	3,666.10
					362.88	3,666.10

Vehicle Fleet Mix

Vehicle Type	Percent	Type	Non-Catalyst	Catalyst	Diesel
Light Auto	49.0		2.0	97.6	0.4
Light Truck < 3750 lbs	10.9		3.7	90.8	5.5
Light Truck 3751-5750 lbs	21.7		0.9	98.6	0.5
Med Truck 5751-8500 lbs	9.5		1.1	98.9	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6		0.0	75.0	25.0
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	0.9		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	3.5		77.1	22.9	0.0
School Bus	0.1		0.0	0.0	100.0
Motor Home	1.0		10.0	80.0	10.0

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Construction Phasing Assumptions

Construction Defaults for Urbemis 2007

Modified Construction Phasing - Based on 18 month schedule provided by the project applicant which includes a 30-day demolition, 30-days of grading and no trenching for utilities because its and existing site, and overlap of phases

Phase	Start Month	Year	Duration (Months)	Phase	Start Month	Year	Duration (Months)
Demolition	March	2008	0.5	Demolition	March	2008	1
Mass Grading	March	2008	3	Fine Grading	April	2008	1
Fine Grading	June	2008	1.5	Paving	July	2009	0.25
Trenching	August	2008	0.25	Construction	May	2008	16
Paving	August	2008	0.25	Architectural Coatings	July	2009	1
Construction	September	2008	9				
Architectural Coatings	April	2009	1				

* overlap of Paving, Construction and Architectural Coatings

Demolition Assumptions

Building Square-Feet	48,743	Total Cubic Feet	Total Daily Cubic Feet
Height Feet	35	1,706,005	56,867

For Urbemis2007	Length/Width	Total
		220.8 feet
	Length/Width	Per Day
		40.3 feet

Operation Localized Significance Thresholds - Seashore Village

SRA No.	Acres	Source Receptor Distance (meters)
18	1.49	25

Source Receptor North Coastal Orange County

Distance (meters)	Acres	25	50	100	200	500
NOx	1	158	164	189	244	382
	2	226	226	244	288	408
CO	1	191	194	216	266	395
	2	333	500	929	1785	5870
PM10	1	481	692	1247	2216	6405
	2	406	594	1085	1996	6132
PM2.5	1	1	3	19	34	50
	2	2	5	21	36	52
	1	1	4	20	35	51
	2	1	2	3	6	19
	1	2	2	3	7	20
	2	1	2	3	6	19

North Coastal Orange County

	1.49 Acres	25	50	100	200	500
NOx	191	194	216	266	395	6132
CO	406	594	1085	1996	6132	6132
PM10	1	4	20	35	51	51
PM2.5	1	2	3	6	19	19

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	1	18	2
Distance Increment Below			
25			
Distance Increment Above			
50			

Construction Localized Significance Thresholds Screening Level Analysis - Seashore Village

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (feet)
18	1.49	25	82

Source Receptor Area	North Coastal Orange County			PM10	PM2.5	NOx	CO	PM10	PM2.5
Distance (meters)	25								
NOx	191		Grading			9	5	25	6
CO	406		Exhaust			28	14	2	1
PM10	5				7	22	12	2	2
PM2.5	4					9	5	4	1

	Acres	25	50	100	200	500		9	5	25	6
NOx	1	158	164	189	244	382	Demolition	9	5	25	6
	2	226	226	244	288	408	Site Preparation/Grading	28	14	2	1
		191	194	216	266	395	Building Construction	22	12	2	2
CO	1	333	500	929	1785	5870	Demolition - With Mitigation	9	5	4	1
	2	481	692	1247	2216	6405	LST Thresholds	191	406	5	4
		406	594	1085	1996	6132	Amount Exceeding Thresholds	0	0	20	2
PM10	1	4	13	77	142	206	*With Mitigation Assumes 84 percent controll efficiency of fugitive dust				
	2	7	21	86	150	215					
PM2.5	1	5	17	81	146	210					
	2	5	7	12	26	83					
		4	6	10	24	79					

North Coastal Orange County					
1.49 Acres					
NOx	25	50	100	200	500
	191	194	216	266	395
CO	406	594	1085	1996	6132
PM10	5	17	81	146	210
PM2.5	4	6	10	24	79

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	1	18	2
Distance Increment Below			
25			
Distance Increment Above			
50			