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**Appendix D**

**Air Quality Model Outputs**

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File Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Dixon Downs\Construction Phase 2 and Op  
 Project Name: Dixon Downs Construction Phase 2  
 Project Location: Lower Sacramento Valley Air Basin  
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT  
 (Pounds/Day - Summer)

Construction Start Month and Year: March, 2008  
 Construction Duration: 9  
 Total Land Use Area to be Developed: 0 acres  
 Maximum Acreage Disturbed Per Day: 0 acres  
 Single Family Units: 0 Multi-Family Units: 0  
 Retail/Office/Institutional/Industrial Square Footage: 1320000

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2008***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	30.92	211.05	244.87	-	8.23	8.23	0.00
Bldg Const Worker Trips	6.69	12.54	138.87	0.07	0.65	0.25	0.40
Arch Coatings Off-Gas	2,466.67	-	-	-	-	-	-
Arch Coatings Worker Trips	2.50	1.54	32.59	0.00	0.43	0.03	0.40
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	2,506.78	225.13	416.33	0.07	9.31	8.51	0.80
Max lbs/day all phases	2,506.78	225.13	416.33	0.07	9.31	8.51	0.80

Phase 2 - Site Grading Assumptions: Phase Turned OFF

Phase 3 - Building Construction Assumptions

Start Month/Year for Phase 3: Mar '08

Phase 3 Duration: 9 months

Start Month/Year for SubPhase Building: Mar '08

SubPhase Building Duration: 9 months

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
20	Concrete/Industrial saws	84	0.730	8.0
1	Cranes	190	0.430	8.0
10	Rough Terrain Forklifts	94	0.475	8.0

Start Month/Year for SubPhase Architectural Coatings: Nov '08

SubPhase Architectural Coatings Duration: 0.9 months

Start Month/Year for SubPhase Asphalt: Nov '08

SubPhase Asphalt Duration: 0.4 months

Acres to be Paved: 0

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
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AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.87	12.01	4.80	-	0.02
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	0.25	0.02	1.75	0.00	0.01
Consumer Prdcts	0.00	-	-	-	-
TOTALS (lbs/day, unmitigated)	1.12	12.03	6.56	0.00	0.03

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Hotel	12.24	12.84	123.11	0.07	12.60
Strip mall	206.09	269.27	2,570.23	1.52	263.56
General office building	19.69	22.95	228.22	0.13	23.05
<b>TOTAL EMISSIONS (lbs/day)</b>	<b>238.02</b>	<b>305.06</b>	<b>2,921.56</b>	<b>1.73</b>	<b>299.21</b>

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2008 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Hotel	7.41 trips / rooms	240.00	1,778.40
Strip mall	40.00 trips / 1000 sq. ft.	950.00	38,000.00
General office building	10.73 trips / 1000 sq. ft.	250.00	2,682.50

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.00	1.60	98.00	0.40
Light Truck < 3,750 lbs	15.00	2.70	95.30	2.00
Light Truck 3,751- 5,750	16.20	1.20	97.50	1.30
Med Truck 5,751- 8,500	7.20	1.40	95.80	2.80
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.40	0.00	50.00	50.00
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.70	76.50	23.50	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.20	8.30	83.30	8.40

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
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	27.3	21.2	51.5			

% of Trips - Commercial (by land use)

Hotel	5.0	2.5	92.5
Strip mall	2.0	1.0	97.0
General office building	35.0	17.5	47.5

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Phase 3 mitigation measure Off-Road Diesel Exhaust: Use lean-NOx catalyst  
has been changed from off to on.

Changes made to the default values for Area

Changes made to the default values for Operations

The operational emission year changed from 2004 to 2008.

The travel mode environment settings changed from both to: non-residential

The default/noddefault travel setting changed from noddefault to: noddefault

Visually Interesting Uses: No Uses Within Walking Distance

changed to:Visually Interesting Uses: No Uses within Walking Distance

Mitigation measure Provide Transit Shelters Benches:2

has been changed from off to on.

Mitigation measure Provide Bus Turnouts:1

has been changed from off to on.

Mitigation measure Provide Secure Bicycle Parking:1

has been changed from off to on.

Mitigation measure Shuttle Bus Service to Transit/Multi-Modal Center:2

has been changed from off to on.

Mitigation measure Preferential Carpool/Vanpool Parking:1.5

has been changed from off to on.

Mitigation measure Some Frequently Needed Services Provided:3

has been changed from off to on.

Mitigation measuremitop5: Park and Ride Lots

has been changed from on to off.

File Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Dixon Downs\Construction Phase 1.urb  
 Project Name: Dixon Downs Construction  
 Project Location: Lower Sacramento Valley Air Basin  
 On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT  
 (Pounds/Day - Summer)

Construction Start Month and Year: April, 2007  
 Construction Duration: 4  
 Total Land Use Area to be Developed: 260 acres  
 Maximum Acreage Disturbed Per Day: 260 acres  
 Single Family Units: 0 Multi-Family Units: 0  
 Retail/Office/Institutional/Industrial Square Footage: 269800

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
*** 2007***							
Phase 1 - Demolition Emissions							
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emissions							
Fugitive Dust	-	-	-	-	2,600.00	-	2,600.00
Off-Road Diesel	51.50	343.69	416.90	-	13.85	13.85	0.00
On-Road Diesel	0.02	0.25	0.06	0.00	0.01	0.01	0.00
Worker Trips	0.39	0.47	8.56	0.00	0.03	0.01	0.02
Maximum lbs/day	51.91	344.41	425.52	0.00	2,613.89	13.87	2,600.02
Phase 3 - Building Construction							
Bldg Const Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Bldg Const Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arch Coatings Off-Gas	0.00	-	-	-	-	-	-
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max lbs/day all phases	51.91	344.41	425.52	0.00	2,613.89	13.87	2,600.02

Phase 3 - Building Construction Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions  
 Start Month/Year for Phase 2: Apr '07  
 Phase 2 Duration: 4 months  
 On-Road Truck Travel (VMT): 12  
 Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
3	Crawler Tractors	143	0.575	8.0
1	Excavators	180	0.580	8.0
3	Graders	174	0.575	8.0
4	Off Highway Trucks	417	0.490	8.0
4	Rubber Tired Dozers	352	0.590	8.0
2	Rubber Tired Loaders	165	0.465	8.0
2	Scrapers	313	0.660	8.0
1	Trenchers	82	0.695	8.0

URBEMIS 2002 For Windows 7.5.0

File Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Dixon Downs\Phase 1 (no event).urb  
Project Name: Phase 1 Operational (no event)  
Project Location: Lower Sacramento Valley Air Basin  
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT  
(Pounds/Day - Summer)

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

Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.41	5.64	2.25	-	0.01
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	0.16	0.01	1.17	0.00	0.00
Consumer Prdcts	0.00	-	-	-	-
TOTALS (lbs/day, unmitigated)	0.57	5.65	3.42	0.00	0.01



UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Track Infrastructure	5.12	0.00	0.00	0.00	0.00
Track Infrastructure	14.27	9.24	93.07	0.07	6.86
TOTAL EMISSIONS (lbs/day)	19.38	9.24	93.07	0.07	6.86

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2004 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Track Infrastructure	0.00 trips / 1000 sq. ft.	341.00	0.00
Track Infrastructure	2.00 trips / rooms	484.00	968.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	56.10	2.70	96.80	0.50
Light Truck < 3,750 lbs	15.10	4.60	92.70	2.70
Light Truck 3,751- 5,750	15.60	2.60	96.20	1.20
Med Truck 5,751- 8,500	6.90	2.90	94.20	2.90
Lite-Heavy 8,501-10,000	1.00	0.00	80.00	20.00
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.80	0.00	12.50	87.50
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.60	87.50	12.50	0.00
School Bus	0.20	0.00	0.00	100.00
Motor Home	1.30	15.40	76.90	7.70

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
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	27.3	21.2	51.5			
% of Trips - Commercial (by land use)						
Track Infrastructure				20.0	10.0	70.0
Track Infrastructure				5.0	2.5	92.5

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Changes made to the default values for Area

Changes made to the default values for Operations

URBEMIS 2002 For Windows 7.5.0

File Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Dixon Downs\Phase 1 large event.urb  
Project Name: Phase 1 Operational (large event)  
Project Location: Lower Sacramento Valley Air Basin  
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT  
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.01	0.15	0.06	-	0.00
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	0.08	0.01	0.58	0.00	0.00
Consumer Prdcts	0.00	-	-	-	-
TOTALS (lbs/day, unmitigated)	0.09	0.15	0.64	0.00	0.00

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Racetrack	108.73	143.24	1,442.26	1.07	106.38
TOTAL EMISSIONS (lbs/day)	108.73	143.24	1,442.26	1.07	106.38

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

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2004 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Racetrack	1,000.00 trips / 1000 sq. ft.	15.00	15,000.00

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	56.10	2.70	96.80	0.50
Light Truck < 3,750 lbs	15.10	4.60	92.70	2.70
Light Truck 3,751- 5,750	15.60	2.60	96.20	1.20
Med Truck 5,751- 8,500	6.90	2.90	94.20	2.90
Lite-Heavy 8,501-10,000	1.00	0.00	80.00	20.00
Lite-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,000	1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,000	0.80	0.00	12.50	87.50
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.60	87.50	12.50	0.00
School Bus	0.20	0.00	0.00	100.00
Motor Home	1.30	15.40	76.90	7.70

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
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	27.3	21.2	51.5			

% of Trips - Commercial (by land use)

Racetrack	5.0	2.5	92.5
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Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Changes made to the default values for Area

The wood stove option switch changed from on to off.  
The fireplace option switch changed from on to off.

Changes made to the default values for Operations

URBEMIS 2002 For Windows 7.5.0

File Name: C:\Program Files\URBEMIS 2002 For Windows\Projects2k2\Dixon Downs\Operational with Large Event  
Project Name: Operational with Large Event  
Project Location: Lower Sacramento Valley Air Basin  
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT  
(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)					
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	0.93	12.82	5.13	-	0.02
Wood Stoves - No summer emissions					
Fireplaces - No summer emissions					
Landscaping	0.33	0.02	2.34	0.00	0.01
Consumer Prdcts	0.00	-	-	-	-
TOTALS (lbs/day, unmitigated)	1.26	12.84	7.46	0.00	0.03

## UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Hotel	12.24	12.84	123.11	0.07	12.60
Strip mall	206.09	269.27	2,570.23	1.52	263.56
General office building	19.69	22.95	228.22	0.13	23.05
Racetrack	66.10	91.36	919.47	0.54	92.43
TOTAL EMISSIONS (lbs/day)	304.13	396.42	3,841.03	2.27	391.64

Does not include correction for passby trips.

Does not include double counting adjustment for internal trips.

## OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2008 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

## Summary of Land Uses:

Unit Type	Trip Rate	Size	Total Trips
Hotel	7.41 trips / rooms	240.00	1,778.40
Strip mall	40.00 trips / 1000 sq. ft.	950.00	38,000.00
General office building	10.73 trips / 1000 sq. ft.	250.00	2,682.50
Racetrack	10,000.00 trips / 1000 sq. ft.	1.00	10,000.00

## Vehicle Assumptions:

## Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	55.00	1.60	98.00	0.40
Light Truck < 3,750 lbs	15.00	2.70	95.30	2.00
Light Truck 3,751- 5,750	16.20	1.20	97.50	1.30
Med Truck 5,751- 8,500	7.20	1.40	95.80	2.80
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
Lite-Heavy 10,001-14,000	0.40	0.00	50.00	50.00
Med-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy 33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000 lbs	0.00	0.00	0.00	100.00
Urban Bus	0.20	0.00	50.00	50.00
Motorcycle	1.70	76.50	23.50	0.00
School Bus	0.10	0.00	0.00	100.00
Motor Home	1.20	8.30	83.30	8.40

## Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
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	27.3	21.2	51.5			

## % of Trips - Commercial (by land use)

Hotel	5.0	2.5	92.5
Strip mall	2.0	1.0	97.0
General office building	35.0	17.5	47.5
Racetrack	48.0	24.0	28.0

Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Phase 3 mitigation measure Off-Road Diesel Exhaust: Use lean-NOx catalyst  
has been changed from off to on.

Changes made to the default values for Area

Changes made to the default values for Operations

The operational emission year changed from 2004 to 2008.

The travel mode environment settings changed from both to: non-residential

The default/noddefault travel setting changed from noddefault to: noddefault

Visually Interesting Uses: No Uses Within Walking Distance

changed to:Visually Interesting Uses: No Uses within Walking Distance

Mitigation measure Provide Transit Shelters Benches:2

has been changed from off to on.

Mitigation measure Provide Bus Turnouts:1

has been changed from off to on.

Mitigation measure Provide Secure Bicycle Parking:1

has been changed from off to on.

Mitigation measure Shuttle Bus Service to Transit/Multi-Modal Center:2

has been changed from off to on.

Mitigation measure Preferential Carpool/Vanpool Parking:1.5

has been changed from off to on.

Mitigation measure Some Frequently Needed Services Provided:3

has been changed from off to on.

Mitigation measuremitop5: Park and Ride Lots

has been changed from on to off.