APPENDIX K

AIR QUALITY ASSUMPTIONS AND MODELING DATA

APPENDIX K-1	NET CHANGE IN LAND USE TYPE FOR THE HIGH DENSITY AND IMPACT MINIMIZATION ALTERNATIVES, PHASE 1: RELATIVE TO THE PROPOSED PROJECT ALTERNATIVE
APPENDIX K-2	PROPOSED PROJECT ALTERNATIVE, PHASE 1: ISC MODELING EMISSION FACTORS FOR PM ₁₀
APPENDIX K-3	High Density Alternative, Phase 1: ISC Modeling Emission Factors for PM ₁₀
APPENDIX K-4	IMPACT MINIMIZATION ALTERNATIVE, Phase 1: Emission Factors for PM_{10}
APPENDIX K-5	CARBON MONOXIDE MODELING DATA FOR AFFECTED INTERSECTIONS —

PROPOSED PROJECT ALTERNATIVE

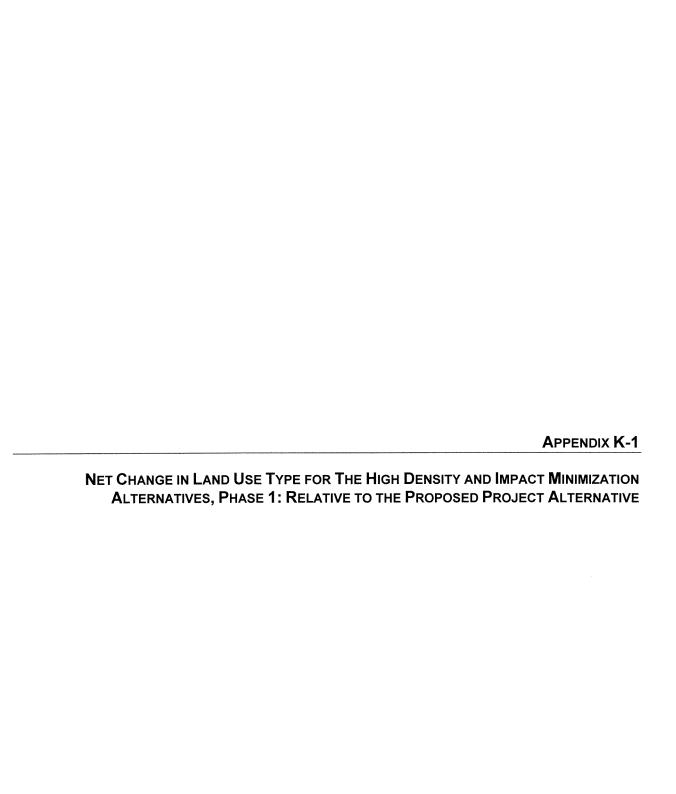
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Rio del Oro Phase 1 Short-Term Construction Air Quality Modeling Assumptions:

- Assume that only approximately half of the area to be developed under phase 1 needs to be graded.
- Nearly all necessary grading would occur at near the beginning of construction of phase 1, rather than over time as different land uses would be developed.
- Due to internal restrictions within URBEMIS on construction duration to 5 years (60 months) it is assumed that 50% implementation of phase 1 would occur within the first 4 years (48 months), and the remaining 50% would occur within the last 4 years of the construction schedule (2006-2014). Results from the first period are presented since emission factors will be highest, and this will represent a worse case.
- Assume 8 hours per work day, 22 construction days per month.
- Low VOC emission architectural coatings will be used during building construction; emission factor 0.0013 lb/s.f. surface area.
- Equipment types and quantities were determined by SMAQMD guidance 2004 revised Table 3.1.

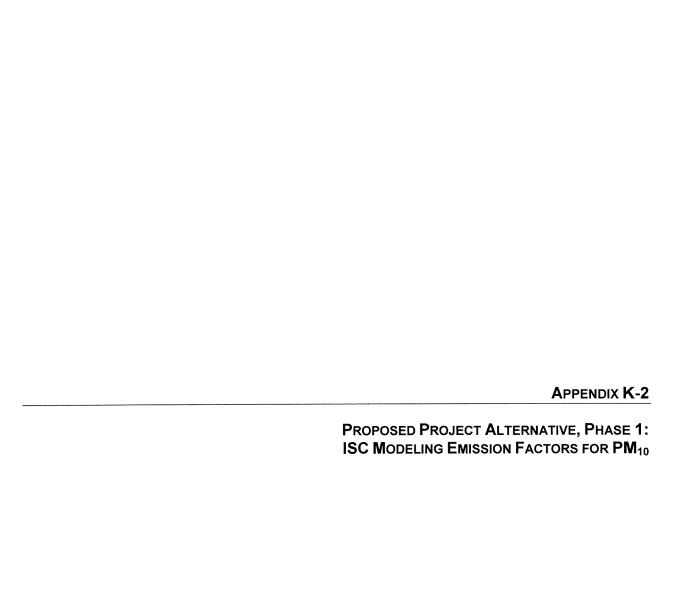
Rio del Oro Phase 1 Long-Term Operational Air Quality Modeling Assumptions:

- URBEMIS was adjusted to reflect the exact VMT and number of trips generated by phase 1 as obtained from traffic report are used instead of model defaults (Fehr & Peers 2005).
- URBEMIS model runs were conducted for the *net change* in acreages of the land use types for the HD and IM alternatives relative to the PP.



Unmititgated Operational Emissions

	Propo	sed Project	(PP)			High Dens	ity (HD)	[net change	e from P	P]	Im	ipact Minim	lization (IN) [net char	ige from P	<u> </u>
Land Use	ROG	NOx	PM10	Ī	R	OG	N	Ох	Р	M10	RO	OG	NC)x	PM	10
Single Family Housing	164.58	188.69	376.1	Ī	0	164.58	0	188.69	0	376.1	-44.25	120.33	-44.56	144.13	-88.82	287.28
Apt Low Rise	37.39	36.75	73.26		0.14	37.53	0.13	36.88	0.26	73.52	-1.41	35.98	-1.32	35.43	-2.64	70.62
Apt Mid Rise	14.34	10.97	21.86		0.31	14.65	0.28	11.25	0.55	22.41	59.28	73.62	53.09	64.06	105.81	127.67
Elementary School	7.87	5.79	11.66		0	7.87	0	5.79	0	11.66	0	7.87	0	5.79	0	11.66
High School	67.3	49.73	100.38		0	67.3	0	49.73	0	100.38	0	67.3	0	49.73	0	100.38
City Park	41.51	53.2	107.54		0	41.51	0	53.2	0	107.54	0.22	41.73	0.11	53.31	0.23	107.77
Regional Shopping Cntr	65.63	48.65	98.43		-7.2	58.43	-8.93	39.72	-18.06	80.37	-171.24	-105.61	-212.22	-163.57	-429.34	-330.91
Strip Mall	18.99	14.08	28.48		0	18.99	0	14.08	0	28.48	0	18.99	0	14.08	0	28.48
Office Park	36.57	26.61	53.14		-1.15	35.42	-1.2	25.41	-2.4	50.74	0	36.57	0	26.61	0	53.14
Industrial Park	98.26	121.83	243.74		-18.3	79.96	-17.4	104.43	-34.82	208.92	-18.3	79.96	17.4	139.23	-34.82	208.92
Total (lb/day)	552.44	556.30	1114.59		L	526.24		529.18		1060.12	L	376.74	L	368.8	L	665.01



Proposed Project Alternative, Phase 1: Construction Emissions (See Assumptions)

Target year = 2006

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1		G	iF	?	Α	D	1	١	1	G	1		5	;	C)	II	L		١	1	0	L	J	J	Ν	Λ	E	

Volume soil remov	$ed = [(A \times B \times C)/27] +$	- (A x 2 x C x D)

4,895.00 A = Length of area (ft) 4,895.00 B = Width of area (ft) C = Depth of grading (ft) (use 2.0 unless data available) 0.50

D = Fall-in factor (use 0.0 unless data available)

TABLE 1

	443,722,69
Cubic yards of soil removed	

2. GRADING / SOIL DENSITY

Tons soil removed = $(A \times B)/2000$

443,722.69 A = Amount of soil removed (cubic yds) (Table 1) B = Soild density (lbs/cubic yd) (use 2528.0 unless data available)

2,528.00

0.00

TABLE 2

Tons of soil removed	560.865.47

3. EMISSION RATE

Emission factor x Operational time

TABLE 3

1. Emission Factor (lbs/hr)	0.75 (default)
2. Operational Time (hrs/day)	8.00
3. Emission Rate (lbs/day)	6.02

4. STOCKPILE LOADING EMISSONS

Emission Factor = $k(0.0032) \times (U/5)^1.3 \times (M/2)^1.4$

k = Particle size multiplier (use 0.35) 0.35 U = Mean wind speed (mph) (use 5.1 unless data available) 5.10 M = Material moisture content (%) (use 7.9 unless available) 7.90

TABLE 4

1. Emission Factor (lbs/ton)	0.00017
2. Tons Transferred (from Table 2)	560,865.47
3. Emission Rate (lbs/day)	94.19

5. STOCKPILE WIND EROSION EMISSIONS

Emission Rate = 1.6 x U x 0.5 x A

U = mean wind speed (m/s) (use 2.3 unless data available) 2.30

137.50 URBEMIS A = acres

TABLE 5

1. Emission Rate (lbs/hr)	253.00
2. Emission Rate (lbs/day)	6,072.00

6. MOBILE SOURCE EMISSIONS

TABLE 6

1. Type of Equipment	Crawler tractors
2. Equipment Used (#)	13.75 URBEMIS

3. Operational Time (hrs/day)	8.00
4. Emission Factor (lbs/hp-hr)	0.43 SMAQMD
5. Emission Rate (lbs/day)	5.91

1. Type of Equipment	Graders	
2. Equipment Used (#)	13.75	URBEMIS
3. Operational Time (hrs/day)	8.00	
4. Emission Factor (lbs/hp-hr)	0.28	SMAQMD
5. Emission Rate (lbs/day)	3.85	

1. Type of Equipment	Off-highway trucks
2. Equipment Used (#)	13.75 URBEMIS
3. Operational Time (hrs/day)	8.00
4. Emission Factor (lbs/hp-hr)	0.58 SMAQMD
5. Emission Rate (lbs/day)	7.98

TABLE 7

Mobile Equipment Emission Rate Totals (lbs/day)	

7. TOTALS

TABLE 8

17.000	
1. Table 3, Row 3	6.02
2. Table 4, Row 3	94.19
3. Table 5, Row 2	6,072.00
4. Total	6,172.22 Fugitive Emissions (lbs/day)
5. Table 7	17.74 Mobile Emissions (lbs/day)

8. CONVERTING TO GRAMS PER SECOND

Emission Factor (grams/sec) = $(A / 24 / 60 / 60) \times 453.592$ grams/lb A = Emission factor (lbs/day)

TABLE 9

INDEE	
Fugitive Dust Emissions	32.40
Mobile PM Emissions	0.09

9. DISTRIBUTE POINT SOURCES OVER SITE

If project =< 10 acres, divide by 49 if project > 10 acres, divide by 64

TABLE 10

I ADEL 10	
Fugitive Dust Emissions	0.5063
Mobile PM Emissions	0.0015

Mitigated PM Emission 0.1266 0.0008 Proposed Project Alternative, Phase 1: Construction Emissions (Second Half of Construction) (See Assumptions)

_/2006 10:46 AM

URBEMIS 2002 For Windows 8.7.0

e Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio PP construction.urb

ject Name: Rio Del Oro PP

ject Location: Lower Sacramento Valley Air Basin Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT (Pounds/Day - Summer)

(1000000) 1001	, , , , ,						
STRUCTION EMISSION ESTIMATES					DM1.0	72410	DM1.0
				200	PM10	PM10	PM10
* 2006 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	
TALS (lbs/day,unmitigated)	99.92	728.56	804.87	1.59		28.89	5,252.93
TALS (lbs/day, mitigated)	95.24	604.65	804.87	1.59	1,330.50	16.94	1,313.56
					D) (1.0	m111 0	Dist.
			~~	300	PM10	PM10	PM10
* 2007 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	
TALS (lbs/day,unmitigated)	89.64	505.46	801.98	0.05	24.55	22.11	2.44
TALS (lbs/day, mitigated)	86.43	407.46	801.98	0.05	14.73	12.29	2.44
						D161 0	D141.0
					PM10	PM10	PM10
* 2008 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	
TALS (lbs/day,unmitigated)	87.61	480.64	797.11	0.04	22.62	20.18	2.44
TALS (lbs/day, mitigated)	84.40	387.40	797.11	0.04	13.67	11.23	2.44
					PM10	PM10	PM10
* 2009 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	
TALS (lbs/day,unmitigated)	85.49	455.06	791.43	0.04	21.34	18.90	2.44
TALS (lbs/day, mitigated)	82.28	366.70	791.43	0.04	12.96	10.52	2.44
					PM10	PM10	PM10
* 2010 ***	ROG	NOx	CO	SO2	TOTAL	EXHAUST	
)TALS (lbs/day,unmitigated)	434.34	496.93	1,120.46	0.09	23.63	18.74	4.89
)TALS (lbs/day, mitigated)	431.13	413.31	1,120.46	0.09	16.12	11.23	4.89
A SOURCE EMISSION ESTIMATES							
	ROG	NOx	CO	S02	PM10		
)TALS (lbs/day,unmitigated)	92.74	60.96	72.44	0.15	0.19		
RATIONAL (VEHICLE) EMISSION	ESTIMATES						
	ROG	NOx	CO	S02	PM10		
)TALS (lbs/day,unmitigated)	704.93	792.17	8,241.21	10.44	1,595.97		
4 OF AREA AND OPERATIONAL EMI	SSION ESTI	MATES					
	ROG	NOx	CO	S02	PM10		
TALS (lbs/day,unmitigated)	797.67	853.13	8,313.66	10.59	1,596.17		

e Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio PP construction.urb

ject Name: Rio Del Oro PP

pject Location: Lower Sacramento Valley Air Basin Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT (Pounds/Day - Summer)

istruction Start Month and Year: June, 2006 istruction Duration: 48 al Land Use Area to be Developed: 550 acres

cimum Acreage Disturbed Per Day: 137.5 acres 1gle Family Units: 725 Multi-Family Units: 772

ail/Office/Institutional/Industrial Square Footage: 9006500

,011,011,011,011,011,011,011,011,011,01							
1STRUCTION EMISSION ESTIMAT	TES UNMITI	GATED (lbs	:/day)		PM10	PM10	PM10
Source ** 2006***	ROG	NOx	CO	S02	TOTAL	EXHAUST	DUST
ise 1 - Demolition Emission	ns						
itive Dust	-	_	-		0.00		0.00
E-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0:00	0.00
cker 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
ase 2 - Site Grading Emiss:	ions						
jitive Dust	-		-	-	5,252.50		5,252.50
E-Road Diesel	93.67	619.57	768.71		26.55	26.55	0.00
-Road Diesel	5.42	108.14	20.00	1.58	2.72	2.32	0.40
cker Trips	0.83	0.85	15.64	0.01	0.05	0:02 28.89	0.03
Maximum lbs/day	99.92	728.56	804.35	1.59	5,281.82	40.03	5,252.93
ase 3 - Building Construct:							
ig Const Off-Road Diesel	64.22	513.75	457.24	-	23.76	23.76	0.00
ig Const Worker Trips	27.35	16.44	347.63	0.05	2.72	0.28	2.44
ch Coatings Off-Gas	0.00	0.00	0 00	0 00	- 0.00	0.00	0.00
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas phalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
ohalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ohalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	91.57	530.19	804.87	0.05	26.48	24.04	2.44
Max lbs/day all phases	99.92	728.56	804.87	1.59	5,281.82	28.89	5,252.93
** 2007***							
ase 1 - Demolition Emission	ns ~	-	_		0.00		0.00
gitive Dust f-Road Diesel	0.00	0.00	0.00	***	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 2 - Site Grading Emiss:	ions						
gitive Dust	_	_	arts.	vian.	0.00		0.00
f-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0:00	0.00
rker 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
ase 3 - Building Construct:	ion						
dg Const Off-Road Diesel	64.22	489.99	475.22	num.	21.83	21.83	0.00
dg Const Worker Trips	25.43	15.47	326.76	0.05	2.72	0.28	2.44
ch Coatings Off-Gas	0.00		_			-	
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	0 00	0.00	-	0 00	0.00	0.00
phalt Off-Road Diesel phalt On-Road Diesel	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00
phalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	89.64	505.46	801.98	0.05	24.55	22.11	2.44
Max lbs/day all phases	89.64	505.46	801.98	0.05	24.55	22.11	2.44

** 2008***

ase 1 - Demolition Emissic	ons						
gitive Dust	-	-	-		0.00		0.00
f-Road Diesel	0.00	0.00	0.00	- 0.0	0.00	0.00	0.00
-Road Diesel rker Trips	0.00	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
Adrian 1557 day	0.00	0.00	0.00	0.00	0.00		
ase 2 - Site Grading Emiss	sions						
gitive Dust	-	-	-	_	0.00		0.00
f-Road Diesel	0.00	0.00	0.00	0 00	0.00	0.00	0.00
-Road Diesel rker Trips	0.00	0.00 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
ase 3 - Building Construct					10.01	40.04	0.00
dg Const Off-Road Diesel	64.22 23.39	466.23 14.41	492.56 304.55	0.04	19.91 2.72	19.91 0.28	0.00 2.44
dg Const Worker Trips ch Coatings Off-Gas	0.00	14.41	304.35	0.04	2.72	0.20	2.44
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	_	_	_		_	_
phalt Off-Road Diesel	0.00	0.00	0.00	non.	0.00	0.00	0.00
phalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Worker Trips	0.00	0.00	0.00	0.00 0.04	0.00 22.62	0.00 20.18	0.00 2.44
Maximum lbs/day	87.61	480.64	797.11	0.04	22.02	20.10	2.44
Max lbs/day all phases	87.61	480.64	797.11	0.04	22.62	20.18	2.44
** 2009***							
ase 1 - Demolition Emission	าทร						
gitive Dust	-	_	****		0.00	_	0.00
f-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 2 - Site Grading Emiss	sions						
gitive Dust		-		w	0.00	-	0.00
f-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
-Road_Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker Trips Maximum lbs/day	0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00	0.00
Maximum ibs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ase 3 - Building Construct	cion						
dg Const Off-Road Diesel	64.22	441.83	510.54	_	18.62	18.62	0.00
dg Const Worker Trips	21.27	13.23	280.89	0.04	2.72	0.28	2.44
ch Coatings Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ch Coatings Worker Trips phalt Off-Gas	0.00	0.00	0.00	0.00	-	0.00	0.00
phalt Off-Road Diesel	0.00	0.00	0.00	nate:	0.00	0.00	0.00
phalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	85.49	455.06	791.43	0.04	21.34	18.90	2.44
Max lbs/day all phases	85.49	455.06	791.43	0.04	21.34	18.90	2.44
interior, and are propos	33.13	100.00					
001044							
** 2010*** ase 1 - Demolition Emission	าทร						
gitive Dust		***	-	_	0.00		0.00
f-Road Diesel	0.00	0.00	0.00	****	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 2 - Site Grading Emiss	sions						
gitive Dust	-	-			0.00	_	0.00
f-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker Trips	0.00 0.00	0.00	0.00 0.00	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
ase 3 - Building Construct							
dg Const Off-Road Diesel	64.22	418.07	527.88		16.70	16.70	0.00
dg Const Worker Trips	19.31	12.10	258.51	0.04	2.72	0.28	2.44
ch Coatings Off-Gas	320.30	12 10	250 51	0 04	2 72	0.28	2.44
ch Coatings Worker Trips chalt Off-Gas	19.31 2.21	12.10	258.51	0.04	2.72	U.Z8	۷.44
phate Off-Gas	4.41	_	_	-			_

phalt Off-Road Diesel	8.72	50.58	74.13	-	1.40	1.40	0.00
phalt On-Road Diesel	0.22	4.05	0.81	0.01	0.10	0.09	0.01
phalt Worker Trips	0.05	0.03	0.62	0.00	0.01	0.00	0.01
Maximum lbs/day	434.34	496.93	1,120.46	0.09	23.63	18.74	4.89
Max lbs/day all phases	434.34	496.93	1,120.46	0.09	23.63	18.74	4.89

ase 1 - Demolition Assumptions: Phase Turned OFF

ase 2 - Site Grading Assumptions art Month/Year for Phase 2: Jun '06 ase 2 Duration: 5.3 months -Road Truck Travel (VMT): 3806

f-Road Equipment

No.	Туре	Horsepower	Load Factor	Hours/Day
14	Crawler Tractors	143	0.575	8.0
14	Graders	174	0.575	8.0
14	Off Highway Trucks	417	0.490	8.0

ase 3 - Building Construction Assumptions

art Month/Year for Phase 3: Nov '06

ase 3 Duration: 42.7 months

Start Month/Year for SubPhase Building: Nov '06 SubPhase Building Duration: 42.7 months

Off-Road Equipment

Hours/Day No. Type Horsepower Load Factor Other Equipment 0.620 6.0 Start Month/Year for SubPhase Architectural Coatings: Jan '10

SubPhase Architectural Coatings Duration: 4.3 months

Start Month/Year for SubPhase Asphalt: Mar '10

SubPhase Asphalt Duration: 2.1 months Acres to be Paved: 39

Off-Road Equipment

Type	Horsepower	Load Factor	Hours/Day
Pavers	132	0.590	8.0
Rollers	114	0.430	8.0
	Pavers	Pavers 132	Pavers 132 0.590

anges made to the default values for Land Use Trip Percentages anges made to the default values for Construction te Grading Fugitive Dust Emission Rate changed from 10 to 38.2 chitectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013 chitectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013 ase 2 mitigation measure Soil Disturbance: has been changed from off to on. ase 2 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. ase 3 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. anges made to the default values for Area e landscape year changed from 2005 to 2015. e residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013. e nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013. anges made to the default values for Operations e operational emission year changed from 2005 to 2015. e home based work selection item changed from 8 to 7. e home based work urban trip length changed from 9.7 to 6.3. e home based work rural trip length changed from 16.8 to 6.3. e home based shopping selection item changed from 8 to 7. e home based shopping urban trip length changed from 3.8 to 6.3. e home based shopping rural trip length changed from 7.1 to 6.3. e home based other selection item changed from 8 to 7. e home based other urban trip length changed from 4.6 to 6.3. e home based other rural trip length changed from 7.9 to 6.3. e commercial based commute selection item changed from 8 to 7. e commercial based commute urban trip length changed from 7.8 to 6.3. e commercial based commute rural trip length changed from 14.7 to 6.3. e commercial based non-work selection item changed from 8 to 7.

e commercial based non-work urban trip length changed from 4.5 to 6.3. e commercial based non-work rural trip length changed from 6.6 to 6.3. e commercial based customer selection item changed from 8 to 7. e commercial based customer urban trip length changed from 4.5 to 6.3. e commercial based customer rural trip length changed from 6.6 to 6.3.

C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio PP construction part II.urb Rio Del Oro PP le Name:

oject Name: oject Location: Lower Sacramento Valley Air Basin -Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

> SUMMARY REPORT (Pounds/Day - Summer)

NSTRUCTION EMISSION ESTIMATES					PM10	PM10	PM10
** 2010 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	DUST
OTALS (lbs/day,unmitigated)	110.16	465.36	1,442.57	0.54	20.79	18.35	2.44
OTALS (lbs/day, mitigated)	106.95	381.75	1,442.57	0.54	13.28	10.84	2.44
					PM10	PM10	PM10
** 2011 ***	ROG	NOx	CO	SO2	TOTAL	EXHAUST	DUST
OTALS (lbs/day,unmitigated)	110.16	465.36	1,442.57	0.54	20.79	18.35	2.44
OTALS (lbs/day, mitigated)	106.95	381.75	1,442.57	0.54	13.28	10.84	2.44
					PM10	PM10	PM10
** 2012 ***	ROG	NOx	CO	SO2	TOTAL	EXHAUST	DUST
OTALS (lbs/day,unmitigated)	110.16	465.36	1,442.57	0.54	20.79	18.35	2.44
OTALS (lbs/day, mitigated)	106.95	381.75	1,442.57	0.54	13.28	10.84	2.44
					PM10	PM10	PM10
** 2013 ***	ROG	NOx	CO	SO2	TOTAL	EXHAUST	DUST
OTALS (lbs/day,unmitigated)	110.16	465.36	1,442.57	0.54	20.79	18.35	2.44
OTALS (lbs/day, mitigated)	106.95	381.75	1,442.57	0.54	13.28	10.84	2.44
					PM10	PM10	PM10
** 2014 ***	ROG	NOx	CO	SO2	TOTAL	EXHAUST	DUST
OTALS (lbs/day,unmitigated)	427.30	531.61	1,776.54	0.59	24.99	20.10	4.89
OTALS (lbs/day, mitigated)	424.09	448.00	1,776.54	0.59	17.48	12.59	4.89
EA SOURCE EMISSION ESTIMATES							
En Doores Elizabeten Bottimita	ROG	NOx	CO	SO2	PM10		
OTALS (lbs/day,unmitigated)	92.74	60.96	72.44	0.15	0.19		
ERATIONAL (VEHICLE) EMISSION	ESTIMATES						
HIGH COME (VIIII COM) MILEON COM	ROG	NOx	CO	SO2	PM10		
OTALS (lbs/day,unmitigated)	704.93	792.17	8,241.21	10.44	1,595.97		
M OF AREA AND OPERATIONAL EMI	SSION ESTI	MATES					
	ROG	NOx	CO	SO2	PM10		
OTALS (lbs/day,unmitigated)	797.67	853.13	8,313.66	10.59	1,596.17		

 $\texttt{C:\Program Files} \ \texttt{URBEMIS 2002 Version 8.7} \ \texttt{Projects2k2} \\ \texttt{Rio} \\ \texttt{Rio} \ \texttt{PP construction part II.urb }$ le Name:

PM10 PM10

PM10

oject Name: Rio Del Oro PP

Lower Sacramento Valley Air Basin oject Location: -Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

> DETAIL REPORT (Pounds/Day - Summer)

nstruction Start Month and Year: June, 2010

nstruction Duration: 48 tal Land Use Area to be Developed: 550 acres ximum Acreage Disturbed Per Day: 137.5 acres ngle Family Units: 725 Multi-Family Units: 772 tail/Office/Institutional/Industrial Square Footage: 9006500

NSTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/da	NSTRUCTION	EMISSION	ESTIMATES	UNMITIGATED	(lbs/day	1)
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Source	ROG	NOx	CO	S02	TOTAL	EXHAUST	DUST
** 2010***							
ase 1 - Demolition Emissi	ons						
gitive Dust	-	-	_	-	0.00		0.00
f-Road Diesel	0.00	0.00	0.00	9949	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 2 - Site Grading Emis	sions						
gitive Dust	_	_	-	-	0.00	_	0.00
f-Road Diesel	0.00	0.00	0.00	***	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 3 - Building Construct	tion						
dg Const Off-Road Diesel	64.22	418.07	527.88		16.70	16.70	0.00
dg Const Worker Trips	45.94	47.30	914.69	0.54	4.09	1.65	2.44
ch Coatings Off-Gas	0.00	_	-	-	_	-	2000
ch Coatings Worker Trips		0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	-	_	_	_	_	-
phalt Off-Road Diesel	0.00	0.00	0.00		0.00	0.00	0.00
phalt On-Road Diesel	0.00 0.00 110.16	0.00	0.00	0.00	0.00	0.00	0.00
phalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	110.16	465.36	1,442.57	0.54	20.79	18.35	2.44
Max lbs/day all phases	110.16	465.36	1,442.57	0.54	20.79	18.35	2.44
** 2011***							
** 2011***	ากร						
ase 1 - Demolition Emissi	ons	adri			0.00		0.00
ase 1 - Demolition Emission gitive Dust	-		0.00		0.00	0.00	0.00
ase 1 - Demolition Emissic gitive Dust f-Road Diesel	0.00	0.00	- 0.00 0.00	- - 0.00	0.00 0.00 0.00		
ase 1 - Demolition Emissic gitive Dust f-Road Diesel -Road Diesel	-	0.00			0.00	0.00	0.00
ase 1 - Demolition Emissic gitive Dust f-Road Diesel	0.00 0.00	0.00	0.00	0.00	0.00	0.00	0.00
ase 1 - Demolition Emissic gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day	0.00 0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
ase 1 - Demolition Emissic gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emis	0.00 0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00	0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
ase 1 - Demolition Emissic gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00	0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
ase 1 - Demolition Emissic gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emise gitive Dust	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
ase 1 - Demolition Emissic gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emise gitive Dust f-Road Diesel	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00
ase 1 - Demolition Emissic gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emise gitive Dust f-Road Diesel -Road Diesel	0.00 0.00 0.00 0.00 0.00 sions	0.00 0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
ase 1 - Demolition Emissic gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emiss gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day	0.00 0.00 0.00 0.00 0.00 sions	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00
ase 1 - Demolition Emissic gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emiss gitive Dust f-Road Diesel -Road Diesel rker Trips	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00
ase 1 - Demolition Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 3 - Building Construct	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
ase 1 - Demolition Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 3 - Building Construct dg Const Off-Road Diesel	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
ase 1 - Demolition Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 3 - Building Construct dg Const Off-Road Diesel dg Const Worker Trips	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 527.88 914.69	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
ase 1 - Demolition Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emission gitive Dust f-Road Diesel -Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 3 - Building Constructed Const Off-Road Diesel dg Const Worker Trips ch Coatings Off-Gas ch Coatings Worker Trips phalt Off-Gas	0.00 0.00 0.00 0.00 0.00 sions - 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
ase 1 - Demolition Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 3 - Building Constructed Const Off-Road Diesel dg Const Worker Trips ch Coatings Off-Gas ch Coatings Worker Trips phalt Off-Gas phalt Off-Road Diesel	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
ase 1 - Demolition Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 3 - Building Constructing Const Off-Road Diesel dg Const Off-Road Diesel dg Const Worker Trips ch Coatings Off-Gas ch Coatings Worker Trips phalt Off-Gas phalt Off-Road Diesel phalt On-Road Diesel	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.54 - 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
ase 1 - Demolition Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 3 - Building Construct dg Const Off-Road Diesel dg Const Worker Trips ch Coatings Off-Gas ch Coatings Worker Trips phalt Off-Gas phalt Off-Road Diesel phalt On-Road Diesel phalt Worker Trips	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.54 - 0.00 	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
ase 1 - Demolition Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 3 - Building Constructed Const Off-Road Diesel dg Const Off-Road Diesel dg Const Worker Trips ch Coatings Off-Gas ch Coatings Worker Trips phalt Off-Gas phalt Off-Road Diesel phalt On-Road Diesel	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.54 - 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
ase 1 - Demolition Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 2 - Site Grading Emission gitive Dust f-Road Diesel -Road Diesel rker Trips Maximum lbs/day ase 3 - Building Construct dg Const Off-Road Diesel dg Const Worker Trips ch Coatings Off-Gas ch Coatings Worker Trips phalt Off-Gas phalt Off-Road Diesel phalt On-Road Diesel phalt Worker Trips	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.54 - 0.00 	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0

** 2012***

ase 1 - Demolition Emission	ons		-	over	0.00	_	0.00
jitive Dust f-Road Diesel	0.00	0.00	0.00	1000	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker Trips Maximum lbs/day	0.00 0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00
Maximum IDS/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ase 2 - Site Grading Emiss					0.00		0 00
gitive Dust E-Road Diesel	0.00	0.00	0.00	1990	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 3 - Building Construct							
dg Const Off-Road Diesel	64.22 45.94	418.07 47.30	527.88 914.69	0.54	16.70 4.09	16.70 1.65	0.00 2.44
dg Const Worker Trips ch Coatings Off-Gas	0.00	47.30	914.09	0.54	4.05	-	2.33
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas phalt Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
ohalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	110.16	465.36	1,442.57	0.54	20.79	18.35	2.44
Max lbs/day all phases	110.16	465.36	1,442.57	0.54	20.79	18.35	2.44
** 2013***							
ase 1 - Demolition Emission	ons						
gitive Dust	0.00	0.00	0.00	_	0.00 0.00	0.00	0.00
f-Road Diesel -Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 2 - Site Grading Emis:	sions						
gitive Dust		_	_	-	0.00	-	0.00
f-Road Diesel -Road Diesel	0.00 0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00
rker 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
ase 3 - Building Construct	tion						
dg Const Off-Road Diesel	64.22	418.07	527.88	-	16.70	16.70	0.00
dg Const Worker Trips	45.94	47.30	914.69	0.54	4.09	1.65	2.44
ch Coatings Off-Gas ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	_	_	****		_	
phalt Off-Road Diesel phalt On-Road Diesel	0.00 0.00	0.00	0.00 0.00	0.00	0.00	0.00 0.00	0.00
ohalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	110.16	465.36	1,442.57	0.54	20.79	18.35	2.44
Max lbs/day all phases	110.16	465.36	1,442.57	0.54	20.79	18.35	2.44
.an ibb/day dir phabob	110.10	100.00	2,222.0				
** 2014***							
ase 1 - Demolition Emission	ons						
gitive Dust		_	- 0.00	-	0.00	0:00	0.00
f-Road Diesel -Road Diesel	0.00 0.00	0.00	0.00 0.00	0.00	0.00	0:00	0.00
rker 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
ase 2 - Site Grading Emis:	sions						
gitive Dust	-	_	_	-	0.00	-	0.00
f-Road Diesel	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00
-Road Diesel rker Trips	0.00 0.00	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
ago 2 Puilding Construct	rion						
ase 3 - Building Construct dg Const Off-Road Diesel	64.22	418.07	527.88	, the	16.70	16.70	0.00
dg Const Worker Trips	45.94	47.30	914.69	0.54	4.09	1.65	2.44
ch Coatings Off-Gas	286.94	12.10	258.51	0.04	2.72	0.28	2.44
ch Coatings Worker Trips chalt Off-Gas	19.31 1.94	12.10	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	0.04	2.12	0.40	2.44
,							

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phalt Off-Road Diesel phalt On-Road Diesel phalt Worker Trips Maximum lbs/day	8.72 0.19 0.05 427.30	50.58 3.54 0.03 531.61	74.13 0.71 0.62 1,776.54	0.01 0.00 0.59	1.40 0.09 0.01 24.99	1.40 0.08 0.00 20.10	0.00 0.01 0.01 4.89
Max lbs/day all phases	427.30		1,776.54	0.59	24.99	20.10	4.89

ase 2 - Site Grading Assumptions: Phase Turned OFF

ase 3 - Building Construction Assumptions

art Month/Year for Phase 3: Jun '10

ase 3 Duration: 48 months Start Month/Year for SubPhase Building: Jun '10

SubPhase Building Duration: 48 months

Off-Road Equipment

Type Horsepower Load Factor Hours/Day No. 41 Other Equipment 190 0.6 Start Month/Year for SubPhase Architectural Coatings: Jan '14 0.620

SubPhase Architectural Coatings Duration: 4.8 months

Start Month/Year for SubPhase Asphalt: Mar '14 SubPhase Asphalt Duration: 2.4 months

Acres to be Paved: 39

Off-Road Equipment

No.	Туре	Horsepower	Load Factor	Hours/Day
4	Pavers	132	0.590	8.0
4	Rollers	114	0.430	8.0

anges made to the default values for Land Use Trip Percentages inges made to the default values for Construction :hitectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013 hitectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013 ase 3 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. anges made to the default values for Area e landscape year changed from 2005 to 2015. eresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013. e nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013. anges made to the default values for Operations e operational emission year changed from 2005 to 2015. e home based work selection item changed from 8 to 7. e home based work urban trip length changed from 9.7 to 6.3. $_{\mbox{\scriptsize 9}}$ home based work rural trip length changed from 16.8 to 6.3. e home based shopping selection item changed from 8 to 7. e home based shopping urban trip length changed from 3.8 to 6.3. e home based shopping rural trip length changed from 7.1 to 6.3. ${\tt e}$ home based other selection item changed from 8 to 7. $\ensuremath{\text{a}}$ home based other urban trip length changed from 4.6 to 6.3. e home based other rural trip length changed from 7.9 to 6.3. e commercial based commute selection item changed from 8 to 7. e commercial based commute urban trip length changed from 7.8 to 6.3. e commercial based commute rural trip length changed from 14.7 to 6.3.

e commercial based non-work selection item changed from 8 to 7.
e commercial based non-work urban trip length changed from 4.5 to 6.3.
e commercial based non-work rural trip length changed from 6.6 to 6.3.
e commercial based customer selection item changed from 8 to 7.
e commercial based customer urban trip length changed from 4.5 to 6.3.
e commercial based customer rural trip length changed from 6.6 to 6.3.



ile Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio PP.urb

roject Name: Rio Del Oro PP

roject Location: Lower Sacramento Valley Air Basin 1-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT (Pounds/Day - Summer)

REA SOURCE EMISSION ESTIMATES	(Summer	Pounds per	Day, Unmit	igated)	
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	8.87	120.22	88.62	0	0.22
Hearth - No summer emissions					
Jandscaping	6.32	0.81	49.90	0.29	0.16
lonsumer Prdcts	146.48	-	-	-	-
Architectural Coatings	18.92	-	-	-	-
FOTALS(lbs/day,unmitigated)	180.58	121.03	138.53	0.29	0.38

,	
	Proposed Project Alternative, Phase 1: Operational Emissions

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	S02	PM10
ngle family housing	164.58	188.69	2,058.64	2.49	376.10
partments low rise	37.39	36.75	400.99	0.49	73.26
partments mid rise	14.34	10.97	119.66	0.14	21.86
.ementary school	7.87	5.79	60.53	0.08	11.66
.gh school	67.30	49.73	512.79	0.66	100.38
.ty park	41.51	53.20	544.91	0.70	107.54
egnl shop. center	65.63	48.65	496.28	0.64	98.43
:rip mall	18.99	14.08	143.59	0.19	28.48
ifice park	36.57	26.61	288.31	0.35	53.14
idustrial park	98.26	121.83	1,309.27	1.61	243.74
TAL EMISSIONS (lbs/day)	552.43	556.31	5,934.96	7.34	1,114.58

mes not include correction for passby trips. The not include double counting adjustment for internal trips.

'ERATIONAL (Vehicle) EMISSION ESTIMATES

ualysis Year: 2015 Temperature (F): 85 Season: Summer

IFAC Version: EMFAC2002 (9/2002)

mmmary of Land Uses:

nit Type	Acreage	Trip	Rate	No. Units	Total Trips
ngle family housing partments low rise partments mid rise ementary school gh school ty park egnl shop center rip mall fice park idustrial park	483.33 56.50 16.84	8.47 3.57 3.11 3.11 135.54 3.11 3.11	trips/dwelling unit trips/dwelling unit trips/dwelling unit trips/1000 sq. ft. trips/1000 sq. ft. trips/acres trips/1000 sq. ft. trips/1000 sq. ft. trips/1000 sq. ft. trips/1000 sq. ft. trips/2000 sq. ft.	1,450.0039 904.00 7 640.00 2 392.00 1 3,376.0010 83.0011 3,311.0010 958.00 2 1,786.00 5 188.0025	,656.88 ,284.80 ,219.12 ,499.36 ,249.82 ,297.21 ,979.38 ,554.46

Sum of Total Trips 116,532.05
Total Vehicle Miles Traveled 734,151.92

hicle Assumptions:

.eet Mix:

hicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
.ght Auto	54.40	0.40	99.40	0.20
.ght Truck < 3,750 lbs	s 15.30	0.70	98.00	1.30
ght Truck 3,751-5,750	16.40	0.60	98.80	0.60
ed Truck 5,751-8,500	7.30	0.00	98.60	1.40
.te-Heavy 8,501-10,000	1.10	0.00	81.80	18.20
te-Heavy 10,001-14,000	0.30	0.00	66.70	33.30
d-Heavy 14,001-33,000	1.00	0.00	20.00	80.00
eavy-Heavy 33,001-60,000		0.00	0.00	100.00
ne Haul > 60,000 lbs		0.00	0.00	100.00
ban Bus	0.20	0.00	50.00	50.00
torcycle	1.60	50.00	50.00	0.00
:hool Bus	0.10	0.00	0.00	100.00
tor Home	1.50	0.00	93.30	6.70

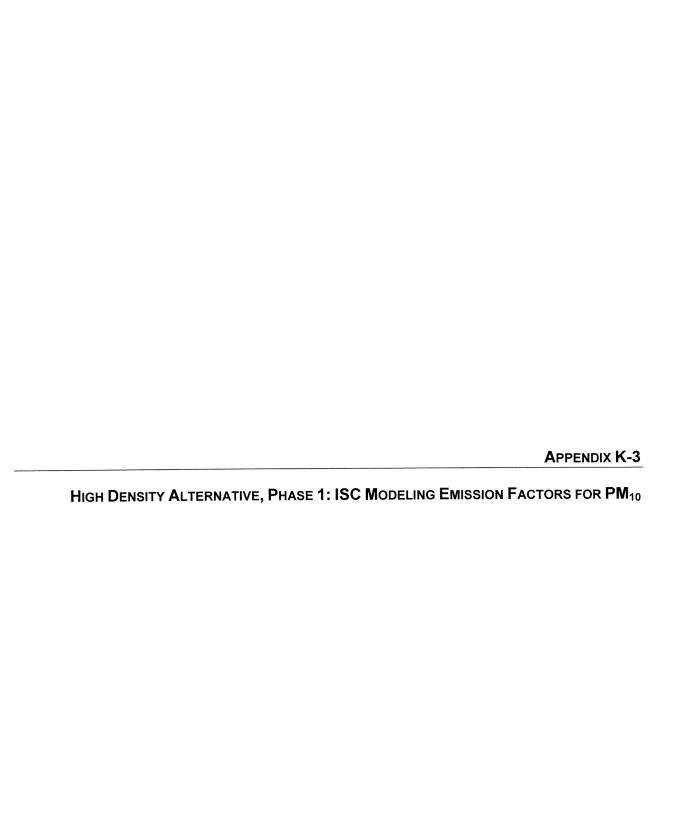
avel Conditions

aver conditions	Home-	Residential Home-	Home-		Commercial	
ral Trip Length (miles) ip Speeds (mph)	Work 6.3 6.3 35.0 27.3	Shop 6.3 6.3 35.0 21.2	Other 6.3 6.3 35.0 51.5	Commute 6.3 6.3 35.0	Non-Work 6.3 6.3 35.0	Customer 6.3 6.3 35.0
of Trips - Commercial () .ementary school .gh school .ty park .gnl shop. center	oy land	use)		20.0 10.0 5.0 2.0	10.0 5.0 2.5 1.0	70.0 85.0 92.5 97.0

/08+2005 1:05 PM

rip mall	2.0	1.0	97.0
fice park	48.0	24.0	28.0
dustrial park	41.5	20.8	37.8
-			

```
langes made to the default values for Land Use Trip Percentages
ne Trip Rate and/or Acreage values for Single family housing nave changed from the defaults 9.57/483.33 to 27.11/483.33
ne Trip Rate and/or Acreage values for Apartments low rise
have changed from the defaults 6.9/56.5 to 8.47/56.5
ne Trip Rate and/or Acreage values for Apartments mid rise
have changed from the defaults 5.76/16.84 to 3.57/16.84
nanges made to the default values for Construction
ite Grading Fugitive Dust Emission Rate changed from 10 to 38.2
chitectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013
chitectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013
hase 2 mitigation measure Soil Disturbance:
   has been changed from off to on.
hase 2 mitigation measure Off-Road Diesel Exhaust:
    has been changed from off to on.
hase 3 mitigation measure Off-Road Diesel Exhaust:
    has been changed from off to on.
langes made to the default values for Area
ne landscape year changed from 2005 to 2015.
me residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.
ne nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013.
nanges made to the default values for Operations
ne operational emission year changed from 2005 to 2015.
ne home based work selection item changed from 8 to 7.
ne home based work urban trip length changed from 9.7 to 6.3. ne home based work rural trip length changed from 16.8 to 6.3.
ne home based shopping selection item changed from 8 to 7.
ne home based shopping urban trip length changed from 3.8 to 6.3. ne home based shopping rural trip length changed from 7.1 to 6.3.
ne home based other selection item changed from 8 to 7.
ne home based other urban trip length changed from 4.6 to 6.3.
ne home based other rural trip length changed from 7.9 to 6.3.
ne commercial based commute selection item changed from 8 to 7.
ne commercial based commute urban trip length changed from 7.8 to 6.3.
ne commercial based commute rural trip length changed from 14.7 to 6.3.
ne commercial based non-work selection item changed from 8 to 7.
he commercial based non-work urban trip length changed from 4.5 to 6.3.
he commercial based non-work rural trip length changed from 6.6 to 6.3.
he commercial based customer selection item changed from 8 to 7.
he commercial based customer urban trip length changed from 4.5 to 6.3.
he commercial based customer rural trip length changed from 6.6 to 6.3.
```



Developing Emission Factors

Target year = 2006

				-	_	_	_		=	-		_	-	_
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	GRA	ши	чLЗ	•			_	v	u	_	u	11	/ 11	_

Volume soil re	$moved = I(A \times E)$	3 x C)/27] +	(A x 2 x	$C \times D$

Volume soil removed = $[(A \times B \times C)/2/] + (A \times 2 \times C \times D)$	
A = Length of area (ft)	4,895.00
B = Width of area (ft)	4,895.00
C = Depth of grading (ft) (use 2.0 unless data available)	0.50
D = Fall-in factor (use 0.0 unless data available)	0.00

TABLE 1

	443,722.69
Cubic yards of soil removed	1 443 722 hyl
icupoic varos oi soil removeo	"7"0,1 22.00
TOUDIO FAI GO OI CON TONIOTOG	1 1

2. GRADING / SOIL DENSITY

Tons soil removed = $(A \times B)/2000$

A = Amount of soil removed (cubic yds) (Table 1) 443,722.69 B = Soild density (lbs/cubic yd) (use 2528.0 unless data available) 2,528.00

TABLE 2

	560.865.47
Tons of soil removed	1 300.003.471
I LOUS OF SOFTERHOVED	1 000,000

3. EMISSION RATE

Emission factor x Operational time

TABLE 3

TABLE 3			the second of the second
1. Emission Factor (lbs/hr)	0.75 (default)	10	1997 - 19
2. Operational Time (hrs/day)	8.00	€* •	
3. Emission Rate (lbs/day)	6.02		

4. STOCKPILE LOADING EMISSONS

Emission Factor = $k(0.0032) \times (U/5)^{1.3} \times (M/2)^{1.4}$	
k = Particle size multiplier (use 0.35)	0.35
U = Mean wind speed (mph) (use 5.1 unless data available)	5.10
M = Material moisture content (%) (use 7.9 unless available)	7.90

TABLE 4

1. Emission Factor (lbs/ton)	0.00017
2. Tons Transferred (from Table 2)	560,865.47
3. Emission Rate (lbs/day)	94.19

5. STOCKPILE WIND EROSION EMISSIONS

Emission Rate = 1.6 x U x 0.5 x A

U = mean wind speed (m/s) (use 2.3 unless data available) 2.30

A = acres 137.50 URBEMIS

TABLE 5

1. Emission Rate (lbs/hr)	253.00
2. Emission Rate (lbs/day)	6,072.00

6. MOBILE SOURCE EMISSIONS

TABLE 6

	1. Type of Equipment	Crawler tractors
l	2. Equipment Used (#)	13.75 URBEMIS

3. Operational Time (hrs/day)	8.00	
4. Emission Factor (lbs/hp-hr)	0.43	SMAQMD
5. Emission Rate (lbs/day)	5.91	

1. Type of Equipment	Graders	
2. Equipment Used (#)	13.75	URBEMIS
3. Operational Time (hrs/day)	8.00	
4. Emission Factor (lbs/hp-hr)	0.28	SMAQMD
5. Emission Rate (lbs/day)	3.85	

1. Type of Equipment	Off-highway truck
2. Equipment Used (#)	13.75 URBEMIS
3. Operational Time (hrs/day)	8.00
4. Emission Factor (lbs/hp-hr)	0.58 SMAQMD
5. Emission Rate (lbs/day)	7.98

TABLE 7

Mobile Equipment Emission Rate Tota		1 2
Mabila Cauinmant Emigaian Data Lata	In (Inc/do)/)	1 7////

7. TOTALS

TABLE 8

1. Table 3, Row 3	6.02	
2. Table 4, Row 3	94.19	t ·
3. Table 5, Row 2	6,072.00	
4. Total	6,172.22	Fugitive Emissions (lbs/day)
5. Table 7	17.74	Mobile Emissions (lbs/day)

8. CONVERTING TO GRAMS PER SECOND

Emission Factor (grams/sec) = (A / 24 / 60 / 60) x 453.592 grams/lb A = Emission factor (lbs/day)

TABLE 9

Fugitive Dust Emissions	32.40
Mobile PM Emissions	0.09

9. DISTRIBUTE POINT SOURCES OVER SITE

If project =< 10 acres, divide by 49
if project > 10 acres, divide by 64

TABLE 10

.,	
Fugitive Dust Emissions	0.5063
Mobile PM Emissions	0.0015

Mitigated PM Emission 0.1266 0.0008 High Density Alternative, Phase 1: Construction Emissions (See Assumptions)

;e: 1 '31/2006 10:47 AM

le Name:

URBEMIS 2002 For Windows 8.7.0

C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio HD construction.urb Rio Del Oro HD oject Name:

oject Location:

-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT (Pounds/Day - Summer)

NSTRUCTION EMISSION ESTIMATES					PM10	PM10	PM10
** 2006 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	DUST
OTALS (lbs/day,unmitigated)	99.92	728.56	804.35	1.59	5,281.82	28.89	5,252.93
OTALS (lbs/day, mitigated)	95.24	604.65	804.35	1.59	1,330.50	16.94	1,313.56
					PM10	PM10	PM10
** 2007 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	DUST
OTALS (lbs/day,unmitigated)	88.98	505.06	793.47	0.04	24.47	22.10	2.37
OTALS (lbs/day, mitigated)	85.77	407.06	793.47	0.04	14.65	12.28	2.37
					PM10	PM10	PM10
** 2008 ***	ROG	NOx	СО	SO2	TOTAL	EXHAUST	DUST
OTALS (lbs/day,unmitigated)	87.00	480.27	789.18	0.04	22.55	20.18	2.37
OTALS (lbs/day, mitigated)	83.79	387.02	789.18	0.04	13.59	11.22	2.37
2					mard O	D161.0	D161.0
	B00	310	00	S02	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
** 2009 ***	ROG 84.94	NOx 454.72	CO 784.11	0.04	21.26	18.89	2.37
OTALS (lbs/day, unmitigated)	84.94	366.35	784.11	0.04	12.88	10.51	2.37
OTALS (lbs/day, mitigated)	01.75	300.33	704.11	0.04	12.00	10.51	2.3.
					PM10	PM10	PM10
** 2010 ***	ROG	NOx	CO	SO2	TOTAL	EXHAUST	
OTALS (lbs/day,unmitigated)	425.77	493.50	1,103.09	0.09	23.40	18.65	4.75
OTALS (lbs/day, mitigated)	422.15	400.29	1,103.09	0.09	15.28	10.53	4.75
EA SOURCE EMISSION ESTIMATES							
	ROG	NOx	CO	S02	PM10		
OTALS (lbs/day,unmitigated)	94.15	60.93	72.32	0.15	0.19		
ERATIONAL (VEHICLE) EMISSION E	ESTIMATES						
	ROG	NOx	CO	S02	PM10		
OTALS (lbs/day,unmitigated)	692.76	779.47	8,107.24	10.27	1,570.46		
JIALD (IDS/day, dimitelyaced)	0,2.70	112,41	0,10,.24	10.27	1,5,0.10		
M OF AREA AND OPERATIONAL EMISSION ESTIMATES							
	ROG	NOx	CO	SO2 10.42	PM10 1,570.66		
OTALS (lbs/day,unmitigated)	786.92	840.40	8,179.55	10.42	T,3/U.00		

le Name:

URBEMIS 2002 For Windows 8.7.0

C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio HD construction.urb

PM10 PM10

PM10

Rio Del Oro HD oject Name:

Lower Sacramento Valley Air Basin oject Location: -Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT (Pounds/Day - Summer)

nstruction Start Month and Year: June, 2006

nstruction Duration: 48

tal Land Use Area to be Developed: 550 acres ximum Acreage Disturbed Per Day: 137.5 acres ngle Family Units: 725 Multi-Family Units: 806 tail/Office/Institutional/Industrial Square Footage: 8713000

MEMBLICALION	EMTCCTON	POTTMATTE	UNMITIGATED	(The/day)
NSTRUCTION	LEIL SOLUN	POLIMATES	OMMITTIGHTED	(IDS/Gay)

Source	ROG	NOx	СО	SO2	TOTAL	EXHAUST	DUST
** 2006***							
ase 1 - Demolition Emissic	ns						
gitive Dust	-			_	0.00		0.00
f-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 2 - Site Grading Emiss	ions						
gitive Dust	-	_	-		5,252.50	-	
f-Road Diesel	93.67	619.57	768.71	-	26.55	26.55	0.00
-Road Diesel	5.42	108.14	20.00	1.58	2.72	2.32	0.40
rker Trips	0.83	0.85	15.64	0.01	0.05	0.02	0.03
Maximum lbs/day	99.92	728.56	804.35	1.59	5,281.82	28.89	5,252.93
ase 3 - Building Construct							
dg Const Off-Road Diesel	64.22	513.75	457.24		23.76	23.76	0.00
dg Const Worker Trips	26.64	16.01	338.58	0.04	2.64	0.27	2.37
ch Coatings Off-Gas	0.00	-	-	-	-		-
ch Coatings Worker Trips		0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	-			- 0.00	0.00	0.00
phalt Off-Road Diesel	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00
phalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Worker Trips	0.00 90.86	0.00 529.76	795.82	0.00	26.40	24.03	2.37
Maximum lbs/day	90.86	529.70	793.62	0.04	20.40	24.03	2.31
Max lbs/day all phases	99.92	728.56	804.35	1.59	5,281.82	28.89	5,252.93
** 2007***							
ase 1 - Demolition Emissic	ons						
gitive Dust	_	nóm.	_	-	0.00	_	0.00
f-Road Diesel	0.00	0.00	0.00	****	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 2 - Site Grading Emiss	sions						
gitive Dust	-			_	0.00		0.00
	0.00	0.00	0.00	AM.	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 3 - Building Construct					04.55	04.65	0.65
dg Const Off-Road Diesel	64.22	489.99	475.22	-	21.83	21.83	0.00
dg Const Worker Trips	24.76	15.07	318.25	0.04	2.64	0.27	2.37
ch Coatings Off-Gas	0.00	-	-			- 0.00	0 00
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	0.00	0.00	_	0.00	0.00	0.00
phalt Off-Road Diesel	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00
phalt Morker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Worker Trips Maximum lbs/day	88.98	505.06	793.47	0.04	24.47	22.10	2.37
_	88.98	505.06	793.47	0.04	24.47	22.10	2.37
iidi ibb/ daj din pudbo	00.20	200100					_

^{** 2008***}

ase 1 - Demolition Emissio	ns	MAG.	ar.		0.00	atus	0.00
gitive Dust f-Road Diesel	0.00	0.00	0.00		0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker Trips	0.00	0.00	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
ase 2 - Site Grading Emiss	ions						
gitive Dust	0 00	0 00	0 00	****	0.00	0.00	0.00
f-Road Diesel -Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 3 - Building Construct	ion						
dg Const Off-Road Diesel	64.22	466.23	492.56	war	19.91	19.91	0.00
dg Const Worker Trips	22.78	14.04	296.62	0.04	2.64	0.27	2.37
ch Coatings Off-Gas ch Coatings Worker Trips	0.00 0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	-	-	_	-	_	-
phalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
phalt On-Road Diesel phalt Worker Trips	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00
Maximum lbs/day	87.00	480.27	789.18	0.04	22.55	20.18	2.37
-			700 10	0.0:	20 55	20 10	0 25
Max lbs/day all phases	87.00	480.27	789.18	0.04	22.55	20.18	2.37
** 2009*** ase 1 - Demolition Emissic	me						
gitive Dust		-	_	_	0.00	-	0.00
f-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker Trips Maximum lbs/day	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00
ase 2 - Site Grading Emiss	sions		Area	_	0.00	_	0.00
gitive Dust f-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 3 - Building Construct							
dg Const Off-Road Diesel	64.22	441.83	510.54	0.04	18.62	18.62 0.27	0.00 2.37
dg Const Worker Trips ch Coatings Off-Gas	20.72 0.00	12.89	273.57	0.04	2.64	0.27	2.37
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	-			-		0 00
phalt Off-Road Diesel phalt On-Road Diesel	0.00 0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00	0.00
phalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	84.94	454.72	784.11	0.04	21.26	18.89	2.37
Max lbs/day all phases	81 91	454 72	784.11	0.04	21.26	18.89	2.37
max 1057 day all phases	04.74	454.72	,01.11	0.01	22.120	10.03	2.57
** 2010***							
ase 1 - Demolition Emissic	ons						
gitive Dust		1995	_	was	0.00	_	0.00
f-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-Road Diesel rker 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
aco 2 - Cito Gradina Prica	ei one						
ase 2 - Site Grading Emiss gitive Dust	ons -	-		_	0.00	***	0.00
f-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker Trips Maximum lbs/day	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00	0.00	0.00
_		0.00		0.00	0.00		2.00
ase 3 - Building Construct		410 07	E07 00		16 70	16 70	0 00
dg Const Off-Road Diesel dg Const Worker Trips	64.22 18.81	418.07 11.79	527.88 251.78	0.04	16.70 2.64	16.70 0.27	0.00 2.37
ch Coatings Off-Gas	313.31		231.70	-	21.04	-	~~
ch Coatings Worker Trips	18.81	11.79	251.78	0.04	2.64	0.27	2.37
phalt Off-Gas	2.10	-		ATT	-	_	-

<pre>phalt Off-Road Diesel phalt On-Road Diesel phalt Worker Trips Maximum lbs/day</pre>	8.27 0.21 0.04 425.77	47.99 3.84 0.03 493.50	70.33 0.77 0.56 1.103.09	0.01 0.00 0.09	1.32 0.10 0.01 23.40	1.32 0.09 0.00 18.65	0.00 0.01 0.01 4.75
Max lhs/day all phases	425.77		1,103.09	0.09	23.40	18.65	4.75

ase 1 - Demolition Assumptions: Phase Turned OFF

ase 2 - Site Grading Assumptions art Month/Year for Phase 2: Jun '06 ase 2 Duration: 5.3 months -Road Truck Travel (VMT): 3806

f-Road Equipment

No.	Туре	Horsepower	Load Factor	Hours/Day
14	Crawler Tractors	143	0.575	8.0
14	Graders	174	0.575	8.0
14	Off Highway Trucks	417	0.490	8.0

ase 3 - Building Construction Assumptions

art Month/Year for Phase 3: Nov '06 ase 3 Duration: 42.7 months

Start Month/Year for SubPhase Building: Nov '06

SubPhase Building Duration: 42.7 months

Off-Road Equipment

Horsepower Load Factor Hours/Day No. Туре 41 Other Equipment 190 0.620 6.0 Start Month/Year for SubPhase Architectural Coatings: Jan '10

SubPhase Architectural Coatings Duration: 4.3 months

Start Month/Year for SubPhase Asphalt: Mar '10

SubPhase Asphalt Duration: 2.1 months Acres to be Paved: 37

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
4	Pavers	132	0.590	8.0
4	Rollers	114	0.430	8.0

anges made to the default values for Land Use Trip Percentages anges made to the default values for Construction te Grading Fugitive Dust Emission Rate changed from 10 to 38.2 chitectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013 chitectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013 ase 2 mitigation measure Soil Disturbance: has been changed from off to on. ase 2 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. ase 3 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. ase 3 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. anges made to the default values for Area e landscape year changed from 2005 to 2015. e residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013. e nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013. anges made to the default values for Operations e operational emission year changed from 2005 to 2015. e home based work selection item changed from 8 to 7. e home based work urban trip length changed from 9.7 to 6.3. e home based work rural trip length changed from 16.8 to 6.3. e home based shopping selection item changed from 8 to 7. e home based shopping urban trip length changed from 3.8 to 6.3. e home based shopping rural trip length changed from 7.1 to 6.3. e home based other selection item changed from 8 to 7. e home based other urban trip length changed from 4.6 to 6.3. e home based other rural trip length changed from 7.9 to 6.3. e commercial based commute selection item changed from 8 to 7. e commercial based commute urban trip length changed from 7.8 to 6.3. e commercial based commute rural trip length changed from 14.7 to 6.3. e commercial based non-work selection item changed from 8 to 7. e commercial based non-work urban trip length changed from 4.5 to 6.3. e commercial based non-work rural trip length changed from 6.6 to 6.3. e commercial based customer selection item changed from 8 to 7. e commercial based customer urban trip length changed from 4.5 to 6.3. e commercial based customer rural trip length changed from 6.6 to 6.3.

.e Name:

oject Name: Rio Del Oro HD
oject Location: Lower Sacramento Valley Air Basin
-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT (Pounds/Day - Summer)

ISTRUCTION EMISSION ESTIMATES					DW1.0	PM10	PM10	
** 2010 ***)TALS (lbs/day,unmitigated))TALS (lbs/day, mitigated)	ROG 108.97 105.75	NOx 464.13 380.52	CO 1,418.75 1,418.75	SO2 0.52 0.52	PM10 TOTAL 20.68 13.17	EXHAUST 18.31 10.80	DUST 2.37 2.37	
** 2011 ***)TALS (lbs/day,unmitigated))TALS (lbs/day, mitigated)	ROG 108.97 105.75	NOx 464.13 380.52	CO 1,418.75 1,418.75	SO2 0.52 0.52	PM10 TOTAL 20.68 13.17	PM10 EXHAUST 18.31 10.80	PM10 DUST 2.37 2.37	
** 2012 ***)TALS (lbs/day,unmitigated))TALS (lbs/day, mitigated)	ROG 108.97 105.75	NOx 464.13 380.52	CO 1,418.75 1,418.75	SO2 0.52 0.52	PM10 TOTAL 20.68 13.17	PM10 EXHAUST 18.31 10.80	PM10 DUST 2.37 2.37	
** 2013 ***)TALS (lbs/day,unmitigated))TALS (lbs/day, mitigated)	ROG 108.97 105.75	NOx 464.13 380.52	CO 1,418.75 1,418.75	SO2 0.52 0.52	PM10 TOTAL 20.68 13.17	PM10 EXHAUST 18.31 10.80	PM10 DUST 2.37 2.37	
** 2014 ***)TALS (lbs/day,unmitigated))TALS (lbs/day, mitigated)	ROG 418.78 415.15	NOx 527.30 434.09	CO 1,742.09 1,742.09	SO2 0.57 0.57	PM10 TOTAL 24.73 16.62	PM10 EXHAUST 19.98 11.87	PM10 DUST 4.75 4.75	
EA SOURCE EMISSION ESTIMATES OTALS (lbs/day,unmitigated)	ROG 94.15	NOx 60.93	CO 72.32	SO2 0.15	PM10 0.19			
ERATIONAL (VEHICLE) EMISSION	ESTIMATES ROG	NOx	CO	S02	PM10			
OTALS (lbs/day,unmitigated)	692.76	779.47	8,107.24	10.27	1,570.46			
4 OF AREA AND OPERATIONAL EMISSION ESTIMATES ROG NOX CO SO2 PM10								
OTALS (lbs/day,unmitigated)	ROG 786.92	NOx 840.40	CO 8,179.55	10.42	PM10 1,570.66			

C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio HD construction part II.urb le Name:

PM10 PM10

PM10

oject Name: Rio Del Oro HD

Lower Sacramento Valley Air Basin oject Location: -Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT (Pounds/Day - Summer)

nstruction Start Month and Year: June, 2010

nstruction Duration: 48

tal Land Use Area to be Developed: 550 acres ximum Acreage Disturbed Per Day: 137.5 acres ngle Family Units: 725 Multi-Family Units: 806 tail/Office/Institutional/Industrial Square Footage: 8713000

See 1 - Demolition Emissions Continue Continue	Source ** 2010***	ROG	NOx	CO	SO2	TOTAL	EXHAUST	DUST
gitive Dust		าทร	*					
### Trips			****	_		0.00	_	0.00
Road Diesel							0.00	
Rest Trips								
Maximum lbs/day 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.								
ase 2 - Site Grading Emissions gittive Dust f-Road Diesel 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.								
Gitive Dust	Maximum ibs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F-Road Diesel	-							
-Road Diesel 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	3							
Right Trips								
### Assistant Dash Dash	-Road Diesel							
ase 3 - Building Construction dg Const Off-Road Diesel 64.22 418.07 527.88 - 16.70 16.70 0.00 dg Const Worker Trips 44.75 46.06 890.87 0.52 3.98 1.61 2.37 ch Coatings Off-Gas 0.00	rker Trips							
dg Const Off-Road Diesel 64.22 418.07 527.88 - 16.70 16.70 0.00 dg Const Worker Trips 44.75 46.06 890.87 0.52 3.98 1.61 2.37 ch Coatings Worker Trips 0.00 8.31 2.37 8.31 2.37 8.31 2.37 8.31 </td <td>Maximum lbs/day</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td>	Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
dg Const Off-Road Diesel 64.22 418.07 527.88 - 16.70 16.70 0.00 dg Const Worker Trips 44.75 46.06 890.87 0.52 3.98 1.61 2.37 ch Coatings Worker Trips 0.00 8.31 2.37 8.31 2.37 8.31 2.37 8.31 </td <td>ase 3 - Building Construct</td> <td>tion</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	ase 3 - Building Construct	tion						
dg Const Worker Trips 44.75 46.06 890.87 0.52 3.98 1.61 2.37 ch Coatings Off-Gas 0.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00			418.07	527.88		16.70	16.70	0.00
ch Coatings Worker Trips 0.00 -<	9	44.75	46.06	890.87	0.52	3.98	1.61	2.37
ch Coatings Worker Trips 0.00 0.00 0.00 0.00 0.00 0.00 0.00 phalt Off-Gas 0.00 0.00 0.00 0.00 0.00 0.00 phalt Off-Gas 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.		0.00	***	-	AMPL	-	_	_
phalt Off-Gas 0.00			0.00	0.00	0.00	0.00	0.00	0.00
Phalt Off-Road Diesel		0.00			_	1000	_	_
phalt On-Road Diesel 0.00<			0.00	0.00		0.00	0.00	0.00
Max lbs/day all phases 108.97 464.13 1,418.75 0.52 20.68 18.31 2.37 ** 2011*** ase 1 - Demolition Emissions gitive Dust	phalt On-Road Diesel	0.00						
Max lbs/day all phases 108.97 464.13 1,418.75 0.52 20.68 18.31 2.37 ** 2011*** ase 1 - Demolition Emissions gitive Dust	phalt Worker Tring	0.00						
Max lbs/day all phases 108.97 464.13 1,418.75 0.52 20.68 18.31 2.37 ** 2011*** ase 1 - Demolition Emissions gitive Dust	Maximum lbs/day	108.97						
ase 1 - Demolition Emissions gitive Dust - - - 0.00 - 0.00	Max lbs/day all phases	108.97	464.13	1,418.75	0.52	20.68	18.31	2.37
ase 1 - Demolition Emissions gitive Dust - - - 0.00	** 2011***							
gitive Dust		an a						
F-Road Diesel 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.		JIIS				0 00		0 00
-Road Diesel 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	9	0 00						
rker Trips								
Maximum lbs/day 0.00								
ase 2 - Site Grading Emissions gitive Dust								
gitive Dust	Maximum Ibs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
f-Road Diesel 0.00 0.00 0.00 - 0.00 0.00 0.00 0.00 0		sions						
-Road Diesel 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	gitive Dust	-						
rker Trips 0.00		0.00						
Maximum lbs/day 0.00								
ase 3 - Building Construction dg Const Off-Road Diesel 64.22 418.07 527.88 - 16.70 16.70 0.00 dg Const Worker Trips 44.75 46.06 890.87 0.52 3.98 1.61 2.37 ch Coatings Off-Gas 0.00 ch Coatings Worker Trips 0.00 0.00 0.00 0.00 0.00 0.00 0.00 phalt Off-Gas 0.00 phalt Off-Road Diesel 0.00 0.00 0.00 - 0.00 0.00 0.00 phalt On-Road Diesel 0.00 0.00 0.00 0.00 0.00 0.00 phalt Worker Trips 0.00 0.00 0.00 0.00 0.00 0.00 Maximum lbs/day 108.97 464.13 1,418.75 0.52 20.68 18.31 2.37	rker Trips							
dg Const Off-Road Diesel 64.22 418.07 527.88 - 16.70 16.70 0.00 dg Const Worker Trips 44.75 46.06 890.87 0.52 3.98 1.61 2.37 ch Coatings Off-Gas 0.00 -	Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
dg Const Off-Road Diesel 64.22 418.07 527.88 - 16.70 16.70 0.00 dg Const Worker Trips 44.75 46.06 890.87 0.52 3.98 1.61 2.37 ch Coatings Off-Gas 0.00 -								
dg Const Worker Trips 44.75 46.06 890.87 0.52 3.98 1.61 2.37 ch Coatings Off-Gas 0.00 - 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	dg Const Off-Road Diesel	64.22	418.07	527.88		16.70	16.70	0.00
ch Coatings Off-Gas 0.00 - <td>da Const Worker Trips</td> <td>44.75</td> <td>46.06</td> <td>890.87</td> <td>0.52</td> <td>3.98</td> <td>1.61</td> <td>2.37</td>	da Const Worker Trips	44.75	46.06	890.87	0.52	3.98	1.61	2.37
ch Coatings Worker Trips 0.00 0						.me		_
phalt Off-Gas 0.00 -							0.00	0.00
phalt Off-Road Diesel 0.00 0.00 0.00 - 0.00 0.00 0.00 phalt On-Road Diesel 0.00								
phalt On-Road Diesel 0.00<								
phalt Worker Trips 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.								
Maximum lbs/day 108.97 464.13 1,418.75 0.52 20.68 18.31 2.37								
		108.97						
	_		464.13	1,418.75	0.52	20.68	18.31	2.37

^{** 2012***}

ase 1 - Demolition Emissio	ns						
gitive Dust	- 0.0	- 0.00	0.00	-	0.00	- 0.00	0.00
E-Road Diesel -Road Diesel	0.00 0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00	0.00
rker 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
ase 2 - Site Grading Emiss	ions						
gitive Dust	-	-	_	, man	0.00		0.00
f-Road Diesel	0.00	0.00	0.00 0.00	0.00	0.00	0.00 0.00	0.00
-Road Diesel rker 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
ase 3 - Building Construct	ion						
ig Const Off-Road Diesel	64.22	418.07	527.88	_	16.70	16.70	0.00
dg Const Worker Trips	44.75	46.06	890.87	0.52	3.98	1.61	2.37
ch Coatings Off-Gas ch Coatings Worker Trips	0.00 0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	-	_			-	
phalt Off-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt On-Road Diesel phalt Worker Trips	0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00 0.00	0.00
Maximum lbs/day	108.97	464.13	1,418.75	0.52	20.68	18.31	2.37
Max lbs/day all phases	108.97	464 13	1,418.75	0.52	20.68	18.31	2.37
.ax 155) day all phases	100.57	101,13	1,1100	0.432	2000	AN - 1 - 10 - 10	
** 2013***							
ase 1 - Demolition Emissic	ns						
gitive Dust	0.00	- 0.00	0 00	_	0.00	0 00	0.00
f-Road Diesel -Road Diesel	0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00 0.00	0.00
rker 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
ase 2 - Site Grading Emiss	sions						
gitive Dust	-	0.00	-	-	0.00	- 0.00	0.00
f-Road Diesel -Road Diesel	0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00 0.00	0.00
rker 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
ase 3 - Building Construct	ion						
dg Const Off-Road Diesel	64.22	418.07	527.88	_	16.70	16.70	0.00
dg Const Worker Trips	44.75	46.06	890.87	0.52	3.98	1.61	2.37
ch Coatings Off-Gas ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	-		_	_	_	****
phalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
phalt On-Road Diesel phalt Worker Trips	0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00 0.00	0.00
Maximum lbs/day	108.97		1,418.75	0.52	20.68	18.31	2.37
Max lbs/day all phases	100 07			0.52	20.68	18.31	2.37
Max ibs/day all phases	108.97	404.13	1,410.75	0.52	20.00	10.31	2.37
** 2014***							
ase 1 - Demolition Emissic	ons						
gitive Dust		0.00		-	0.00	0.00	0.00
f-Road Diesel -Road Diesel	0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00	0.00
rker 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
ase 2 - Site Grading Emiss	sions						
gitive Dust		-	-	-	0.00	-	0.00
f-Road Diesel	0.00 0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00 0.00	0.00
-Road Diesel rker 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
ase 3 - Building Construct	ion						
dg Const Off-Road Diesel	64.22	418.07	527.88	_	16.70		0.00
dg Const Worker Trips		46.06	890.87	0.52	3.98	1.61	2.37
ch Coatings Off-Gas ch Coatings Worker Trips	18.81	11.79	251.78	0.04	2.64	0.27	2.37
phalt Off-Gas	1.84			-			

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phalt Off-Road Diesel	8.27 0.18	47.99 3.36	70.33 0.68	0.01	1.32	1.32	0.00
phalt On-Road Diesel phalt Worker Trips	0.18	0.03	0.56	0.01	0.08	0.00	0.01
Maximum lbs/day	418.78	527.30	1,742.09	0.57	24.73	19.98	4.75
Max lbs/day all phases	418.78	527.30	1,742.09	0.57	24.73	19.98	4.75

ase 2 - Site Grading Assumptions: Phase Turned OFF

ase 3 - Building Construction Assumptions

art Month/Year for Phase 3: Jun '10

ase 3 Duration: 48 months

Start Month/Year for SubPhase Building: Jun '10

SubPhase Building Duration: 48 months Off-Road Equipment

Type Load Factor Hours/Day Horsepower Other Equipment 190 0.620

Start Month/Year for SubPhase Architectural Coatings: Jan '14 SubPhase Architectural Coatings Duration: 4.8 months Start Month/Year for SubPhase Asphalt: Mar '14

SubPhase Asphalt Duration: 2.4 months

Acres to be Paved: 37 Off-Road Equipment

No.	Туре	Horsepower	Load Factor	Hours/Day
4	Pavers	132	0.590	8.0
4	Rollers	114	0.430	8.0

anges made to the default values for Land Use Trip Percentages anges made to the default values for Construction chitectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013 chitectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013 ase 3 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. ase 3 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. anges made to the default values for Area e landscape year changed from 2005 to 2015. e residential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013. e nonresidential Arch. Coatings ROG emission factor changed from 0.0185 to 0.0013. anges made to the default values for Operations e operational emission year changed from 2005 to 2015. e home based work selection item changed from 8 to 7. e home based work urban trip length changed from 9.7 to 6.3. e home based work rural trip length changed from 16.8 to 6.3. e home based shopping selection item changed from 8 to 7. e home based shopping urban trip length changed from 3.8 to 6.3. e home based shopping rural trip length changed from 7.1 to 6.3. e home based other selection item changed from $\,$ 8 to $\,$ 7. e home based other urban trip length changed from 4.6 to 6.3. e home based other rural trip length changed from 7.9 to 6.3. e commercial based commute selection item changed from 8 to 7. e commercial based commute urban trip length changed from $7.8\ \text{to}\ 6.3.$ e commercial based commute rural trip length changed from 14.7 to 6.3. e commercial based non-work selection item changed from 8 to 7. e commercial based non-work urban trip length changed from 4.5 to 6.3. e commercial based non-work rural trip length changed from 6.6 to 6.3.

e commercial based customer selection item changed from 8 to 7. e commercial based customer urban trip length changed from 4.5 to 6.3. e commercial based customer rural trip length changed from 6.6 to 6.3.



C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio HD.urb Rio Del Oro HD

.le Name: :oject Name:

coject Location: Lower Sacramento Valley Air Basin 1-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT (Pounds/Day - Summer)

REA SOURCE EMISSION ESTIMATES	(Summer	Pounds per	Day, Unmit	igated)	
Source	ROG		CO	SO2	PM10
Jatural Gas	8.83	119.75	88.19	0	0.22
Hearth - No summer emissions					0.16
andscaping	6.32	0.81	49.90	0.29	0.16
Consumer Prdcts	147.16	-	-	-	***
Architectural Coatings	22.39	-	-	_	,
OTALS(lbs/day,unmitigated)	184.70	120.56	138.09	0.29	0.38

High Density Alternative, Phase 1: Operational Emissions Relative to Proposed Project Alternative

le Name: C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio HD net.urb

oject Name: Rio Del Oro HD

oject Location: Lower Sacramento Valley Air Basin -Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT (Pounds/Day - Summer)

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	S02	PM10
artments low rise +	0.14	0.13	1.45	0.00	0.26
artments mid rise +	0.31	0.28	3.01	0.00	0.55
gnl shop. center -	7.20	8.93	91.06	0.12	18.06
fice park -	1.15	1.20	13.04	0.02	2.40
.dustrial park -	18.30	17.40	187.03	0.23	34.82
-					
TAL EMISSIONS (lbs/day)	27.10	27.94	295.59	0.37	56.10

es not include correction for passby trips.

es not include double counting adjustment for internal trips.

'ERATIONAL (Vehicle) EMISSION ESTIMATES

alysis Year: 2015 Temperature (F): 85 Season: Summer

IFAC Version: EMFAC2002 (9/2002)

mmary of Land Uses:

it Type	Acreage	Trip	Rate	No. Units	Total Trips
artments low rise artments mid rise gnl shop. center fice park dustrial park	0.25 0.26	5.75 42.94 11.42	trips/dwelling unit trips/dwelling unit trips/1000 sq. ft. trips/1000 sq. ft. trips/1000 sq. ft.	22.00	27.60 57.50 1,889.36 251.24 3,640.08

Sum of Total Trips 5,865.78
Total Vehicle Miles Traveled 36,954.41

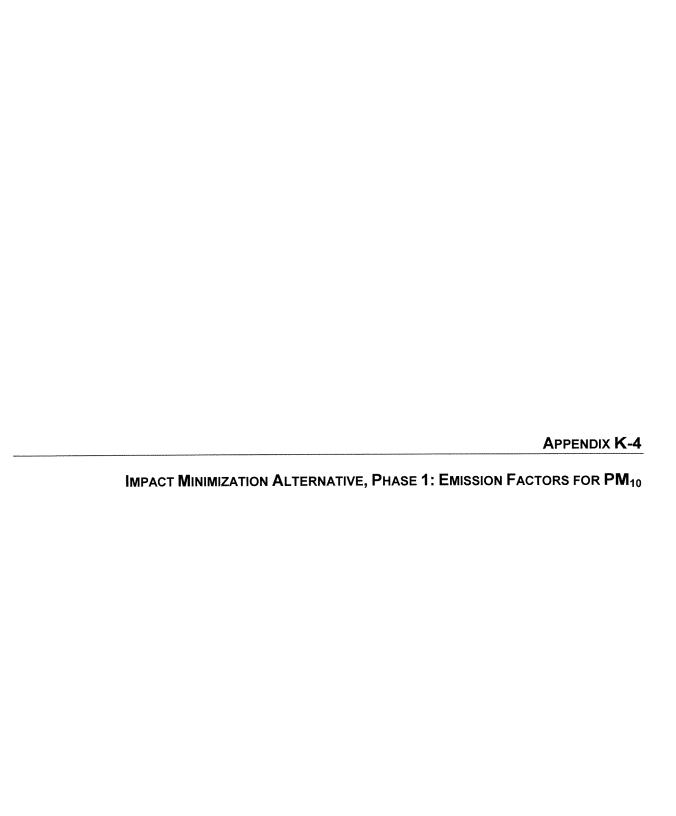
hicle Assumptions:

eet Mix:

hicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
ght Auto	54.40	0.40	99.40	0.20
ght Truck < 3,750 lbs	s 15.30	0.70	98.00	1.30
ght Truck 3,751- 5,75	0 16.40	0.60	98.80	0.60
d Truck 5,751-8,50	0 7.30	0.00	98.60	1.40
te-Heavy 8,501-10,000	0 1.10	0.00	81.80	18.20
te-Heavy 10,001-14,00	0.30	0.00	66.70	33.30
d-Heavy 14,001-33,00	0 1.00	0.00	20.00	80.00
avy-Heavy 33,001-60,000	0.80	0.00	0.00	100.00
ne Haul > 60,000 lbs	s 0.00	0.00	0.00	100.00
ban Bus	0.20	0.00	50.00	50.00
torcycle	1.60	50.00	50.00	0.00
hool Bus	0.10	0.00	0.00	100.00
tor Home	1.50	0.00	93.30	6.70

avel Conditions

		Residential			Commercial	-
ban Trip Length (miles) ral Trip Length (miles)		Home- Shop 6.3 6.3	Home- Other 6.3 6.3	Commute 6.3 6.3	Non-Work 6.3 6.3	Customer 6.3 6.3
ip Speeds (mph) of Trips - Residential	35.0	35.0 21.2	35.0 51.5	35.0	35.0	35.0
of Trips - Commercial () gnl shop. center fice park dustrial park	by land	use)		2.0 48.0 41.5	1.0 24.0 20.8	97.0 28.0 37.8



*This spreadsheet is derived from SMAQMD BEEST PM Modeling Guidance - Appendix C

Bold cells = formulae or constant (do not ι

Developing Emission Factors

Target year = 2006

	. VOLUME	

Volume soil removed =	= [(A x B x C)/27] + ($A \times 2 \times C \times D$

A = Length of area (ft)	4,510.00
B = Width of area (ft)	4,510.00
C = Depth of grading (ft) (use 2.0 unless data available)	0.50
D = Fall-in factor (use 0.0 unless data available)	0.00

TABLE 1

Cubic yards of soil removed	376.668.52
If ithin varde at call ramayar	1.370.000.071
TOTAL VALUE OF SUIT FINOVED	0.0,000.02
Touble falue of the falle	

2. GRADING / SOIL DENSITY

Tons soil removed = (A x B)/2000

A = Amount of soil removed (cubic yds) (Table 1) 376,668.52 B = Soild density (lbs/cubic yd) (use 2528.0 unless data available) 2,528.00

B = Solid defisity (ibs/cubic ya) (use 2526.6 diffess data t

TABLE 2	
Tons of soil removed	476,109.01

3. EMISSION RATE

Emission factor x Operational time

TABLE 3

ADEL		-
1. Emission Factor (lbs/hr)	0.75	(default)
2. Operational Time (hrs/day)	8.00	}
3. Emission Rate (lbs/day)	6.02	

n jarah

4. STOCKPILE LOADING EMISSONS

Emission Factor = $k(0.0032) \times (U/5)^{1.3} \times (M/2)^{1.4}$	
k = Particle size multiplier (use 0.35)	0.35
U = Mean wind speed (mph) (use 5.1 unless data available)	5.10
M = Material moisture content (%) (use 7.9 unless available)	7.90

TABLE 4

1. Emission Factor (lbs/ton)	0.00017
2. Tons Transferred (from Table 2)	476,109.01
3. Emission Rate (lbs/day)	79.96

5. STOCKPILE WIND EROSION EMISSIONS

Emission Rate = 1.6 x U x 0.5 x A

U = mean wind speed (m/s) (use 2.3 unless data available) 2.30

A = acres 117.00 URBEMIS

TABLE 5

ſ	1. Emission Rate (lbs/hr)	215.28
ı	2. Emission Rate (lbs/day)	5,166.72

6. MOBILE SOURCE EMISSIONS

TARIF 6

	IADELO	
1		10
1	1. Type of Equipment	ICrawler tractors
	11. Typo or Equipmone	<u> </u>

2. Equipment Used (#)	11.70	URBEMIS
3. Operational Time (hrs/day)	8.00	
4. Emission Factor (lbs/hp-hr)	0.43	SMAQMD
5. Emission Rate (lbs/day)	5.03	

1. Type of Equipment	Graders	
2. Equipment Used (#)	11.70	URBEMIS
3. Operational Time (hrs/day)	8.00	
4. Emission Factor (lbs/hp-hr)	0.28	SMAQMD
5. Emission Rate (lbs/day)	3.28	

1. Type of Equipment	Off-highway truck
2. Equipment Used (#)	11.70 URBEMIS
3. Operational Time (hrs/day)	8.00
4. Emission Factor (lbs/hp-hr)	0.58 SMAQMD
5. Emission Rate (Ibs/day)	6.79

TABLE 7

Mobile Equipment Emission Rate Totals (lbs/day)	15.09
Monie Edunment Emission Bale Tolais (US/UaV)	1 10.031
MODILE Edgibilient Ennocion ridge rotate (150/44)	

7. TOTALS

TABLE 8

1. Table 3, Row 3	6.02	
2. Table 4, Row 3	79.96	
3. Table 5, Row 2	5,166.72	
4. Total	5,252.70	Fugitive Emissions (lbs/day)
5. Table 7	15.09	Mobile Emissions (lbs/day)

8. CONVERTING TO GRAMS PER SECOND

Emission Factor (grams/sec) = $(A / 24 / 60 / 60) \times 453.592$ grams/lb A = Emission factor (lbs/day)

TABLE 9

17.022		
Fugitive Dust Emissions		27.58
Mobile PM Emissions	•	0.08

9. DISTRIBUTE POINT SOURCES OVER SITE

If project =< 10 acres, divide by 49
if project > 10 acres, divide by 64

TABLE 10

Fugitive Dust Emissions	0.4309
Mobile PM Emissions	0.0012

Mitigated PM Emission 0.1077 0.0007



C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio IM construction.urb Rio Del Oro IM

e Name:
pject Name:
pject Location: Lower Sacramento Valley Air Basin -Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

> SUMMARY REPORT (Pounds/Day - Summer)

ISTRUCTION EMISSION ESTIMATES							
** 2006 ***	ROG	NOx	CO	S02	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TALS (lbs/day,unmitigated)	85.01	619.74	710.23	1.35	4,494.35	24.58	4,469.77
)TALS (lbs/day, mitigated)	81.02	514.30	710.23	1.35	1,132.14	14.41	1,117.72
					mara 0	mar4.0	73.65 0
** 2007 ***	ROG	NOx	CO	S02	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
)TALS (lbs/day,unmitigated)	78.13	431.23	706.25	0.04	21.08	18.83	2.25
OTALS (lbs/day, mitigated)	75.40	347.84	706.25	0.04	12.72	10.47	2.25
,11120 (120, aa, 1 112 0 1 5 a 0 a a	, , , , , ,						
					PM10	PM10	PM10
** 2008 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	DUST
OTALS (lbs/day,unmitigated)	76.25	410.03	700.49 700.49	0.03	19.45 11.82	17.20 9.57	2.25 2.25
)TALS (lbs/day, mitigated)	73.52	330.69	700.49	0.03	11.82	9.57	4.25
					PM10	PM10	PM10
** 2009 ***	ROG	NOx	CO	SO2	TOTAL	EXHAUST	DUST
OTALS (lbs/day,unmitigated)	74.30	388.18	693.92	0.03	18.35	16.10	2.25
OTALS (lbs/day, mitigated)	71.57	312.99	693.92	0.03	11.22	8.97	2.25
					PM10	PM10	PM10
** 2010 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	
OTALS (lbs/day,unmitigated)	394.28	429.96	998.49	0.07	20.64	16.13	4.51
OTALS (lbs/day, mitigated)	391.13	349.21	998.49	0.07	13.65	9.14	4.51
Jiiib (Ibb) daj / Miloligacoa)	332723	0.23.22					
A SOURCE EMISSION ESTIMATES							
SA SOURCE EMISSION ESTIMATES	ROG	NOx	CO	S02	PM10		
OTALS (lbs/day,unmitigated)	246.23	56.07	53.63	0.05	0.14		
,, ,, ,, ,, ,							
ERATIONAL (VEHICLE) EMISSION	FORTMARES						
SKATIONAL (VEHICLE) EMISSION	ROG	NOx	CO	S02	PM10		
	1100	11021	-	202	2 2 3 3 3		
OTALS (lbs/day,unmitigated)	614.45	678.68	7,079.29	8.94	1,366.56		
1 OF AREA AND OPERATIONAL EMI	CCTON ECTT	матре					
TO AREA AND OPERATIONAL EMI	ROG ROG	NOX	CO	S02	PM10		
OTALS (lbs/day,unmitigated)	860.68	734.75	7,132.92	8.99	1,366.70		
, — — — , — — — — — — — — — — — — — — —							

C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio IM construction.urb .e Name:

ject Name: Rio Del Oro IM

Lower Sacramento Valley Air Basin ject Location: -Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT (Pounds/Day - Summer)

istruction Start Month and Year: June, 2006

struction Duration: 48
:al Land Use Area to be Developed: 467 acres cimum Acreage Disturbed Per Day: 117 acres

igle Family Units: 240 Multi-Family Units: 1616
:ail/Office/Institutional/Industrial Square Footage: 8235000

ISTRUCTION EMISSION ESTIMAT	TES UNMITIGATED (lbs/day)
-----------------------------	---------------------------

ISTRUCTION EMISSION ESTIMA	TES UNMITI	GATED (1bs	/day)		D141.0	D)(1.0	DM1.0
Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
** 2006***							
ise 1 - Demolition Emissio					0 00		0.00
jitive Dust		_	-	Artist .	0.00		0.00
E-Road Diesel	0.00	0.00	0.00	***	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
cker 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
ase 2 - Site Grading Emiss	ions						
jitive Dust		_	-		4,469.40		4,469.40
E-Road Diesel	79.71	527.20	654.10	-	22.59	22.59	0.00
-Road Diesel	4.60	91.82	16.98	1.34	2.31	1.97	0.34
rker Trips	4.60 0.70	0.72	13.23	0.01	0.05	0.02	0.03
Maximum lbs/day	85.01	619.74	684.31	1.35	4,494.35	24.58	4,469.77
ase 3 - Building Construct	ion						
lg Const Off-Road Diesel	54.64	437.16	389.07	***	20.22	20.22	0.00
lg Const Worker Trips	25.27	15.19	321.16	0.04	2.51	0.26	2.25
th Coatings Off-Gas	0.00	_	_	-	_		-
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
halt Off-Gas	0.00				***	_	_
phalt Off-Road Diesel	0.00	0.00	0.00		0.00	0.00	0.00
ohalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
shalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	79.91	452.34	710.23	0.04	22.72	20.47	2.25
TaxIndum IDS/Gay	13.31	472.34	710.23	0.04	22.72	20.47	2.23
Max lbs/day all phases	85.01	619.74	710.23	1.35	4,494.35	24.58	4,469.77
** 2007***							
ase 1 - Demolition Emissio	n c						
	115				0.00	_	0.00
jitive Dust	0.00	0.00	0.00		0.00	0.00	0.00
E-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-Road Diesel				0.00	0.00	0.00	0.00
cker Trips	0.00	0.00	0.00				
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ase 2 - Site Grading Emiss	ions				0.00	_	0.00
gitive Dust	0 00	0 00	0 00	***	0.00 0.00	0.00	0.00
E-Road Diesel	0.00	0.00	0.00				
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 3 - Building Construct	ion						
lg Const Off-Road Diesel	54.64	416.94	404.37	-	18.58	18.58	0.00
lg Const Worker Trips	23.49	14.29	301.88	0.04	2.51	0.26	2.25
ch Coatings Off-Gas	0.00	***	-	_			_
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
halt Off-Gas	0.00	_	-	-	_		***
halt Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
halt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	78.13	431.23	706.25	0.04	21.08	18.83	2.25
-							
<pre>fax lbs/day all phases</pre>	78.13	431.23	706.25	0.04	21.08	18.83	2.25

^{** 2008***}

ase 1 - Demolition Emission	ns				0.00		0.00
<pre>jitive Dust f-Road Diesel</pre>	0.00	0.00	0.00		0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker Trips Maximum lbs/day	0.00	0.00 0.00	0.00	0.00 0.00	0.00 0.00	0.00	0.00 0.00
MAXIMUM IDS/Gay	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ase 2 - Site Grading Emiss	ions				0 00		0.00
<pre>gitive Dust f~Road Diesel</pre>	0.00	0.00	0.00	_	0.00 0.00	0.00	0.00 0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker Trips	0.00	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
ase 3 - Building Construct		206 70	440 10		16.04	16.04	0.00
dg Const Off-Road Diesel	54.64 21.61	396.72 13.31	419.12 281.36	0.03	16.94 2.51	16.94 0.26	0.00 2.25
ch Coatings Off-Gas	0.00			_	-	Arm	_
<pre>ch Coatings Worker Trips chalt Off-Gas</pre>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
phalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<pre>phalt Worker Trips Maximum lbs/day</pre>	0.00 76.25	0.00 410.03	0.00 700.49	0.00 0.03	0.00 19.45	0.00 17.20	0.00 2.25
						47.00	0.0=
Max lbs/day all phases	76.25	410.03	700.49	0.03	19.45	17.20	2.25
** 2009*** ase 1 - Demolition Emission	ne						
gitive Dust	-	_	_	_	0.00	-	0.00
f-Road Diesel	0.00	0.00	0.00	- 00	0.00	0.00	0.00
-Road Diesel rker Trips	0.00	0.00 0.00	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
ase 2 - Site Grading Emiss	ions						
gitive Dust		_	***	NAPY	0.00	_	0.00
f-Road Diesel -Road Diesel	0.00	0.00 0.00	0.00	0.00	0.00 0.00	0.00	0.00
rker 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
ase 3 - Building Construct	ion						
dg Const Off-Road Diesel	54.64	375.96	434.43	-	15.85	15.85	0.00
dg Const Worker Trips ch Coatings Off-Gas	19.65 0.00	12.23	259.50	0.03	2.51	0.26	2.25
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	0.00	0.00	_	0.00	0.00	0.00
<pre>phalt Off-Road Diesel phalt On-Road Diesel</pre>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	74.30	388.18	693.92	0.03	18.35	16.10	2.25
Max lbs/day all phases	74.30	388.18	693.92	0.03	18.35	16.10	2.25
** 2010***							
ase 1 - Demolition Emission gitive Dust	ns -				0.00	_	0.00
f-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00
rker Trips Maximum lbs/day	0.00	0.00 0.00	0.00	0.00	0.00 0.00	0.00	0.00
_	*						
ase 2 - Site Grading Emiss gitive Dust	ions -	was.	-		0.00	page.	0.00
f-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker Trips Maximum lbs/day	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00
			-				
ase 3 - Building Construct dg Const Off-Road Diesel	ion 54.64	355.74	449.18	_	14.21	14.21	0.00
dg Const Worker Trips	17.84	11.18	238.83	0.03	2.51	0.26	2.25
ch Coatings Off-Gas	293.33	11 10	720 02	0 03	2 51	0.26	2.25
ch Coatings Worker Trips chalt Off-Gas	17.84 2.10	11.18	238.83	0.03	2.51	0.26	4.45

phalt Off-Road Diesel phalt On-Road Diesel phalt Worker Trips Maximum lbs/day	8.27 0.21 0.04 394.28	47.99 3.84 0.03 429.96	70.33 0.77 0.56 998.49	0.01 0.00 0.07	1.32 0.10 0.01 20.64	1.32 0.09 0.00 16.13	0.00 0.01 0.01 4.51
Max 1bs/dav all phases	394.28	429.96	998.49	0.07	20.64	16.13	4.51

417

0.490

8.0

8.0

8.0

ase 1 - Demolition Assumptions: Phase Turned OFF

ase 2 - Site Grading Assumptions art Month/Year for Phase 2: Jun '06 ase 2 Duration: 5.3 months

-Road Truck Travel (VMT): 3230

12

f-Road Equipment Horsepower Load Factor Hours/Day Type 0.575 12 Crawler Tractors 143 0.575 174 12 Graders

ase 3 - Building Construction Assumptions

art Month/Year for Phase 3: Nov '06 ase 3 Duration: 42.7 months

Off Highway Trucks

Start Month/Year for SubPhase Building: Nov '06

SubPhase Building Duration: 42.7 months

Off-Road Equipment

Hours/Day Load Factor Type Horsepower No. Other Equipment 190 0.620 6.0

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

SubPhase Architectural Coatings Duration: 4.3 months

Start Month/Year for SubPhase Asphalt: Mar '10

SubPhase Asphalt Duration: 2.1 months Acres to be Paved: 37

Off-Road Equipment

No.	Туре	Horsepower	Load Factor	HOULS/Day
4	Pavers	132	0.590	8.0
4	Rollers	114	0.430	8.0

anges made to the default values for Land Use Trip Percentages anges made to the default values for Construction te Grading Fugitive Dust Emission Rate changed from 10 to 38.2 chitectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013 chitectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013 ase 2 mitigation measure Soil Disturbance: has been changed from off to on. ase 2 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. ase 3 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. ase 3 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. anges made to the default values for Area e landscape year changed from 2005 to 2015. anges made to the default values for Operations e operational emission year changed from 2005 to 2015. e home based work selection item changed from 8 to 7. e home based work urban trip length changed from 9.7 to 6.3. e home based work rural trip length changed from 16.8 to 6.3. e home based shopping selection item changed from 8 to 7. e home based shopping urban trip length changed from 3.8 to 6.3. e home based shopping rural trip length changed from 7.1 to 6.3. e home based other selection item changed from $\,$ 8 to 7. e home based other urban trip length changed from 4.6 to 6.3. e home based other rural trip length changed from 7.9 to 6.3. e commercial based commute selection item changed from 8 to 7. ${\tt e}$ commercial based commute urban trip length changed from 7.8 to 6.3. e commercial based commute rural trip length changed from 14.7 to 6.3. e commercial based non-work selection item changed from 8 to 7. e commercial based non-work urban trip length changed from 4.5 to 6.3. e commercial based non-work rural trip length changed from 6.6 to 6.3.

e commercial based customer selection item changed from 8 to 7. e commercial based customer urban trip length changed from 4.5 to 6.3. e commercial based customer rural trip length changed from 6.6 to 6.3.

C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio IM construction part II.urb Rio Del Oro IM

e Name: ject Name: ject Location: rject Location: Lower Sacramento Valley Air Basin Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT (Pounds/Day - Summer)

ISTRUCTION EMISSION ESTIMATES	5				D141.0	D161.0	D341.0
* 2010 ***	ROG	NOx	CO	S02	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
TALS (lbs/day,unmitigated)	97.09	399.43	1,294.22	0.50	17.99	15.74	2.25
TALS (lbs/day, mitigated)	94.36	328.28	1,294.22	0.50	11.59	9.34	2.25
<u> </u>							
					PM10	PM10	PM10
* 2011 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	DUST
TALS (lbs/day,unmitigated)	97.09	399.43	1,294.22	0.50	17.99	15.74	2.25
TALS (lbs/day, mitigated)	94.36	328.28	1,294.22	0.50	11.59	9.34	2.25
					D141.0	Dar 1 0	PM10
	DOG	370	00	go2	PM10 TOTAL	PM10 EXHAUST	DUST
* 2012 ***	ROG	NOx	CO	SO2 0.50	17.99	15.74	2.25
TALS (lbs/day, unmitigated)	97.09	399.43	1,294.22	0.50	11.59	9.34	2.25
TALS (lbs/day, mitigated)	94.36	328.28	1,294.22	0.50	11.59	9.34	2.20
					PM10	PM10	PM10
:* 2013 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	DUST
TALS (lbs/day, unmitigated)	97.09	399.43	1,294.22	0.50	17.99	15.74	2.25
TALS (lbs/day, mitigated)	94.36	328.28	1,294.22	0.50	11.59	9.34	2.25
TABS (IDS/day, micigated)	24.50	320.20	1/201.22	0.50	##.00	3.31	
					PM10	PM10	PM10
·* 2014 ***	ROG	NOx	CO	S02	TOTAL	EXHAUST	DUST
)TALS (lbs/day,unmitigated)	388.03	461.99	1,604.61	0.54	21.91	17.40	4.51
)TALS (lbs/day, mitigated)	384.89	381.24	1,604.61	0.54	14.91	10.40	4.51
(222, 301, 312, 312, 312, 312, 312, 312, 312, 31							
A SOURCE EMISSION ESTIMATES							
	ROG	NOx	CO	S02	PM10		
TALS (lbs/day,unmitigated)	246.23	56.07	53.63	0.05	0.14		
RATIONAL (VEHICLE) EMISSION	FSTTMATTS						
Mail Tolvin (April Cpp) Primpo Lois	ROG	NOx	CO	S02	PM10		
	ROG	11011	00	202			
TALS (lbs/day,unmitigated)	614.45	678.68	7,079.29	8.94	1,366.56		
, , ,							
1 OF AREA AND OPERATIONAL EM	ISSION ESTI	MATES					
	ROG	NOx	CO	S02	PM10		
TALS (lbs/day,unmitigated)	860.68	734.75	7,132.92	8.99	1,366.70		

Le Name:

oject Name: Rio Del Oro IM

ject Location: Lower Sacramento Valley Air Basin -Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT (Pounds/Day - Summer)

istruction Start Month and Year: June, 2010

istruction Duration: 48

tal Land Use Area to be Developed: 467 acres cimum Acreage Disturbed Per Day: 117 acres

rgle Family Units: 240 Multi-Family Units: 1616
tail/Office/Institutional/Industrial Square Footage: 8235000

USTRUCTION EMISSION ESTIMATES UNMITIGATED (lbs/day)

NSTRUCTION EMISSION ESTIMA	TES UNMITI	GATED (lb	os/day)		D) (1.0	DW1 0	DM1.0
Source	ROG	NOx	CO	SO2	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
** 2010***							
ase 1 - Demolition Emissic	ons			_	0.00		0.00
gitive Dust	-	-					
f-Road Diesel	0.00	0.00	0.00		0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 2 - Site Grading Emiss	sions						
jitive Dust	_	***	-	-	0.00	_	0.00
f-Road Diesel	0.00	0.00	0.00	***	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 3 - Building Construct	tion						
	54.64	355.74	449.18	_	14.21	14.21	0.00
dg Const Worker Trips	42.44	43.69	845.04	0.50	3.78	1.53	2.25
ch Coatings Off-Gas	0.00	-	-	_	_	_	
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ohalt Off-Gas	0.00	-	0.00	-	-	-	-
	0.00	0.00	0.00		0.00	0.00	0.00
phalt Off-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ohalt On-Road Diesel						0.00	0.00
phalt Worker Trips	0.00	0.00	0.00	0.00	0.00		
Maximum lbs/day	97.09	399.43	1,294.22	0.50	17.99	15.74	2.25
Max lbs/day all phases	97.09	399.43	1,294.22	0.50	17.99	15.74	2.25
** 2011***							
ase 1 - Demolition Emissic	me						
gitive Dust		_	alates.		0.00	antre .	0.00
f-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 2 - Site Grading Emiss					0.00		0.00
gitive Dust	-			_	0.00	0 00	0.00
E-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rker 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
ase 3 - Building Construct	ion						
ig Const Off-Road Diesel		355.74	449.18	****	14.21	14.21	0.00
dg Const Worker Trips	42.44	43.69	845.04	0.50	3.78	1.53	2.25
ch Coatings Off-Gas	0.00	_	-				
ch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Off-Gas	0.00	-	-		-	-	nun.
ohalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
ohalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	97.09	399.43	1,294.22	0.50	17.99	15.74	2.25
Max lbs/day all phases	97.09	399.43	1,294.22	0.50	17.99	15.74	2.25

^{** 2012***}

se 1 - Demolition Emission							
	ns						0.00
itive Dust		0.00	0 00	_	0.00	0.00	0.00
-Road Diesel -Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
laximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
_							
ıse 2 - Site Grading Emiss	ions				0.00		0.00
ritive Dust	0 00	- 0.00	0 00	_	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00
Road Diesel ker 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
ıse 3 - Building Construct							
lg Const Off-Road Diesel	54.64	355.74	449.18	0 50	14.21	14.21 1.53	0.00 2.25
lg Const Worker Trips	42.44 0.00	43.69	845.04	0.50	3.78	1.33	2.23
h Coatings Off-Gas h Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
halt Off-Gas	0.00	-			_	-	-
halt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
>halt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
shalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00 2.25
Maximum lbs/day	97.09	399.43	1,294.22	0.50	17.99	15.74	4.40
fax lbs/day all phases	97.09	399.43	1,294.22	0.50	17.99	15.74	2.25
		-					
<pre>'* 2013*** ise 1 - Demolition Emissio</pre>	ne						
ise I - Demolition Emissio	115		_	_	0.00	_	0.00
-Road Diesel	0.00	0.00	0.00		0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
:ker 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
se 2 - Site Grading Emiss	ions						
ritive Dust			· ·	-	0.00	-	0.00
-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
cker 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
ase 3 - Building Construct	ion						
lg Const Off-Road Diesel	54.64	355.74	449.18	-	14.21	14.21	0.00
lg Const Worker Trips	42.44	43.69	845.04	0.50	3.78	1.53	2.25
ch Coatings Off-Gas	0.00			-		0.00	0.00
ch Coatings Worker Trips	0.00 0.00	0.00	0.00	0.00	0.00	0.00	0.00
ohalt Off-Gas ohalt Off-Road Diesel	0.00						
		0.00	0.00	-			0.00
		0.00	0.00		0.00	0.00	0.00
phalt On-Road Diesel phalt Worker Trips	0.00		0.00	-	0.00 0.00 0.00	0.00 0.00 0.00	0.00
phalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
phalt On-Road Diesel phalt Worker Trips Maximum lbs/day	0.00 0.00 97.09	0.00 0.00 399.43	0.00 0.00 0.00 1,294.22	0.00 0.00 0.50	0.00 0.00 0.00 17.99	0.00 0.00 0.00 15.74	0.00 0.00 2.25
ohalt On-Road Diesel ohalt Worker Trips	0.00 0.00 97.09	0.00 0.00 399.43	0.00 0.00 0.00 1,294.22	0.00 0.00 0.50	0.00 0.00 0.00	0.00 0.00 0.00 15.74	0.00
halt On-Road Diesel halt Worker Trips faximum lbs/day fax lbs/day all phases	0.00 0.00 97.09	0.00 0.00 399.43	0.00 0.00 0.00 1,294.22	0.00 0.00 0.50	0.00 0.00 0.00 17.99	0.00 0.00 0.00 15.74	0.00 0.00 2.25
<pre>phalt On-Road Diesel phalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014***</pre>	0.00 0.00 97.09 97.09	0.00 0.00 399.43	0.00 0.00 0.00 1,294.22	0.00 0.00 0.50	0.00 0.00 0.00 17.99	0.00 0.00 0.00 15.74	0.00 0.00 2.25
<pre>chalt On-Road Diesel chalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014*** ase 1 - Demolition Emission</pre>	0.00 0.00 97.09 97.09	0.00 0.00 399.43 399.43	0.00 0.00 0.00 1,294.22 1,294.22	0.00 0.00 0.50	0.00 0.00 0.00 17.99	0.00 0.00 0.00 15.74	0.00 0.00 2.25 2.25
<pre>chalt On-Road Diesel chalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014*** ase 1 - Demolition Emission gitive Dust</pre>	0.00 0.00 97.09 97.09	0.00 0.00 399.43 399.43	0.00 0.00 0.00 1,294.22 1,294.22	0.00 0.00 0.50	0.00 0.00 0.00 17.99 17.99	0.00 0.00 0.00 15.74 15.74	0.00 0.00 2.25 2.25
<pre>chalt On-Road Diesel chalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014*** ase 1 - Demolition Emission gitive Dust E-Road Diesel</pre>	0.00 0.00 97.09 97.09	0.00 0.00 399.43 399.43	0.00 0.00 0.00 1,294.22 1,294.22	0.00 0.00 0.50	0.00 0.00 0.00 17.99	0.00 0.00 0.00 15.74	0.00 0.00 2.25 2.25
<pre>chalt On-Road Diesel chalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014*** ase 1 - Demolition Emission gitive Dust</pre>	0.00 0.00 97.09 97.09	0.00 0.00 399.43 399.43	0.00 0.00 0.00 1,294.22 1,294.22	0.00 0.00 0.50 0.50	0.00 0.00 0.00 17.99 17.99	0.00 0.00 0.00 15.74 15.74	0.00 0.00 2.25 2.25 0.00 0.00 0.00
<pre>phalt On-Road Diesel phalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014*** ase 1 - Demolition Emission gitive Dust</pre>	0.00 0.00 97.09 97.09	0.00 0.00 399.43 399.43	0.00 0.00 0.00 1,294.22 1,294.22	0.00 0.00 0.50 0.50	0.00 0.00 0.00 17.99 17.99	0.00 0.00 0.00 15.74 15.74	0.00 0.00 2.25 2.25 0.00 0.00 0.00
chalt On-Road Diesel chalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014*** ase 1 - Demolition Emission gitive Dust 5-Road Diesel -Road Diesel -ker Trips faximum lbs/day	0.00 0.00 97.09 97.09 0.00 0.00 0.00 0.0	0.00 0.00 399.43 399.43	0.00 0.00 0.00 1,294.22 1,294.22	0.00 0.00 0.50 0.50	0.00 0.00 0.00 17.99 17.99	0.00 0.00 0.00 15.74 15.74	0.00 0.00 2.25 2.25 0.00 0.00 0.00 0.00
chalt On-Road Diesel chalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014*** ase 1 - Demolition Emission gitive Dust i-Road Diesel -Road Diesel -ker Trips faximum lbs/day ase 2 - Site Grading Emiss	0.00 0.00 97.09 97.09 0.00 0.00 0.00 0.0	0.00 0.00 399.43 399.43	0.00 0.00 0.00 1,294.22 1,294.22	0.00 0.00 0.50 0.50	0.00 0.00 0.00 17.99 17.99	0.00 0.00 0.00 15.74 15.74	0.00 0.00 2.25 2.25 0.00 0.00 0.00 0.00
chalt On-Road Diesel chalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014*** ase 1 - Demolition Emission gitive Dust 5-Road Diesel -Road Diesel -Road Diesel -ker Trips faximum lbs/day ase 2 - Site Grading Emiss gitive Dust	0.00 0.00 97.09 97.09 0.00 0.00 0.00 0.0	0.00 0.00 399.43 399.43	0.00 0.00 0.00 1,294.22 1,294.22	0.00 0.00 0.50 0.50	0.00 0.00 0.00 17.99 17.99	0.00 0.00 0.00 15.74 15.74	0.00 0.00 2.25 2.25 0.00 0.00 0.00
chalt On-Road Diesel chalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014*** ase 1 - Demolition Emission gitive Dust i-Road Diesel -Road Diesel -ker Trips faximum lbs/day ase 2 - Site Grading Emiss	0.00 0.00 97.09 97.09 97.09	0.00 0.00 399.43 399.43	0.00 0.00 0.00 1,294.22 1,294.22	0.00 0.00 0.50 0.50	0.00 0.00 0.00 17.99 17.99 0.00 0.00 0.00 0.00	0.00 0.00 0.00 15.74 15.74	0.00 0.00 2.25 2.25 0.00 0.00 0.00 0.00
chalt On-Road Diesel chalt Worker Trips faximum lbs/day Max lbs/day all phases ** 2014*** ase 1 - Demolition Emissic fitive Dust -Road Diesel -Road Diesel cker Trips faximum lbs/day ase 2 - Site Grading Emiss fitive Dust -Road Diesel cker Trips	0.00 0.00 97.09 97.09 97.09	0.00 0.00 399.43 399.43	0.00 0.00 0.00 1,294.22 1,294.22 	0.00 0.00 0.50 0.50	0.00 0.00 0.00 17.99 17.99 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 15.74 15.74	0.00 0.00 2.25 2.25 0.00 0.00 0.00 0.00
chalt On-Road Diesel chalt Worker Trips faximum lbs/day Max lbs/day all phases ** 2014*** ase 1 - Demolition Emissic jitive Dust -Road Diesel -Road Diesel rker Trips faximum lbs/day ase 2 - Site Grading Emiss jitive Dust -Road Diesel -Road Diesel -Road Diesel -Road Diesel -Road Diesel	0.00 0.00 97.09 97.09 97.09	0.00 0.00 399.43 399.43	0.00 0.00 1,294.22 1,294.22 	0.00 0.00 0.50 0.50	0.00 0.00 0.00 17.99 17.99 0.00 0.00 0.00 0.00	0.00 0.00 0.00 15.74 15.74	0.00 0.00 2.25 2.25 0.00 0.00 0.00 0.00
chalt On-Road Diesel chalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014*** ## ase 1 - Demolition Emission ## itive Dust ## if-Road Diesel ## Road Diesel ## Road Diesel ## rrips ## faximum lbs/day ## ase 2 - Site Grading Emiss ## itive Dust ## if-Road Diesel ## Road Diesel ## Road Diesel ## Road Diesel ## rrips ## faximum lbs/day ## faximum lbs/day	0.00 0.00 97.09 97.09 97.09	0.00 0.00 399.43 399.43	0.00 0.00 0.00 1,294.22 1,294.22 	0.00 0.00 0.50 0.50	0.00 0.00 0.00 17.99 17.99 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 15.74 15.74	0.00 0.00 2.25 2.25 0.00 0.00 0.00 0.00
chalt On-Road Diesel chalt Worker Trips faximum lbs/day fax lbs/day all phases fax 2014** ase 1 - Demolition Emission gitive Dust i-Road Diesel Road Diesel	0.00 0.00 97.09 97.09 97.09 ons 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	0.00 0.00 399.43 399.43 0.00 0.00 0.00 0.00 0.00	0.00 0.00 1,294.22 1,294.22 	0.00 0.00 0.50 0.50	0.00 0.00 0.00 17.99 17.99 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 15.74 15.74	0.00 0.00 2.25 2.25 0.00 0.00 0.00 0.00
chalt On-Road Diesel chalt Worker Trips faximum lbs/day fax lbs/day all phases ** 2014*** ## ase 1 - Demolition Emission ## itive Dust ## if-Road Diesel ## Road Diesel ## Road Diesel ## rrips ## faximum lbs/day ## ase 2 - Site Grading Emiss ## itive Dust ## if-Road Diesel ## Road Diesel ## Road Diesel ## Road Diesel ## rrips ## faximum lbs/day ## faximum lbs/day	0.00 0.00 97.09 97.09 97.09 ons 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	0.00 0.00 399.43 399.43	0.00 0.00 1,294.22 1,294.22 	0.00 0.00 0.50 0.50 0.50	0.00 0.00 0.00 17.99 17.99 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 15.74 15.74 15.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 2.25 2.25 0.00 0.00 0.00 0.00
chalt On-Road Diesel chalt Worker Trips faximum lbs/day Max lbs/day all phases ** 2014*** ase 1 - Demolition Emissic gitive Dust -Road Diesel -Road Diesel :ker Trips faximum lbs/day ase 2 - Site Grading Emiss gitive Dust -Road Diesel cher Trips faximum lbs/day ase 3 - Building Construct lg Const Off-Road Diesel lg Const Worker Trips ch Coatings Off-Gas	0.00 0.00 97.09 97.09 97.09 ons 0.00	0.00 0.00 399.43 399.43 399.43 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 1,294.22 1,294.22 1,294.22 	0.00 0.00 0.50 0.50 0.50	0.00 0.00 0.00 17.99 17.99 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 15.74 15.74 15.74	0.00 0.00 2.25 2.25 0.00 0.00 0.00 0.00
chalt On-Road Diesel chalt Worker Trips faximum lbs/day Max lbs/day all phases ** 2014*** ase 1 - Demolition Emission jitive Dust i-Road Diesel -Road Diesel rker Trips faximum lbs/day ase 2 - Site Grading Emiss jitive Dust i-Road Diesel -Road Diesel -Road Diesel rker Trips faximum lbs/day ase 3 - Building Construct lg Const Off-Road Diesel lg Const Worker Trips	0.00 0.00 97.09 97.09 97.09 ons 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.40	0.00 0.00 399.43 399.43 	0.00 0.00 1,294.22 1,294.22 1,294.22 	0.00 0.00 0.50 0.50 0.50	0.00 0.00 0.00 17.99 17.99 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 15.74 15.74 15.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 2.25 2.25 0.00 0.00 0.00 0.00

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phalt Off-Road Diesel phalt On-Road Diesel phalt Worker Trips Maximum lbs/day	8.27 0.18 0.04 388.03	47.99 3.36 0.03 461.99	70.33 0.68 0.56 1,604.61	0.01 0.00 0.54	1.32 0.08 0.01 21.91	1.32 0.07 0.00 17.40	0.00 0.01 0.01 4.51
Max lbs/day all phases	388.03	461.99	1,604.61	0.54	21.91	17.40	4.51

ase 2 - Site Grading Assumptions: Phase Turned OFF

ase 3 - Building Construction Assumptions

art Month/Year for Phase 3: Jun '10

ase 3 Duration: 48 months

Start Month/Year for SubPhase Building: Jun '10 SubPhase Building Duration: 48 months

Off-Road Equipment

No. 35 Load Factor Hours/Day Type Horsepower 35 Other Equipment 190 0.6 Start Month/Year for SubPhase Architectural Coatings: Jan '14 0.620

SubPhase Architectural Coatings Duration: 4.8 months Start Month/Year for SubPhase Asphalt: Mar '14 SubPhase Asphalt Duration: 2.4 months

Acres to be Paved: 37

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
4	Pavers	132	0.590	8.0
4	Rollers	114	0.430	8.0

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31/2006 10:49 AM
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inges made to the default values for Land Use Trip Percentages inges made to the default values for Construction hitectural Coatings: # ROG/ft2 (residential) changed from 0.0185 to 0.0013 :hitectural Coatings: # ROG/ft2 (non-res) changed from 0.0185 to 0.0013 ase 3 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. ase 3 mitigation measure Off-Road Diesel Exhaust: has been changed from off to on. anges made to the default values for Area 3 landscape year changed from 2005 to 2015. anges made to the default values for Operations e operational emission year changed from 2005 to 2015. e home based work selection item changed from 8 to 7. $_{\mbox{\scriptsize 9}}$ home based work urban trip length changed from 9.7 to 6.3. $_{\mbox{\scriptsize 9}}$ home based work rural trip length changed from 16.8 to 6.3. ϵ home based shopping selection item changed from 8 to 7. e home based shopping urban trip length changed from 3.8 to 6.3. e home based shopping rural trip length changed from 7.1 to 6.3. ${\tt e}$ home based other selection item changed from 8 to 7. $_{\mbox{\scriptsize 9}}$ home based other urban trip length changed from 4.6 to 6.3. e home based other rural trip length changed from 7.9 to 6.3. e commercial based commute selection item changed from 8 to 7. e commercial based commute urban trip length changed from 7.8 to 6.3. e commercial based commute rural trip length changed from 14.7 to 6.3.

e commercial based non-work selection item changed from 8 to 7. e commercial based non-work urban trip length changed from 4.5 to 6.3. e commercial based non-work rural trip length changed from 6.6 to 6.3. e commercial based customer selection item changed from 8 to 7. e commercial based customer urban trip length changed from 4.5 to 6.3. e commercial based customer rural trip length changed from 6.6 to 6.3.



le Name:

C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio IM.urb

oject Name: Rio Del Oro IM
oject Location: Lower Sacramento Valley Air Basin
-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT (Pounds/Day - Summer)

EA SOURCE EMISSION ESTIMATES	(Summer	Pounds per	Day, Unmit	igated)	
Source	ROG	NOx	CO	SO2	PM10
atural Gas	8.18	110.68	80.38	0	0.20
earth - No summer emissions					
andscaping	2.63	0.32	20.32	0.10	0.06
onsumer Prdcts	181.60	-	-	_	_
rchitectural Coatings	21.00	_	_	_	-
OTALS(lbs/day,unmitigated)	213.41	111.01	100.70	0.10	0.26

Louis de Minimissation Altermative Disease de Operational Emiss	sione Poletive to the
Impact Minimization Alternative, Phase 1: Operational Emiss Proposed Project Alternative (Based on Net C	Change in Land Use)
	-

C:\Program Files\URBEMIS 2002 Version 8.7\Projects2k2\Rio\Rio IM net.urb le Name:

Rio Del Oro IM oject Name:

Lower Sacramento Valley Air Basin oject Location: -Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

> DETAIL REPORT (Pounds/Day - Summer)

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
ngle family housing -	44.25	44.56	486.15	0.59	88.82
artments low rise -	1.41	1.32	14.45	0.02	2.64
artments mid rise +	59.28	53.09	579.17	0.70	105.81
ty park +	0.22	0.11	1.16	0.00	0.23
gnl shop. center -	171.24	212.22	2,164.70	2.79	429.34
dustrial park	18.30	17.40	187.03	0.23	34.82
TAI. EMISSIONS (lbs/day)	294.71	328.71	3,432.66	4.33	661.65

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

'ERATIONAL (Vehicle) EMISSION ESTIMATES

alysis Year: 2015 Temperature (F): 85 Season: Summer

IFAC Version: EMFAC2002 (9/2002)

mmary of Land Uses:

iit Type	Acreage	Trip	Rate	No. Total Units Trips
ngle family housing partments low rise partments mid rise ty park egnl shop. center dustrial park	323.33 2.50 50.53	6.90 5.76 1.59 42.94	trips/dwelling unit trips/dwelling unit trips/dwelling unit trips/acres trips/1000 sq. ft. trips/1000 sq. ft.	970.00 9,282.90 40.00 276.00 1,920.0011,059.20 15.00 23.85 1,046.0044,915.24 523.00 3,640.08

Sum of Total Trips 69,197.27 Total Vehicle Miles Traveled 435,942.80

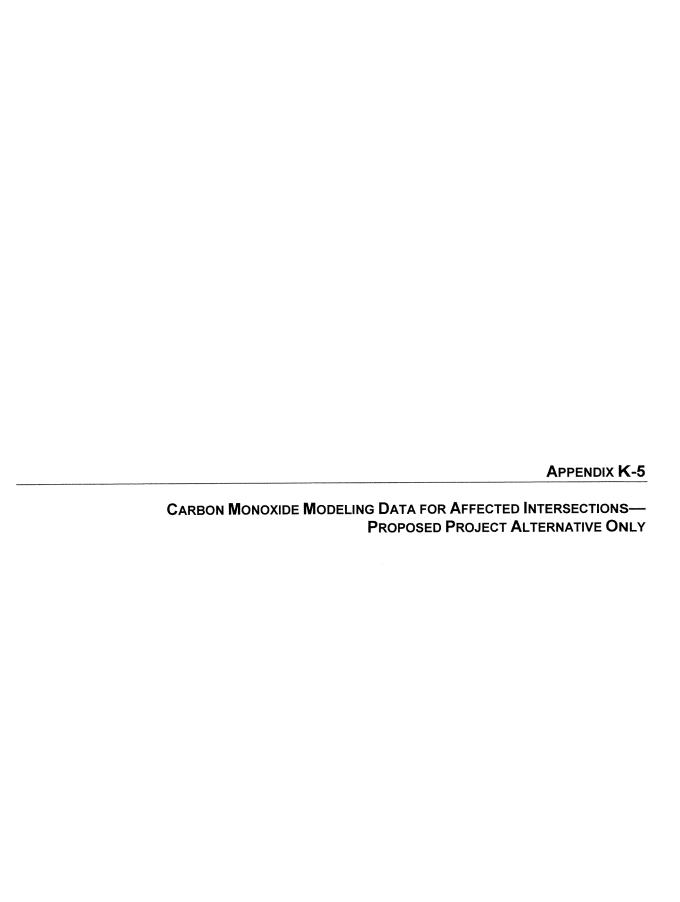
hicle Assumptions:

.eet Mix:

hicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
.ght Auto	54.40	0.40	99.40	0.20
.ght Truck < 3,750 lbs	s 15.30	0.70	98.00	1.30
ght Truck 3,751- 5,750	16.40	0.60	98.80	0.60
d Truck 5,751-8,500		0.00	98.60	1.40
te-Heavy 8,501-10,000		0.00	81.80	18.20
te-Heavy 10,001-14,000	-	0.00	66.70	33.30
d-Heavy 14,001-33,000		0.00	20.00	80.00
eavy-Heavy 33,001-60,000		0.00	0.00	100.00
ne Haul > 60,000 lbs		0.00	0.00	100.00
ban Bus	0.20	0.00	50.00	50.00
ptorcycle	1.60	50.00	50.00	0.00
:hool Bus	0.10	0.00	0.00	100.00
tor Home	1.50	0.00	93.30	6.70

-arrel	Conditions	
avei	COHULLIONS	

ravel Conditions	:	Residential		Commercial			
than Trip Length (miles) tral Trip Length (miles)	Home- Work 6.3 6.3	Home- Shop 6.3 6.3	Home- Other 6.3 6.3	Commute 6.3 6.3	Non-Work 6.3 6.3	Customer 6.3 6.3	
ip Speeds (mph) of Trips - Residential of Trips - Commercial (35.0 27.3	35.0 21.2	35.0 51.5	35.0	35.0	35.0	
ty park ignl shop. center idustrial park	oy rana .	250,		5.0 2.0 41.5	2.5 1.0 20.8	92.5 97.0 37.8	



C4_Int5 baseline

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL JUNE 1989 VERSION

PAGE 1

JOB: Intersection 5 - baseline RUN: Hour 1 (WORST CA POLLUTANT: Carbon Monoxide

(WORST CASE ANGLE)

I. SITE VARIABLES

U=	.5	M/S	z0=	100.	CM		ALT=	50.	(M)
BRG=	WORST	CASE	VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	M	, .,	.0					
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(c)			

II. LINK VARIABLES

	LINK	*		COORDI			*	TVDE	VDII	EF (C/MT)	H (M)	W
	DESCRIPTION	_ *_	X1	Y1	X2	Y2			VPH	(G/MI)	(M) 	(M)
Α.	SB Apr	*	0	6	0	150	*	AG	990	5.3	.0	11.0
В.	NB Dep	*	4	6	4	150	*	AG	360	5.3	.0	11.0
С.	NB Apr	*	2	-6	2	-150	*	AG	240	5.0	.0	14.6
D.	SB Dep	*	-4	-6	-4	-150	*	AG	820	5.3	.0	14.6
Ε.	EB Apr	*	-4	-2	-150	-2	*	AG	230	5.3	.0	14.6
	WB Dep	*	-4	4	-150	4	×	AG	280	4.1	.0	14.6

III. RECEPTOR LOCATIONS

RECEPTOR	* * *	COORD:	INATES Y	(M) Z
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4 5. Recpt 5 6. Recpt 6	* * *	9 -9 -5 13 -13	0 -9 9 0 -13	1.8 1.8 1.8 1.8 1.8

RECEPTOR	* *	BRG (DEG)	* * * * *	PRED CONC (PPM)	* * * *	Α	В	CONC/I (PPN C		E	F
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4	- · · · · · · · · · · · · · · · · · · ·	8. 5. 351.	***	1.0 1.1 1.5 .7	* * * * * *	.6 .7 1.2	.4 .2 .2	.0 .0 .0 .0	.0 .0 .0	.0 .0 .0	.0
5. Recpt 5 6. Recpt 6	*	TO.	*	.8 .8		.6	.2	.0	.0	.0	.0

C4_INT~2

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 1

JOB: Intersection 5 - baseline+ph1 RUN: Hour 1 (WORST CASE A POLLUTANT: Carbon Monoxide (WORST CASE ANGLE)

I. SITE VARIABLES

U=	.5	M/S	z0=	100.	CM		ALT=	50.	(M)
BRG=	WORST	CASE	VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	M	, .,	.0					
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(c)			

II. LINK VARIABLES

	LINK DESCRIPTION	*	LINK X1	COORDI Y1	NATES X2	(M) Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
В. С.	SB Apr NB Dep NB Apr	- * - * *	0 4 2 -4	6 6 -6 -6	0 4 2 -4	150 150 -150 -150	* *	AG AG AG	1240 540 350 980	5.3 5.3 5.3 5.3	.0	11.0 11.0 14.6 14.6
Ε.	SB Dep EB Apr WB Dep	*	-4 -4 -4	-6 -2 4	-150 -150	-130 -2 4	*	AG AG AG	300 370	5.3 5.1	.0 .0	14.6 14.6

III. RECEPTOR LOCATIONS

F	RECEPTO	OR	*	COORD: X	INATES Y	(M) Z
2. 3. 4.	Recpt Recpt Recpt Recpt	2	· - * * * * *	9 -9 -5 13 -13	0 -9 9 0 -13	1.8 1.8 1.8 1.8
	Recpt Recpt	6	*	-13 -9	13	1.8

	*	BRG	*	PRED CONC	*		(ONC/I PPI)			
RECEPTOR	* _*_	(DEG)	*	(PPM)	* -*_	Α	В	c`	Ď	E	F
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4 5. Recpt 5 6. Recpt 6	* * * * * *	354. 8. 5. 351. 11. 9.	* * * * * *	1.4 1.3 1.8 .9 1.0	* * * * * *	.8 .8 1.5 .6 .6	.6 .3 .4 .2	.0 .0 .0 .0	.0 .0 .0 .0	.0 .0 .0 .0	.0 .0 .0 .0

C4_INT~3

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 1

JOB: intersection 9 - baseline RUN: Hour 1 (WORST CA POLLUTANT: Carbon Monoxide

(WORST CASE ANGLE)

I. SITE VARIABLES

U=	. 5	M/S	Z0=	100.	CM		ALT=	50.	(M)
BRG=	WORST	CASE	VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	М	AMB=	.0	PPM				
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(c)			

II. LINK VARIABLES

	LINK	*	LINK	COORDIN	IATES	(M)	*			EF	Н	W
	DESCRIPTION	*	x1	Y1	X2	Y2	*	TYPE	VPH	(G/MI)	(M)	(M)
		-*-					_*.					
Α.	SB Apr	*	-4	7	-4	150	*	AG	3210	5.3	.0	29.3
В.	NB Dep	*	9	7	9	150	*	AG	1050	5.3	.0	29.3
С.	WB Apr	*	13	2	150	2	*	AG	570	5.3	.0	18.3
D.	EB Dep	*	13	-6	150	-6	*	AG	1620	5.3	.0	18.3
E.	NB Apr	*	4	-7	4	-150	*	AG	810	5.3	.0	25.6
F.	SB Dep	*	-7	-7	-7	-150	*	AG	2010	5.3	.0	25.6
G.	EB Apr	*	-150	-2	-13	-2	*	AG	700	5.3	.0	18.3
Н.	WB Dep	*	-150	6	-13	6	*	AG	610	5.0	.0	18.3

III. RECEPTOR LOCATIONS

			*	COORD:	(M)	
F	RECEPTO	OR	*	X	Υ	Z
1.	Recpt	1	*	16	10	1.8
2.	Recpt	2	*	16	-10	1.8
3.	Recpt	3	*	-16	-10	1.8
4.	Recpt	4	*	-16	10	1.8
5.	Recpt	5	*	20	14	1.8
6.	Recpt	6	*	20	-14	1.8
7.	Recpt	7	*	-20	-14	1.8
8.	Recpt	8	*	-20	14	1.8

RECEPTOR	* * *	BRG (DEG)	* * *	PRED * CONC * (PPM) *	Α	В	C	CONC/I (PPN D		F	G	н
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4 5. Recpt 5 6. Recpt 6 7. Recpt 7		347. 350. 8. 11. 263. 347. 11.	- * * * * * * *	1.6 * 2.0 * 1.8 * 1.9 * 1.4 * 1.9 * 1.8 *	1.1 1.3 1.6 .6 .9	.5 .4 .2 .2 .2 .3 .2 Pag	.0 .1 .0 .0 .0 .1 .0	.0 .4 .0 .0 .0	.0	.0 .0 .0 .0 .0	.0 .0 .2 .0 .3 .0	.0 .0 .1 .0 .3 .0

8. Recpt 8 * 100. * 1.8 * .8 .1 .3 .5 .0 .0 .0 .0

C4_INT~4

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION PAGE 1

JOB: intersection 9 - baseline+ph1 RUN: Hour 1 (WORST CASE ANGLE) POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5	M/S	Z0=	100.	CM		ALT=	50.	(M)
BRG=	WORST	CASE	VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	M	/ ti 156	.0					
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(c)			

II. LINK VARIABLES

	LINK DESCRIPTION	*	LINK X1	COORDIN Y1	NATES X2	(M) Y2		TYPE	VPH	EF (G/MI)	H (M)	W (M)
А. В.	SB Apr NB Dep	*	-4 9	7 7	-4 9	150 150	*	AG AG	4030 1520	5.3 5.3	.0	29.3 29.3
c.	WB Apr	*	13	2	150	2	*	AG	860	5.3	.0	18.3
D.	EB Dep	*	13	-6	150	-6	*	AG	1880	5.3	.0	18.3
Ε.	NB Apr	*	4	-7	4	-150	*	AG	1260	5.3	.0	25.6
F.	SB Dep	*	-7	-7	-7	-150	*	AG	2710	5.3	.0	25.6
G.	EB Apr	*	-150	-2	-13	-2	*	AG	900	5.3	.0	18.3
н.	WB Dep	*	-150	6	-13	6	*	AG	940	5.3	.0	18.3

III. RECEPTOR LOCATIONS

			*	COORD:	INATES	(M)
F	RECEPTO)R	*	X	Υ	Z
			-*			
1.	Recpt	1	*	16	10	1.8
2.	Recpt	2	*	16	-10	1.8
3.	Recpt	3	*	-16	-10	1.8
4.	Recpt	4	*	-16	10	1.8
5.	Recpt	5	r	20	14	1.8
6.	Recpt	6	*	20	-14	1.8
7.	Recpt	7	*	-20	-14	1.8
8.	Recpt	8	*	-20	14	1.8

RECEPTOR	* * *	BRG (DEG)	* * *	PRED CONC (PPM)	* * * -*-	Α	В	c	CONC/L (PPN D		F	G	H
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4 5. Recpt 5 6. Recpt 6 7. Recpt 7	* * * * * * *	347. 350. 8. 11. 263. 347. 11.	* * * * * * *	2.1 2.5 2.4 2.4 1.9 2.4 2.3	* * *	1.4 1.3 1.6 2.0 .7 1.1	.7 .6 .3 .3 .5 .5	.0 .2 .0 .0 .0 .2 .0 ge 1	.0 .4 .0 .0 .0	.0 .0 .0 .0 .0	.0	.0 .0 .3 .0 .3 .0	.0 .0 .2 .0 .5 .0

8. Recpt 8 * 99. * 2.3 * 1.0 .2 .4 .6 .0 .0 .0 .0

C48974~1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL JUNE 1989 VERSION

PAGE 1

JOB: intersection 15 - baseline
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5	M/S	Z0=	100.	CM		ALT=	50.	(M)
BRG=	WORST	CASE	VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	М	, .,	.0					
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(c)			

II. LINK VARIABLES

	LINK DESCRIPTION	*	X1	COORDI Y1	NATES X2	(M) Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
		-*-					*.					
Α.	SB Apr	×	-7	13	-7	150	*	AG	1550	5.3	.0	36.6
В.	NB Dep	rk.	11	13	11	150	*	AG	3100	5.3	.0	36.6
Ċ.	WB Apr	*	18	6	150	6	*	AG	1300	5.3	.0	29.3
D.	EB Dep	*	18	-7	150	-7	*	AG	850	5.3	.0	29.3
Ε.	NB Apr	*	7	-13	7	-150	*	AG	1490	5.3	.0	36.6
		*	-9	-13	-9	-150	*	AG	570	5.3	.0	36.6
G.	EB Apr	*	-18	-4	-150	-4	*	AG	740	5.3	.0	29.3
Н.	WB Dep	*	-18	9	-150	9	*	AG	560	5.3	.0	29.3

III. RECEPTOR LOCATIONS

	* COORDINATES									
F	RECEPTO	OR	*	X	Y	Z				
1.	Recpt	1	*	21	 16	1.8				
2.	Recpt	2	*	21	-16	1.8				
3.	Recpt	3	*	-20	-16	1.8				
4.	Recpt	4	*	-21	16	1.8				
5.	Recpt	5	*	25	20	1.8				
6.	Recpt	6	*	25	-20	1.8				
7.	Recpt	7	*	-24	-20	1.8				
8.	Recpt	8	*	-25	20	1.8				

RECEPTOR	* * *	BRG (DEG)	* * *	PRED CONC (PPM)	* * * *	Α	В	C	CONC/I (PPI D		F	G	Н
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4 5. Recpt 5 6. Recpt 6 7. Recpt 7	* * * * * * *	347. 354. 15. 20. 345. 350.	* * * * * * *	1.5 1.4 1.1 1.2 1.4 1.5	* * * * * * *	.3 .2 .4 .5 .3 .2 .4	1.2 .9 .7 .6 1.2 .8 .5	.0 .2 .0 .0 .0 .2 .0 ge 1	.0 .2 .0 .0 .0	.0 .0 .0 .0 .0	.0 .0 .0 .0 .0	.0 .0 .0 .0 .0	.0 .0 .0 .0

8. Recpt 8 * 97. * 1.3 * .3 .4 .4 .1 .0 .0 .0 .0

C4088A~1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 1

JOB: intersection 15 - baseline+ph1 RUN: Hour 1 (WORST CASE AN POLLUTANT: Carbon Monoxide (WORST CASE ANGLE)

I. SITE VARIABLES

U=	. 5	M/S	Z0=	100.	CM		ALT=	50.	(M)
BRG=	WORST	CASE	VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	М	AMB=	.0	PPM				
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(c)			

II. LINK VARIABLES

	LINK	*		COORDI			*			EF (C(V)T)	H	W
	DESCRIPTION	_*_	X1		X2	Y2	* .*.	TYPE	VPH	(G/MI) 	(M) 	(M)
Α.	SB Apr	*	-7	13	-7	150	*	AG	2050	5.3	.0	36.6
В.	NB Dep	*	11	13	11	150	*	AG	3730	5.3	.0	36.6
С.	WB Apr	*	18	6	150	6	*	AG	1930	5.3	.0	29.3
D.	EB Dep	×	18	-7	150	-7	*	AG	1360	5.3	.0	29.3
Ε.	NB Apr	*	7	-13	7	-150	*	AG	1500	5.3	.0	36.6
F.	SB Dep	*	-9	-13	-9	-150	*	AG	570	5.3	.0	36.6
G.	EB Apr	*	-18	-4	-150	-4	*	AG	750	5.3	.0	29.3
Н.	WB Dep	*	-18	9	-150	9	ж	AG	570	5.3	.0	29.3

III. RECEPTOR LOCATIONS

			*	COORD:	(M)	
F	RECEPTO)R	*	X	Υ	Z
			-*			
1.	Recpt	1	*	21	16	1.8
2.	Recpt	2	*	21	-16	1.8
3.	Recpt	3	*	-20	-16	1.8
4.	Recpt	4	*	-21	16	1.8
5.	Recpt	5	*	25	20	1.8
6.	Recpt	6	*	25	-20	1.8
7.	Recpt	7	*	-24	-20	1.8
8.	Recpt	8	*	-25	20	1.8

RECEPTOR	* * *	BRG (DEG)	* * *	PRED CONC (PPM)	* * *	Α	В	c	CONC/I (PPI D		F	G	Н
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4 5. Recpt 5 6. Recpt 6 7. Recpt 7	* * * * * * *	343. 354. 15. 20. 344. 350.	* * * * * * *	1.8 1.8 1.3 1.5 1.7 1.9	* * * * *	.5 .2 .5 .7 .3 .3	1.3 1.0 .8 .8 1.4 1.0	.0 .3 .0 .0 .0 .3 .0 ge 1	.0 .3 .0 .0 .0	.0 .0 .0 .0 .0	.0 .0 .0 .0	.0 .0 .0 .0 .0	.0

C4088A~1 8. Recpt 8 * 97. * 1.7 * .4 .4 .6 .2 .0 .0 .0 .0

C489F3~1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 1

JOB: intersection 19 - baseline RUN: Hour 1 (WORST CAS POLLUTANT: Carbon Monoxide

(WORST CASE ANGLE)

I. SITE VARIABLES

U=	. 5	M/S	Z0=	100.	CM		ALT=	50.	(M)
	WORST		VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	M	AMB=	.0	PPM				
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(c)			

II. LINK VARIABLES

	LINK DESCRIPTION	*	X1	COORDI Y1	NATES X2	(M) Y2	*		VPH	EF (G/MI)	H (M)	W (M)
A. B. C. D. E.	SB Apr NB Dep WB Apr EB Dep NB Apr	-*- * * * *	-7 11 18 18 7 -9	13 13 4 -9 -13 -13	-7 11 150 150 7 -9	150 150 4 -9 -150	* * * * * *	AG AG AG AG AG AG	1800 2730 960 890 2230 1680	5.3 5.3 5.3 5.3 5.3 5.3	.0 .0 .0 .0	36.6 36.6 29.3 29.3 36.6 36.6
G. H.	EB Apr WB Dep	*	-18 -18	-4 9	-150 -150	-4 9	*	AG AG	940 630	5.3 5.0	.0	29.3 29.3

III. RECEPTOR LOCATIONS

			*	COORD	INATES	(M)
F	RECEPTO	DR	*	X	Y	Z
1.	Recpt	1	*	21	16	1.8
2.	Recpt	2	*	21	-16	1.8
3.	Recpt	3	*	-20	-16	1.8
4.	Recpt	4	*	-21	16	1.8
5.	Recpt	5	*	25	20	1.8
6.	Recpt	6	*	25	-20	1.8
7.	Recpt	7	*	-24	-20	1.8
8.	Recpt	8	*	-25	20	1.8

RECEPTOR	*	BRG (DEG)	* *	PRED CONC (PPM)	* * *	Α	В	C	CONC/I (PPI D		F	G	Н
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4 5. Recpt 5 6. Recpt 6 7. Recpt 7 8. Recpt 8	_ * * * * * * * * * * * * * * * * * * *	343. 352. 163. 20. 344. 349. 83. 167.	** * * * * * * *	1.4 1.3 1.2 1.2 1.3 1.4 1.2	- * * * * * * * * *	.4 .3 .0 .6 .3 .3	1.0 .8 .0 .6 1.0 .7 .0	.0 .1 .0 .0 .0 .2 .2 .0	.0 .1 .0 .0 .0 .2 .3	.0 .0 .6 .0 .0 .0	.0 .0 .6 .0 .0 .0	.0 .0 .0 .0 .0 .0	.0 .0 .0 .0 .0 .0

C40886~1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION PAGE 1

JOB: intersection 19 - baseline+ph1 RUN: Hour 1 (WORST CASE ANGLE) POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	. 5	M/S	Z0=	100.	CM		ALT=	50.	(M)
BRG= \	WORST	CASE	VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	M	AMB=	.0	PPM				
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(c)			

II. LINK VARIABLES

	LINK DESCRIPTION	*	X1	COORDI Y1	NATES X2	`Ý2		TYPE	VPH	EF (G/MI)	H (M)	W (M)
Α.	SB Apr	*	-/	13	-/	150	*	AG	2310	5.3	.0	36.6
В.	NB Dep	*	11	13	11	150	*	AG	3610	5.3	.0	36.6
c.	WB Apr	*	18	4	150	4	*	AG	1000	5.3	.0	29.3
D.	EB Dep	*	18	-9	150	-9	*	AG	910	5.3	.0	29.3
		*	7	-13	7	-150	*	AG	3230	5.3	.0	36.6
	SB Dep	*	-9	-13	-9	-150	*	AG	2300	5.3	.0	36.6
	EB Apr	*	-18	-4	-150	-4	*	AG	1010	5.3	.0	29.3
Н.	WB Dep	*	-18	9	-150	9	*	AG	730	5.3	.0	29.3

III. RECEPTOR LOCATIONS

			*	COORD	INATES	(M)
F	RECEPTO	OR	*	Х	Υ	Z
			- ×			
1.	Recpt	1	*	21	16	1.8
2.	Recpt	2	*	21	-16	1.8
3.	Recpt	3	*c	-20	-16	1.8
4.	Recpt	4	*	-21	16	1.8
5.	Recpt	5	*	25	20	1.8
6.	Recpt	6	*	25	-20	1.8
7.	Recpt	7	*	-24	-20	1.8
8.	Recpt	8	*	-25	20	1.8

RECEPTOR	* * *	BRG (DEG)	* * *	PRED * CONC * (PPM) *	k .	A	В	C	CONC/ (PP D		F	G	н
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4 5. Recpt 5 6. Recpt 6	* * * * * *	343. 196. 163. 20. 344. 349.	***	1.8 * 1.7 * 1.6 * 1.6 * 1.7 *	ir ir ir	.5 .0 .0 .8 .4	1.2 .0 .0 .7 1.3 .9	.0 .0 .0 .0 .0	.0 .0 .0 .0	.0 1.2 .8 .0 .0	.0 .5 .8 .0 .0	.0 .0 .0 .0	.0

C40886~1
7. Recpt 7 * 160. * 1.5 * .0 .0 .0 .0 .7 .8 .0 .0 8. Recpt 8 * 167. * 1.5 * .0 .0 .0 .0 .0 .6 .6 .1 .2

C4A954~1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 1

JOB: intersection 22 - baseline RUN: Hour 1 (WORST CAS POLLUTANT: Carbon Monoxide

(WORST CASE ANGLE)

I. SITE VARIABLES

U=	.5	M/S	Z0=	100.	CM		ALT=	50.	(M)
BRG=	WORST	CASE	VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	M	AMB=	.0	PPM				
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(c)			

II. LINK VARIABLES

	LINK	*	LINK	COORDI	NATES	(M)	*			EF	Н	W
	DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	(G/MI)	(M)	(M)
		-*-					×.					
Α.	SB Apr	*	-6	7	-6	150	*	AG	2370	5.3	.0	32.9
В.	NB Dep	*	9	7	9	150	*	AG	2880	5.3	.0	32.9
c.	WB Apr	*	15	4	150	4	*	AG	160	5.3	.0	18.3
D.	EB Dep	*	15	-4	150	-4	*	AG	60	3.5	.0	18.3
E.	NB Apr	*	6	-7	6	-150	*	AG	2760	5.3	.0	32.9
F.	SB Dep	*	-9	-7	-9	-150	*	AG	2430	5.3	.0	32.9
G.	EB Apr	*	-15	-4	-150	-4	*	AG	380	5.3	.0	18.3
н.	WB Dep	*	-15	4	-150	4	*	AG	300	4.1	.0	18.3

III. RECEPTOR LOCATIONS

			*	COORD:	INATES	(M)
F	RECEPTO	R	*	X	Υ	Z
			*			
l.	Recpt	T	*	18	10	1.8
2.	Recpt	2	*	18	-10	1.8
3.	Recpt	3	*	-18	-10	1.8
4.	Recpt	4	*	-18	10	1.8
5.	Recpt	5	*	22	14	1.8
6.	Recpt	6	*	22	-14	1.8
7.	Recpt	7	*	-22	-14	1.8
8.	Recpt	8	*	-22	14	1.8

	* *	BRG (DEG)	*	PRED CONC (PPM)	*	Α	В	C	CONC/I (PPI D		F	G	Н
KLCLF IOK	*_		.*.		_*_					 			
2. Recpt 2 3. Recpt 3 4. Recpt 4 5. Recpt 5 6. Recpt 6	***	348. 350. 166. 170. 345. 349. 164.	* * * * * * *	1.9 1.7 1.8 1.7 1.7 1.6 1.6	* * * * * * *	.6 .6 .0 .5 .5	1.2 1.0 .0 .0 1.2 .9	.0 .0 .0 .0 .0 .0	.0 .0 .0 .0 .0	.0 .8 .7 .0 .1	.0 .0 1.0 .8 .0 .0	.0 .0 .0 .0 .0	.0 .0 .0 .0 .0

8. Recpt 8 * 168. * 1.6 * .0 .0 .0 .6 .8 .0 .0

C40989~1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 1

JOB: intersection 22 - baseline+ph1 RUN: Hour 1 (WORST CASE AN POLLUTANT: Carbon Monoxide (WORST CASE ANGLE)

I. SITE VARIABLES

U=	.5	M/S	z0=	100.	CM		ALT=	50.	(M)
BRG=	WORST	CASE	VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	M	AMB=	.0	PPM				
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(c)			

II. LINK VARIABLES

LINK DESCRIPTION	* * _*_	LINK X1	COORDI Y1	NATES X2	(M) Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. SB Apr B. NB Dep C. WB Apr D. EB Dep E. NB Apr F. SB Dep G. EB Apr H. WB Dep	_	 -6 9 15 15 6 -9 -15	7 7 4 -4 -7 -7 -4	 -6 9 150 150 6 -9 -150	150 150 4 -4 -150 -150 -4 4	* * * * * *	AG AG AG AG AG AG AG	2740 3420 160 60 3310 2800 380 310	5.3 5.3 5.3 3.5 5.3 5.3 5.3	.0 .0 .0 .0 .0 .0 .0 .0 .0 .0	32.9 32.9 18.3 18.3 32.9 32.9 18.3 18.3

III. RECEPTOR LOCATIONS

			*	COORD:	INATES	(M)
ı	RECEPTO	OR	*	X	Υ	Z
1.	Recpt	1	*	18	10	1.8
2.	Recpt	2	*	18	-10	1.8
3.	Recpt	3	*	-18	-10	1.8
4.	Recpt	4	*	-18	10	1.8
5.	Recpt	5	*	22	14	1.8
6.	Recpt	6	*	22	-14	1.8
7.	Recpt	7	*	-22	-14	1.8
8.	Recpt	8	*	-22	14	1.8

•	* * BRG * (DEG)	*	PRED	* *		_	(CONC/ (PP	M)	,		
KECEF IOK	* (DEG) *	_ *.	(PPM) 	.*.	A	B		D 	E 	F 		H
2. Recpt 2 3. Recpt 3 4. Recpt 4 5. Recpt 5 6. Recpt 6	* 348. * 195. * 166. * 169. * 346. * 349. * 164.	* * * * * * *	2.2 2.0 2.1 2.0 2.0 1.9	*	.7 .0 .0 .6 .6	1.4 .0 .0 .0 1.4 1.1 .0	.0 .0 .0 .0 .0 .0	.0 .0 .0 .0	.0 1.4 1.0 .9 .0 .1	.0 .7 1.1 .9 .0 .0	.0 .0 .0 .0 .0	.0 .0 .0 .0

C40989~1 8. Recpt 8 * 167. * 1.9 * .1 .0 .0 .0 .8 .8 .0 .0

C4A915~1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 1

JOB: intersection 24 - baseline RUN: Hour 1 (WORST CAS POLLUTANT: Carbon Monoxide

(WORST CASE ANGLE)

I. SITE VARIABLES

U=	. 5	M/S	Z0=	100.	CM		ALT=	50.	(M)
BRG=	WORST	CASE	VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	M	AMB=	.0	PPM				
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(C)			

II. LINK VARIABLES

	LINK	*	LINK	COORDI	NATES	(M)	*			EF	Н	W
	DESCRIPTION	*	X1	Y1	X2			TYPE	VPH	(G/MI)	(M)	(M)
		-*-					_*.					
Α.	SB Apr	*	-7	6	-7	150	*	AG	1240	5.3	.0	25.6
В.	NB Dep	*	9	7	9	150	*	AG	2940	5.3	.0	25.6
С.	EB Dep	*	11	0	106	106	*	AG	290	3.0	.0	11.0
D.	NB Apr	*	6	-6	6	-150	*	AG	1680	5.3	.0	25.6
E.	SB Dep	*	-6	-6	-6	-150	*	AG	610	5.3	.0	25.6
F.	EB Apr	*	-11	0	-150	0	*	AG	1690	5.3	.0	14.6

III. RECEPTOR LOCATIONS

RECE	РТО	R	*	COORD X	COORDINATES X Y				
1. Rec 2. Rec 3. Rec 4. Rec	pt pt	2 3	-* * * *	15 -14 19 -18	 -11 -9 -15 -13	1.8 1.8 1.8			

	*		*	PRED	*			CONC/L	INK		
	*	BRG	*	CONC	*			(PPN	1)		
RECEPTOR	*	(DEG)	*	(PPM)	*	Α	В	Ċ	D	Ε	F
	_*-		*.		_*_						
1. Recpt 1	*	353.	*	1.6	*	.3	1.2	.0	.0	.0	.0
2. Recpt 2	*	11.	*	1.8	*	. 5	.8	.0	.0	.0	. 5
3. Recpt 3	*	352.	*	1.5	*	. 2	1.2	.0	.0	.0	.0
4. Recpt 4	*	14.	*	1.6	*	. 4	.7	.0	.0	.0	. 4

C40987~1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 1

JOB: intersection 24 - baseline+ph1 RUN: Hour 1 (WORST CASE AN POLLUTANT: Carbon Monoxide

(WORST CASE ANGLE)

I. SITE VARIABLES

U=	.5	M/S	Z0=	100.	CM		ALT=	50.	(M)
BRG=	WORST	CASE	VD=	.0	CM/S				
CLAS=	7	(G)	VS=	.0	CM/S				
MIXH=	1000.	M	AMB=	.0	PPM				
SIGTH=	5.	DEGREES	TEMP=	7.2	DEGREE	(c)			

II. LINK VARIABLES

	LINK	*		COORDI			*			EF	H	W
	DESCRIPTION	*	X1	Y1	X2	Y2		TYPE	VPH	(G/MI)	(M)	(M)
Α.	SB Apr	*	 -7	6	 -7	150	*	AG	1240	5.3	.0	25.6
В.	NB Dep	*	9	7	9	150	*	AG	3310	5.3	.0	25.6
c.	EB Dep	*	11	0	106	106	*	AG	290	3.0	.0	11.0
D.	NB Apr	*	6	-6	6	-150	*	AG	1870	5.3	.0	25.6
	SB Dep	*	-6	-6	-6	-150	*	AG	630	5.3	.0	25.6
F.	EB Apr	*	-11	0	-150	0	*	AG	1890	5.3	.0	14.6

III. RECEPTOR LOCATIONS

ſ	RECEPTO	OR	*	COORD X	INATES Y	(M) Z
1.	Recpt	1	* *	15	-11	1.8
3.	Recpt Recpt	3	*	-14 19	-9 -15	$\begin{array}{c} 1.8 \\ 1.8 \end{array}$
4.	Recnt	4	*	-18	-13	1.8

	*	BRG	*	PRED CONC	*			CONC/I PPI)			
RECEPTOR	* _*-	(DEG)	*	(FFM)	* -*-	Α	В	c .	Ď	E	F
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4	* * *	354. 11. 352. 14.	* * * *	1.5	* * *	.2 .5 .2 .4	1.4 .8 1.3 .8	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .6 .0

C4A974~1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL JUNE 1989 VERSION PAGE 1

JOB: intersection 25 - baseline RUN: Hour 1 (WORST CAS POLLUTANT: Carbon Monoxide

(WORST CASE ANGLE)

I. SITE VARIABLES

U=	.5 M/S	Z0=100.	CM	ALT=	50.	(M)
BRG= WORS	ST CASE	VD=.0	CM/S			
CLAS=	7 (G)	VS=.0	CM/S			
MIXH= 1000	О. М	AMB = .0	PPM			
SIGTH=	5. DEGREES	TEMP= 7.2	DEGREE (C)			

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK X1	COORDI Y1	NATES X2	(M) Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. SB Apr B. NB Dep C. WB Apr D. NB Apr E. SB Dep F. EB Apr G. WB Dep	* * * * * *	-6 7 13 6 -7 -13	6 6 0 -6 -6 -2	-6 7 150 6 -7 -150 -150	150 150 0 -150 -150 -2 2	* * * * * * *	AG AG AG AG AG AG	1990 3040 810 2940 2620 650 510	5.3 5.3 5.3 5.3 5.3 5.3	.0 .0 .0 .0 .0	29.3 29.3 14.6 29.3 29.3 11.0

III. RECEPTOR LOCATIONS

F	RECEPTO	DR	* * *	COORD:	INATES Y	(M) Z
3. 4. 5.	Recpt Recpt Recpt Recpt Recpt		* * * * *	16 -16 -16 20 -20	9 -7 7 13 -11	1.8 1.8 1.8 1.8
	Recpt	6	*	-20	11	1.8

RECEPTOR	* * * -*-	BRG (DEG)	* * * -*-	PRED CONC (PPM)	* * *	Α	В	co c	NC/LI (PPM) D	NK E	F	G
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4 5. Recpt 5 6. Recpt 6	-	190. 168. 170. 192. 166. 168.	- * * * * * * *	2.2 2.1 2.3 2.0 1.9 2.1	-	.0 .0 .0 .0	.0 .0 .0 .2 .0	.2 .0 .0 .2 .0	1.2 .9 .8 1.1 .7	.7 1.2 1.1 .6 1.2	.0 .0 .2 .0 .0	.0 .0 .2 .0

C4098A~1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL

JUNE 1989 VERSION

PAGE 1

JOB: intersection 25 - baseline+ph1
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .	5 M/S	Z0=100.	CM	ALT=	50.	(M)
BRG= WORS	T CASE	VD = .0	CM/S			
CLAS=	7 (G)	VS = .0	CM/S			
MIXH= 1000	. M	AMB = .0				
SIGTH= 5	. DEGREES	TEMP= 7.2	DEGREE (C)			

II. LINK VARIABLES

LINK DESCRIPTION	* * -*-	LINK X1	COORDI Y1	NATES X2	(M) Y2		TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. SB Apr B. NB Dep C. WB Apr D. NB Apr E. SB Dep F. EB Apr G. WB Dep	* * * * * *	-6 7 13 6 -7 -13	6 6 0 -6 -6 -2 2	-6 7 150 6 -7 -150	150 150 0 -150 -150 -2 2	* * *	AG AG AG AG AG	2040 3400 820 3310 2680 660 530	5.3 5.3 5.3 5.3 5.3 5.3	.0 .0 .0 .0	29.3 29.3 14.6 29.3 29.3 11.0

III. RECEPTOR LOCATIONS

			*	COORD	(M)		
RECEPTOR		*	X Y		Z		
			-*				
1.	Recpt	1	*	16	9	1.8	
	Recpt		*	-16	-7	1.8	
3.	Recpt	3	*	-16	7	1.8	
4.	Recpt	4	*	20	13	1.8	
5.	Recpt	5	*	-20	-11	1.8	
6.	Recpt	6	*	-20	11	1.8	

	*	BRG	*	PRED CONC	*			CO	NC/LI (PPM)	NK		
RECEPTOR	* - * -	(DEG)	*	(PPM)	* - * -	Α	В	C	D 	E	F 	G
1. Recpt 1 2. Recpt 2 3. Recpt 3 4. Recpt 4	- * * * * * * *	190. 168. 169. 192. 165.	****	2.3 2.2 2.4 2.2 2.0	****	.0 .0 .0 .0	.0	.3 .0 .0 .2	1.3 1.0 1.0 1.2	.7 1.3 1.0 .6	.0 .0 .2 .0	.0 .0 .2 .0
5. Recpt 5 6. Recpt 6	*	168.	*	2.2	*	.0	.0	.0	.8	$\frac{1.2}{1.0}$.2	.2