APPENDIX C AIR QUALITY MODEL OUTPUTS

03/22/2006 11:48 AM

URBEMIS 2002 For Windows 8.7.0

File Name: P:\Projects - All Employees\10840-02 Regional University Enviro\EIP

INDIVIDUAL STAFF FOLDERS\Matt J\URBEMIS\Community Construction.urb

Project Name:

Community Construction

Project Location:

Lower Sacramento Valley Air Basin On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

> SUMMARY REPORT (Pounds/Day - Summer)

CONSTRUCTION EMISSION ESTIMATES

					PM10	PM10	PM10
*** 2006 ***	ROG	NOx	co	SO2	TOTAL	EXHAUST	DUST
TOTALS (lbs/day,unmitigated)	468.63	3,566.75	3,470.21	0.02	661.18	161.14	500.04
TOTALS (lbs/day, mitigated)	468.63	3,566.75	3,470.21	0.02	309.93	161.14	148.79
					PM10	PM10	PM10
*** 2007 ***	ROG	NOx	CO	SO2	TOTAL	EXHAUST	DUST
TOTALS (lbs/day,unmitigated)	467.99	3,410.16	3,575.17	0.02	148.61	147.36	1.25
TOTALS (lbs/day, mitigated)	467.99	3,410.16	3,575.17	0.02	148.61	147.36	1.25
					PM10	PM10	PM10
*** 2008 ***	ROG	NOx	CO	SO2	TOTAL	EXHAUST	DUST
TOTALS (lbs/day,unmitigated)	467.31	3,253.54	3,675.68	0.01	134.82	133.57	1.25
TOTALS (lbs/day, mitigated)	467.31	3,253.54	3,675.68	0.01	134.82	133.57	1.25
					PM10	PM10	PM10
*** 2009 ***	ROG	NOx	CO	502	TOTAL	EXHAUST	DUST
TOTALS (lbs/day,unmitigated)	531.66	3,457.01	4,250.30	0.05	137.90	136.58	1.32
TOTALS (lbs/day, mitigated)	531.66	3,457.01	4,250.30	0.05	137.90	136.58	1.32

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URBEMIS 2002 For Windows 8.7.0

File Name: P:\Projects - All Employees\10840-02 Regional University Enviro\EIP

INDIVIDUAL STAFF FOLDERS\Matt J\URBEMIS\Community Construction.urb

Project Name:

Community Construction

Project Location:

Lower Sacramento Valley Air Basin

On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT (Pounds/Day - Winter)

CONSTRUCTION EMISSION ESTIMATES

					PM10	PM10	PM10
*** 2006 ***	ROG	NOx	CO	SO2	TOTAL	EXHAUST	DUST
TOTALS (lbs/day,unmitigated)	468.63	3,566.75	3,470.21	0.02	661.18	161.14	500.04
TOTALS (lbs/day, mitigated)	468.63	3,566.75	3,470.21	0.02	309.93	161.14	148.79

*** 2007 *** TOTALS (lbs/day,unmitigated) TOTALS (lbs/day, mitigated)	ROG 467.99 467.99	NOx 3,410.16 3,410.16	CO 3,575.17 3,575.17	SO2 0.02 0.02	PM10 TOTAL 148.61 148.61	PM10 EXHAUST 147.36 147.36	PM10 DUST 1.25 1.25
*** 2008 *** TOTALS (lbs/day,unmitigated) TOTALS (lbs/day, mitigated)	ROG 467.31 467.31	NOx 3,253.54 3,253.54	CO 3,675.68 3,675.68	SO2 0.01 0.01	PM10 TOTAL 134.82 134.82	PM10 EXHAUST 133.57 133.57	PM10 DUST 1.25 1.25
*** 2009 *** TOTALS (lbs/day,unmitigated) TOTALS (lbs/day, mitigated)	ROG 531.66 531.66	NOx 3,457.01 3,457.01	CO 4,250.30 4,250.30	SO2 0.05 0.05	PM10 TOTAL 137.90 137.90	PM10 EXHAUST 136.58 136.58	PM10 DUST 1.32 1.32

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URBEMIS 2002 For Windows 8.7.0

File Name: P:\Projects - All Employees\10840-02 Regional University Enviro\EIP

INDIVIDUAL STAFF FOLDERS\Matt J\URBEMIS\Community Construction.urb

Project Name: Community Construction

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

DETAIL REPORT (Pounds/Day - Winter)

Construction Start Month and Year: June, 2006

Construction Duration: 36

Total Land Use Area to be Developed: 536 acres Maximum Acreage Disturbed Per Day: 50 acres Single Family Units: 718 Multi-Family Units: 2439

Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMATES UNMITIGATED (1bs/day)

					PM10	PM10	PM10
Source	ROG	NOx	CO	SO2	\mathtt{TOTAL}	EXHAUST	DUST
*** 2006***							
Phase 1 - Demolition Emission	ns						
Fugitive Dust	-	_	_	_	0.00	_	0.00
Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emiss	ions						
Fugitive Dust	_	_	_	_	500.00		500.00
Off-Road Diesel	86.14	689.10	613.30	_	31.87	31.87	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.86	1.01	18.33	0.01	0.07	0.03	0.04
Maximum lbs/day	87.00	690.11	631.63	0.01	531.94	31.90	500.04
Phase 3 ~ Building Construct	ion						
Bldg Const Off-Road Diesel	459.51	3,561.26	3,354.22	_	161.05	161.05	0.00
Bldg Const Worker Trips	9.13	5.48	115.99	0.02	1.34	0.09	1.25
Arch Coatings Off-Gas	0.00	_	_	_	_	_	

Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	-		-	-	_
Asphalt Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	468.63	3,566.75		0.02	162.39	161.14	1.25
FlaxIlliant 1057 day	400.05	3,300.73	3,410.21	0.02	102.37	101.14	1.23
Max lbs/day all phases	468.63	3,566.75	3.470.21	0.02	661.18	161.14	500.04
ian iss, aa, all plases	100.03	5,5001,5	3,170.21	0.02	001.10		500.01
*** 2007***							
Phase 1 - Demolition Emissio	ns						
Fugitive Dust	_	_	-	_	0.00	_	0.00
Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tariman 100, day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emiss	ions						
Fugitive Dust	_	-	_	_	0.00	_	0.00
Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum 105/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construct	ion						
Bldg Const Off-Road Diesel	459.51	3,405,00	3,466.14	_	147.26	147.26	0.00
Bldg Const Worker Trips	8.48	5.16	109.03	0.02	1.34	0.09	1.25
Arch Coatings Off-Gas	0.00	-	-	-	T.J4		1.23
Arch Coatings Worker Trips	0.00					-	
		0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	_	_	_			-
Asphalt Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	467.99	3,410.16	3,575.17	0.02	148.61	147.36	1.25
Mor. 1b-/do111	467.00	2 410 16	2 555 15	2 22	4.6.64	445.04	
Max lbs/day all phases	467.99	3,410.16	3,5/5.1/	0.02	148.61	147.36	1.25
*** 2008***							
_							
Page: 4							
03/22/2006 11:48 AM							
Phase 1 - Demolition Emissio	ns						
Fugitive Dust	_	_	_	_	0.00		0.00
Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
_				2.00		5.50	0.00
Phase 2 - Site Grading Emiss	ions						
Fugitive Dust	-	_	-	_	0.00	_	0.00
Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-				0.00	2.00	0.00	0.00
Phase 3 - Building Construct	ion						
Bldg Const Off-Road Diesel	459.51	3,248.73	3,574.06	~	133.48	133.48	0.00

Bldg Const Worker Trips	7.80	4.81	101.62	0.01	1.34	0.09	1.25
Arch Coatings Off-Gas	0.00	-	-	-	-	-	_
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	_	-	_	-	_
Asphalt Off-Road Diesel	0.00	0.00	0.00	~	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	467.31	3,253.54	3,675.68	0.01	134.82	133.57	1.25
Max lbs/day all phases	467.31	3,253.54	3,675.68	0.01	134.82	133.57	1.25
*** 2009***							
Phase 1 - Demolition Emissio	ns						
Fugitive Dust	_	_	.	=	0.00	_	0.00
Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emiss	ions						
Fugitive Dust		_	-	_	0.00	_	0.00
Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	000	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construct	ion						
Bldg Const Off-Road Diesel	459.51	3,096.84	3,685.98	_	125.48	125.48	0.00
Bldg Const Worker Trips	7.10	4.42	93.72	0.01	1.34	0.09	1.25
Arch Coatings Off-Gas	0.00	_	_	_	_	-	_
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	7.54	_	_	_	_	_	_
Asphalt Off-Road Diesel	57.00	340.86	481.08	_	10.57	10.57	0.00
Asphalt On-Road Diesel	1.02	16.17	3.76	0.04	0.46	0.43	0.03
Asphalt Worker Trips	0.21	0.10	2.48	0.00	0.04	0.00	0.04
Maximum lbs/day	531.66	3,457.01	4,250.30	0.05	137.90	136.58	1.32
Max lbs/day all phases	531.66	3,457.01	4,250.30	0.05	137.90	136.58	1.32

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions Start Month/Year for Phase 2: Jun '06

Phase 2 Duration: 4 months On-Road Truck Travel (VMT): 0

Off-Road Equipment

No. Type Horsepower Load Factor Hours/Day
20 Rubber Tired Dozers 352 0.590 8.0
20 Tractor/Loaders/Backhoes 79 0.465 8.0

Phase 3 - Building Construction Assumptions

Start Month/Year for Phase 3: Oct '06

Phase 3 Duration: 32 months

Start Month/Year for SubPhase Building: Oct '06

SubPhase Building Duration: 32 months

Off-Road Equipment

No. Type Horsepower Load Factor Hours/Day 76 Concrete/Industrial saws 84 0.730 8.0 153 Other Equipment 190 0.620 8.0

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76 Rough Terrain Forklifts 94 0.475 8.0

SubPhase Architectural Coatings Turned OFF Start Month/Year for SubPhase Asphalt: Apr '09

SubPhase Asphalt Duration: 1.6 months

Acres to be Paved: 101.3

Off-Road Equipment

No.	Type	Horsepower	Load Factor	Hours/Day
6	Graders	174	0.575	8.0
6	Off Highway Trucks	417	0.490	8.0
6	Pavers	132	0.590	8.0
6	Paving Equipment	111	0.530	8.0
12	Rollers	114	0.430	8.0

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Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Phase 2 mitigation measure Soil Disturbance: Apply soil stabilizers to inactive areas

has been changed from off to on.

Phase 2 mitigation measure Soil Disturbance: Replace ground cover in disturbed areas quickly

has been changed from off to on.

Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 3x daily

has been changed from off to on.

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URBEMIS 2002 For Windows 8.7.0

File Name: P:\Projects - All Employees\10840-02 Regional University Enviro\EIP

INDIVIDUAL STAFF FOLDERS\Matt J\URBEMIS\Community Construction.urb

Project Name: Community Construction

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

DETAIL REPORT
(Pounds/Day - Summer)

Construction Start Month and Year: June, 2006

Construction Duration: 36

Total Land Use Area to be Developed: 536 acres Maximum Acreage Disturbed Per Day: 50 acres

Single Family Units: 718 Multi-Family Units: 2439

Retail/Office/Institutional/Industrial Square Footage: 0

CONSTRUCTION EMISSION ESTIMA	TES UNMIT	'IGATED (1b	os/day)		D141.0	DM 1.0	DM1.0
Source *** 2006***	ROG	NOx	CO	502	PM10 TOTAL	PM10 EXHAUST	PM10 DUST
Phase 1 - Demolition Emission	ns						
Fugitive Dust	.11.D	_	_	_	0.00	_	0.00
Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emiss	sions						
Fugitive Dust	-	_	→	_	500.00	_	500.00
Off-Road Diesel	86.14	689.10	613.30	_	31.87	31.87	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.86	1.01	18.33	0.01	0.07	0.03	0.04
Maximum lbs/day	87.00	690.11	631.63	0.01	531.94	31.90	500.04
Maximum IDS/day	87.00	090.11	031.03	0.01	331.34	31.90	300.04
Phase 3 - Building Construct		2 - 54 - 25					
Bldg Const Off-Road Diesel	459.51	3,561.26	3,354.22		161.05	161.05	0.00
Bldg Const Worker Trips	9.13	5.48	115.99	0.02	1.34	0.09	1.25
Arch Coatings Off-Gas	0.00	-	-	=	=	=	=
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	-	_	-	-	-	-
Asphalt Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	468.63	3,566.75	3,470.21	0.02	162.39	161.14	1.25
Max lbs/day all phases	468.63	3,566.75	3,470.21	0.02	661.18	161.14	500.04
*** 2007***							
Phase 1 - Demolition Emission	nc.						
Fugitive Dust	AIS .				0.00		0 00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	-	0.00
On-Road Diesel	0.00	0.00	0.00	→ 0.00	0.00	0.00	0.00
Worker Trips			0.00	0.00	0.00	0.00	0.00
<u>-</u>	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emiss	sions						
Fugitive Dust	_	_	-	-	0.00	_	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construct	ion						
Bldg Const Off-Road Diesel	459.51	3,405.00	3,466.14	_	147.26	147.26	0.00
Bldg Const Worker Trips	8.48	5.16	109.03	0.02	1.34	0.09	1.25
Arch Coatings Off-Gas	0.00	_	_	_		_	
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	_	_	- · · ·	-	-	_
Asphalt Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	467.99	3,410.16	3,575.17	0.02	148.61	147.36	1.25
Max lbs/day all phases	467.99	3,410.16	3,575.17	0.02	148.61	147.36	1.25

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Phase 1 - Demolition Emissio	ns				0.00		0.00
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00 0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emiss	ions						
Fugitive Dust	=	=	=	_	0.00	_	0.00
Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum 1bs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construct							
Bldg Const Off-Road Diesel	459.51	2 240 72	2 574 06		122 40	132 40	0.00
Bldg Const Worker Trips	7.80	3,248.73 4.81	3,574.06 101.62	- 0.01	133.48 1.34	133.48 0.09	0.00 1.25
Arch Coatings Off-Gas	0.00	4.01	101.62	0.01	1.24	0.09	1.25
Arch Coatings Ull-Gas Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Road Diesel	0.00	0.00	0.00	_	0.00	0.00	0.00
Asphalt On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	467.31	3,253.54		0.01	134.82	133.57	1.25
manifestation and	107.51	3,233.34	3,073.00	0.01	154.02	133.37	1.23
Max lbs/day all phases	467.31	3,253.54	3,675.68	0.01	134.82	133.57	1.25
+++ 2000+++							
*** 2009*** Phase 1 - Demolition Emissic							
Fugitive Dust	uis				0.00		0.00
Off-Road Diesel	0.00	0.00	0.00	- -	0.00 0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Haniman 1557 day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 2 - Site Grading Emiss	ions						
Fugitive Dust	-	-	-	-	0.00	-	0.00
Off-Road Diesel	0.00	0.00	0.00	-	0.00	0.00	0.00
On-Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum lbs/day	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phase 3 - Building Construct	ion						
Bldg Const Off-Road Diesel	459.51	3,096.84	3,685.98	_	125.48	125.48	0.00
Bldg Const Worker Trips	7.10	4.42	93.72	0.01	1.34	0.09	1.25
Arch Coatings Off-Gas	0.00	_	· _	_		_	
Arch Coatings Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Off-Gas	7.54	_	_	_	_	_	_
Asphalt Off-Road Diesel	57.00	340.86	481.08	_	10.57	10.57	0.00
Asphalt On-Road Diesel	1.02	16.17	3.76	0.04	0.46	0.43	0.03
Asphalt Worker Trips	0.21	0.10	2.48	0.00	0.04	0.00	0.04
Maximum lbs/day	531.66	3,457.01	4,250.30	0.05	137.90	136.58	1.32
Max lbs/day all phases	531.66	3,457.01	4,250.30	0.05	137.90	136.58	1.32

Phase 1 - Demolition Assumptions: Phase Turned OFF

Phase 2 - Site Grading Assumptions

Start Month/Year for Phase 2: Jun '06

Phase 2 Duration: 4 months On-Road Truck Travel (VMT): 0

Off-Road Equipment

No.	Туре	Horsepower	Load Factor	Hours/Day
20	Rubber Tired Dozers	352	0.590	8.0
20	Tractor/Loaders/Backhoes	79	0.465	8.0

Phase 3 - Building Construction Assumptions

Start Month/Year for Phase 3: Oct '06

Phase 3 Duration: 32 months

Start Month/Year for SubPhase Building: Oct '06

SubPhase Building Duration: 32 months

Off-Road Equipment

No.	Туре	Horsepower	Load Factor	Hours/Day
76	Concrete/Industrial saws	84	0.730	8.0
153	Other Equipment	190	0.620	8.0

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76 Rough Terrain	Forklifts	94	0.475	8.0
SubPhase Architectural	. Coatings Turned OFF			

Start Month/Year for SubPhase Asphalt: Apr '09

SubPhase Asphalt Duration: 1.6 months

Acres to be Paved: 101.3

Off-Road Equipment

ours/Day
8.0
8.0
8.0
8.0
8.0
•

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Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Construction

Phase 2 mitigation measure Soil Disturbance: Apply soil stabilizers to inactive areas has been changed from off to on.

Phase 2 mitigation measure Soil Disturbance: Replace ground cover in disturbed areas quickly has been changed from off to on.

Phase 2 mitigation measure Soil Disturbance: Water exposed surfaces - 3x daily has been changed from off to on.

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File Name: P:\Projects - All Employees\10840-02 Regional University

Enviro\EIP INDIVIDUAL STAFF FOLDERS\Matt J\URBEMIS\Operational (2).urb

Project Name: RUSP Operational

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

SUMMARY REPORT

(Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES					
	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	318.02	54.43	66.89	0.32	0.24
OPERATIONAL (VEHICLE) EMISSION	ESTIMATES				
OFERATIONAL (VEHICLE) ENIGHION	ROG	NOx	СО	SO2	PM10
	NOG	NOX	CO	502	FMIO
TOTALS (lbs/day,unmitigated)	603.82	578.32	5,872,93	4.83	467.44
1011111 (100, 001, 0111110130000,	********	0.0.0	0,0,2,50		
SUM OF AREA AND OPERATIONAL EMI	SSION ESTI	MATES			
	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	921.85	632.75	5,939.83	5.15	467.67

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Project Name: RUSP Operational

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

SUMMARY REPORT

(Pounds/Day - Winter)

AREA SOURCE 1	EMISSION	ESTIMATES
---------------	----------	-----------

	ROG	NOx	CO	502	PM10
TOTALS (lbs/day,unmitigated)	2.643.46	129.77	4.292.82	10.11	635.26
· · · · · · · · · · · · · · · · · · ·	-, , , , , , ,		1,000100		033.20
OPERATIONAL (VEHICLE) EMISSION	ESTIMATES				
	ROG	NOx	CO	SO2	PM10
				202	
MOMATIC (lbs/ditit-d)	556.00	073 00	6 500 05	4 04	468 44
TOTALS (lbs/day,unmitigated)	556.28	873.89	6,782.97	4.81	467.44
SUM OF AREA AND OPERATIONAL EMI	SSION ESTI	MATES			
	ROG	NOx	CO	502	PM10
	100	NOX	CO	502	FMIO

TOTALS (lbs/day,unmitigated) 3,199.74 1,003.66 11,075.79 14.92 1,102.70

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Project Name: RUSP Operational

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

DETAIL REPORT (Pounds/Day - Winter)

AREA SOURCE EMISSION ESTIMATE	S (Winter	Pounds per	Day, Unmi	tigated)	
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	4.10	54.24	31.24	0	0.10
Hearth	2,330.94	75.53	4,261.58	10.11	635.16
Landscaping - No winter emis	sions				
Consumer Prdcts	200.93	_	_	_	_
Architectural Coatings	107.50	-	-	-	-
TOTALS(lbs/day.unmitigated)	2.643.46	129.77	4.292.82	10.11	635.26

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UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Low Density Residential	71.44	113.19	877.96	0.63	60.87
Medium Density Residentia	150.05	237.73	1,843.95	1.32	127.85
High Density Residential	70.29	111.36	863.78	0.62	59.89
Senior Adult Housing	2.89	4.58	35.55	0.03	2.46
On-campus Faculty/Staff	33.59	53.22	412.79	0.30	28.62
Off-campus Faculty Staff	21.94	34.76	269.64	0.19	18.69
Elementary school	7.18	11.36	87.28	0.06	6.07
High school	17.73	27.68	214.15	0.15	14.72
On-campus Students	30.81	47.77	370.95	0.26	25.33
Off-Campus Students	19.81	30.71	238.47	0.17	16.28
Retail Center (CMU)	61.06	94.25	733.55	0.51	49.88
Retail Center (CPD)	69.49	107.27	834.88	0.58	56.77
TOTAL EMISSIONS (lbs/day)	556.28	873.89	6,782.97	4.81	467.44

Does not include correction for passby trips.

Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 40 Season: Winter

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

				No.	Total
Unit Type	Acreage	Trip	Rate	Units	Trips
Low Density Residential	239.33	9.57	trips/dwelling unit	718.00 6	,871.26
Medium Density Residentia	94.25	9.57	trips/dwelling unit	1,508.0014	1,431.56
High Density Residential	26.47	6.72	trips/dwelling unit	1,006.00 6	760.32
Senior Adult Housing	1.21	3.71	trips/dwelling unit	75.00	278.25
On-campus Faculty/Staff	20.63	9.79	trips/dwelling unit	330.00 3	3,230.70
Off-campus Faculty Staff	7.34	4.49	trips/employees	470.00 2	2,110.30
Elementary school		1.29	trips/students	600.00	774.00
High school		1.67	trips/1000 sq. ft.	1,200.00 2	2,004.00
On-campus Students		2.38	trips/students	1,500.00 3	3,570.00
Off-Campus Students		0.51	trips/students	4,500.00 2	2,295.00
Retail Center (CMU)		65.89	trips/1000 sq. ft.	109.00	7,182.01
Retail Center (CPD)		61.46	trips/1000 sq. ft.	133.00 8	3,174.18
			Sum of Total	Trips 57	7,681.58
		To	tal Vehicle Miles Tra	veled 307	7,272.20

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	56.10	2.30	97.10	0.60
Light Truck < 3,750 1b	s 15.10	4.00	93.40	2.60
Light Truck 3,751- 5,75	0 15.50	1.90	96.80	1.30
Med Truck 5,751-8,50	0 6.80	1.50	95.60	2.90
Lite-Heavy 8,501-10,00	0 1.00	0.00	80.00	20.00
Lite-Heavy 10,001-14,00	0.30	0.00	66.70	33.30
Med-Heavy 14,001-33,00	0 1.00	10.00	20.00	70.00
Heavy-Heavy 33,001-60,00	0.80	0.00	12.50	87.50
Line Haul > 60,000 1ba	s 0.00	0.00	0.00	100.00
Urban Bus	0.10	0.00	0.00	100.00
Motorcycle	1.60	87.50	12.50	0.00
School Bus	0.30	0.00	0.00	100.00
Motor Home	1.40	14.30	78.60	7.10

Travel Conditions

	Residential				Commercia:	1
	Home-	Home-	Home-			
	Work	Shop	Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			

[%] of Trips - Commercial (by land use)

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Elementary school	20.0	10.0	70.0
High school	10.0	5.0	85.0
On-campus Students	5.0	2.5	92.5
Off-Campus Students	5.0	2.5	92.5
Retail Center (CMU)	2.0	1.0	97.0
Retail Center (CPD)	2.0	1.0	97.0

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Changes made to the default values for Land Use Trip Percentages

The Trip Rate and/or Acreage values for Apartments low rise have changed from the defaults 6.9/94.25 to 9.57/94.25

The Trip Rate and/or Acreage values for Apartments mid rise have changed from the defaults 5.76/26.47 to 6.72/26.47

The Trip Rate and/or Acreage values for Apartments high rise have changed from the defaults 5.29/1.21 to 3.71/1.21

The Trip Rate and/or Acreage values for Condominium/townhouse general have changed from the defaults 6.9/20.63 to 9.79/20.63

The Trip Rate and/or Acreage values for Condominium/townhouse high rise have changed from the defaults 5.26/7.34 to 4.49/7.34

Changes made to the default values for Area

Changes made to the default values for Operations

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Project Name: RUSP Operational

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

DETAIL REPORT (Pounds/Day - Summer)

AREA SOURCE EMISSION ESTIMATES	(Summer	Pounds per	Day, Unmi	itigated)	
Source	ROG	NOx	CO	SO2	PM10
Natural Gas	4.10	54.24	31.24	0	0.10
Hearth - No summer emissions					
Landscaping	5.50	0.19	35.65	0.32	0.14
Consumer Prdcts	200.93	_	_	_	_
Architectural Coatings	107.50	_	_	-	_
TOTALS(lbs/day,unmitigated)	318.02	54.43	66.89	0.32	0.24

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UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Low Density Residential	66.73	74.78	774.33	0.63	60.87
Medium Density Residentia	140.15	157.07	1,626.31	1.32	127.85
High Density Residential	69.85	73.58	761.83	0.62	59.89
Senior Adult Housing	3.35	3.03	31.36	0.03	2.46
On-campus Faculty/Staff	31.27	35.16	364.07	0.30	28.62
Off-campus Faculty Staff	23.99	22.97	237.81	0.19	18.69
Elementary school	13.95	7.52	75.19	0.06	6.07
High school	30.33	18.35	181.43	0.15	14.72
On-campus Students	44.35	31.70	311.40	0.26	25.33
Off-Campus Students	78.03	20.38	200.19	0.17	16.28
Retail Center (CMU)	47.58	62.57	612.22	0.51	49.88
Retail Center (CPD)	54.28	71.22	696.80	0.58	56.77
TOTAL EMISSIONS (lbs/day)	603.82	578.32	5,872.93	4.83	467.44

Does not include correction for passby trips.

Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2005 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

Unit Type	Acreage	Trip	Rate	No. Units	Total Trips
Unit Type Low Density Residential Medium Density Residential High Density Residential Senior Adult Housing On-campus Faculty/Staff Off-campus Faculty Staff Elementary school High school On-campus Students Off-Campus Students Retail Center (CMU)	239.33	9.57 9.57 6.72 3.71 9.79 4.49 1.29 1.67 2.38 0.51	trips/dwelling unit trips/dwelling unit trips/dwelling unit trips/dwelling unit trips/dwelling unit trips/employees trips/students trips/1000 sq. ft. trips/students trips/students	718.00 1,508.001 1,006.00 75.00 330.00 470.00 600.00 1,200.00 1,500.00 4,500.00	6,871.26 4,431.56 6,760.32 278.25 3,230.70 2,110.30 774.00 2,004.00 3,570.00 2,295.00
Retail Center (CPD)			trips/1000 sq. ft. trips/1000 sq. ft.		7,182.01 8,174.18

Sum of Total Trips 57,681.58
Total Vehicle Miles Traveled 307,272.20

Vehicle Assumptions:

Fleet Mix:

Vehicle Type Light Auto Light Truck < 3,750 lbs Light Truck 3,751- 5,755 Med Truck 5,751- 8,506 Lite-Heavy 8,501-10,006 Lite-Heavy 10,001-14,006 Med-Heavy 14,001-33,006	15.50 0 6.80 0 1.00 0 0.30 0 1.00	Non-Catalyst 2.30 4.00 1.90 1.50 0.00 0.00	Catalyst 97.10 93.40 96.80 95.60 80.00 66.70 20.00	Diesel 0.60 2.60 1.30 2.90 20.00 33.30 70.00
	1.00		: : -	
Line Haul > 60,000 lbs Urban Bus		0.00	0.00	100.00

Motorcycle	1.60	87.50	12.50	0.00
School Bus	0.30	0.00	0.00	100.00
Motor Home	1.40	14.30	78.60	7.10

Travel Conditions

	Residential			Commercial		
	Home-	Home-	Home-			
	Work	Shop	Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	9.7	3.8	4.6	7.8	4.5	4.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip Speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			

% of Trips - Commercial (by land use)

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Elementary school	20.0	10.0	70.0
High school	10.0	5.0	85.0
On-campus Students	5.0	2.5	92.5
Off-Campus Students	5.0	2.5	92.5
Retail Center (CMU)	2.0	1.0	97.0
Retail Center (CPD)	2.0	1.0	97.0

Page: 10

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Changes made to the default values for Land Use Trip Percentages

The Trip Rate and/or Acreage values for Apartments low rise have changed from the defaults 6.9/94.25 to 9.57/94.25

The Trip Rate and/or Acreage values for Apartments mid rise have changed from the defaults 5.76/26.47 to 6.72/26.47

The Trip Rate and/or Acreage values for Apartments high rise have changed from the defaults 5.29/1.21 to 3.71/1.21

The Trip Rate and/or Acreage values for Condominium/townhouse general have changed from the defaults 6.9/20.63 to 9.79/20.63

The Trip Rate and/or Acreage values for Condominium/townhouse high rise have changed from the defaults 5.26/7.34 to 4.49/7.34

Changes made to the default values for Area

Changes made to the default values for Operations