

Appendix A ISCST3 and CAL3QHCR Comparison Input Files

ISCST3 Input file:

```
CO STARTING
CO TITLEONE I-5 DPM CAL3QHCR comp; COMPl.ISC
CO TITLETWO Sac87 met; cms 1/18/08
CO MODELOPT CONC Urban
CO AVERTIME 24 period
CO POLLUTID OTHER
CO DCAYCOEF .000000
CO FLAGPOLE 1.5
CO RUNORNOT RUN
CO ERRORFIL COMPl.ERR
CO FINISHED

SO STARTING
** Source Location Cards:
**          SRCID      SRCTYP      XS          YS          ZS(ft)
SO LOCATION I501      AREAPOLY  627403.  4280065.    .0
SO LOCATION I502      AREAPOLY  627317.  4280255.    .0

** Source Parameter Cards:
** AREAPOLY: SRCID  QS (g/s/m2)  HS (m)  #SIDES  SZ (m)
SO SRCPARAM I501      7.68E-07  2.0      4      1.86
SO SRCPARAM I502      7.68E-07  2.0      4      1.86

SO AREAVERT I501      627403.  4280065.
SO AREAVERT I501      627457.  4280081.
SO AREAVERT I501      627573.  4279813.
SO AREAVERT I501      627525.  4279794.
SO AREAVERT I502      627317.  4280255.
SO AREAVERT I502      627374.  4280275.
SO AREAVERT I502      627457.  4280081.
SO AREAVERT I502      627403.  4280065.

SO EMISUNIT 1.00E+06 (GRAMS/SEC)  (UG/M3)
SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE INCLUDED cal3.REC
RE FINISHED

ME STARTING
ME INPUTFIL c:\gb\cal3\sac87.met
ME ANEMHGHT 10.00 METERS
ME SURFDATA 23232 1987 Sac
ME UAIRDATA 23232 1987 Oak
ME FINISHED

OU STARTING
OU RECTABLE 24 FIRST
OU PLOTFILE period ALL COMPl.FIL 30
OU FINISHED
```

ISCST3 Receptor file (CAL3.REC):

RE DISCCART	627419.	4280034.	1.5
RE DISCCART	627369.	4280041.	1.5
RE DISCCART	627320.	4280048.	1.5
RE DISCCART	627221.	4280063.	1.5
RE DISCCART	627122.	4280077.	1.5
RE DISCCART	627023.	4280092.	1.5
RE DISCCART	626924.	4280106.	1.5
RE DISCCART	626429.	4280179.	1.5
RE DISCCART	625935.	4280251.	1.5
RE DISCCART	627468.	4280026.	1.5
RE DISCCART	627518.	4280019.	1.5
RE DISCCART	627567.	4280012.	1.5
RE DISCCART	627666.	4279997.	1.5
RE DISCCART	627765.	4279983.	1.5
RE DISCCART	627864.	4279968.	1.5
RE DISCCART	627963.	4279954.	1.5
RE DISCCART	628458.	4279881.	1.5
RE DISCCART	628952.	4279809.	1.5

CAL3QHCR Input file:

```
'Comp with ISCST3' 60. 100. 0. 0. 18 1.0 0
1 1 87 12 31 87
23232 87 23232 87
1 1 'U'
'REC 1 (Comp Recs)' 7419. 80034. 1.5
'REC 2 (Comp Recs)' 7369. 80041. 1.5
'REC 3 (Comp Recs)' 7320. 80048. 1.5
'REC 4 (Comp Recs)' 7221. 80063. 1.5
'REC 5 (Comp Recs)' 7122. 80077. 1.5
'REC 6 (Comp Recs)' 7023. 80092. 1.5
'REC 7 (Comp Recs)' 6924. 80106. 1.5
'REC 8 (Comp Recs)' 6429. 80179. 1.5
'REC 9 (Comp Recs)' 5935. 80251. 1.5
'REC 10 (Comp Recs)' 7468. 80026. 1.5
'REC 11 (Comp Recs)' 7518. 80019. 1.5
'REC 12 (Comp Recs)' 7567. 80012. 1.5
'REC 13 (Comp Recs)' 7666. 79997. 1.5
'REC 14 (Comp Recs)' 7765. 79983. 1.5
'REC 15 (Comp Recs)' 7864. 79968. 1.5
'REC 16 (Comp Recs)' 7963. 79954. 1.5
'REC 17 (Comp Recs)' 8458. 79881. 1.5
'REC 18 (Comp Recs)' 8952. 79809. 1.5
1 'p'
1 1 1 1 1 1 1
'I-5 Comp Links' 1
1 1
'I-5' 'AG' 7549. 79798. 7338. 80262. 0. 50.
1 0.0
1 390.0 0.633
```

Note: The first two numbers of the x and y coordinates of all receptors and sources were removed to facilitate formatting in CAL3QHCR. This does not affect the results, as the source to receptor relationship remains identical.

Appendix B McClellan AFB and Sacramento Executive Airport Meteorological Data Comparison²⁶

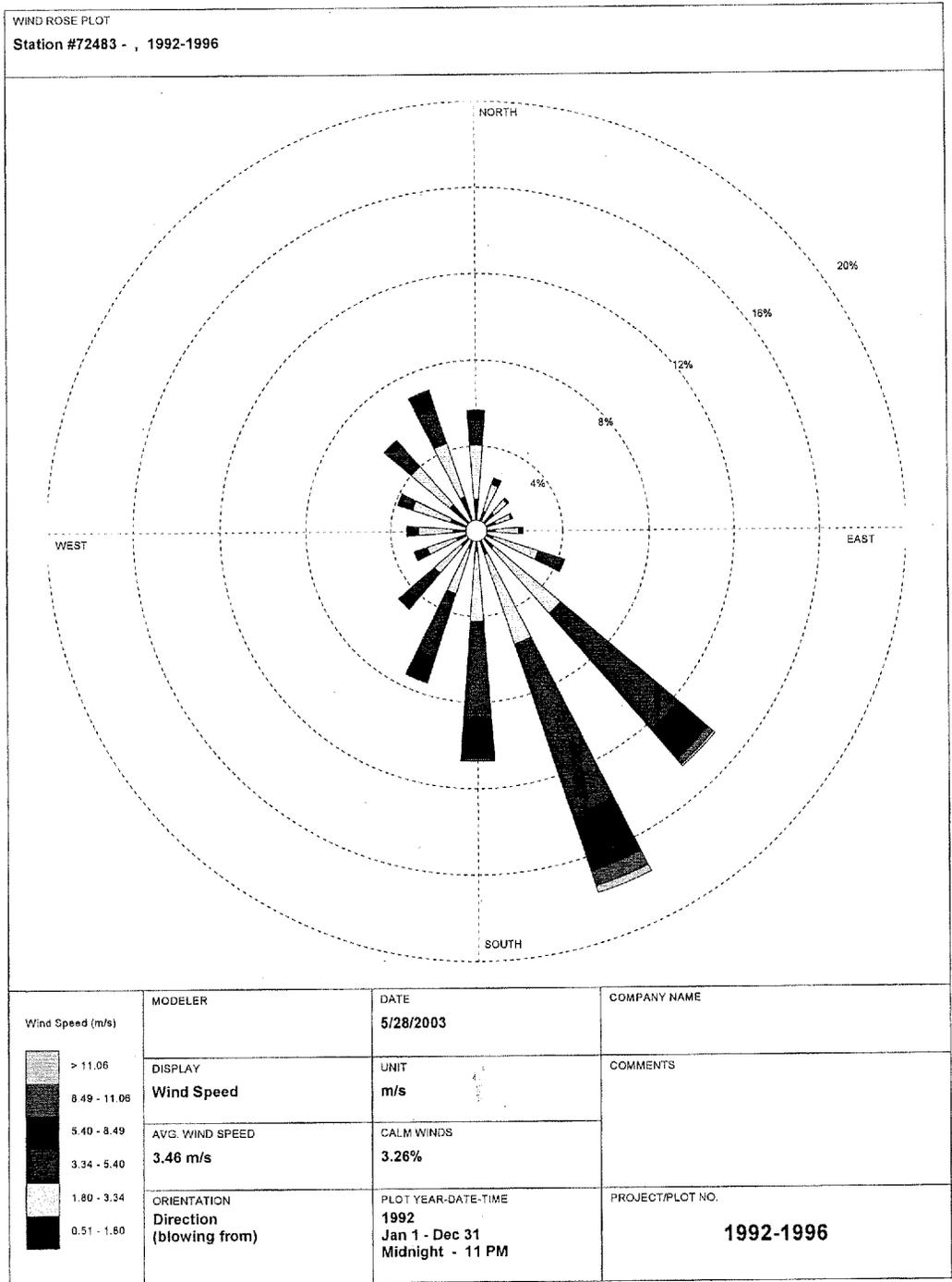
McClellan Air Force Base: Tabular Meteorological Data:

Wind Frequency Distribution for: McClelland AFB (WBAN 72483)							
Period of meteorological data set data: 1/1/1992 - 12/31/1996							
Wind Direction Sector (Degrees)	Is Greenbriar Impacted by this Wind Sector?	% Non-Calm Hours	% from 1 - 3 m/s	% from 3 - 5 m/s	% from 5 - 10 m/s	% > 10 m/s	Average WS (m/s)
N: 348.75 - 11.25		5.69	3.39	1.60	0.69	0.00	2.90
NNE: 11.25 - 33.75	Yes	2.60	2.05	0.46	0.09	0.00	2.26
NE: 33.75 - 56.25	Yes	2.01	1.82	0.18	0.01	0.00	1.88
ENE: 56.25 - 78.75	Yes	1.79	1.61	0.17	0.01	0.00	1.89
E: 78.75 - 101.25	Yes	2.16	1.80	0.32	0.04	0.00	2.12
ESE: 101.25 - 123.75	Yes	4.31	2.23	1.87	0.21	0.01	2.87
SE: 123.75 - 146.25	Yes	14.53	3.20	7.70	3.44	0.19	4.06
SSE: 146.25 - 168.75	Yes	17.76	3.69	8.58	4.92	0.57	4.42
S: 168.75 - 191.25	Yes	10.73	2.91	4.95	2.83	0.05	3.95
SSW: 191.25 - 213.75	Yes	7.46	2.27	3.25	1.93	0.00	3.82
SW: 213.75 - 236.25	Yes	4.84	2.06	1.86	0.91	0.00	3.38
WSW: 236.25 - 258.75	Yes	3.07	1.99	0.92	0.15	0.00	2.53
W: 258.75 - 281.25		3.27	2.25	0.92	0.10	0.00	2.42
WNW: 281.25 - 303.75		3.88	2.68	1.07	0.13	0.00	2.43
NW: 303.75 - 326.25		5.67	3.38	1.71	0.58	0.00	2.84
NNW: 326.25 - 348.75		6.97	3.57	2.18	1.20	0.02	3.22
Totals:		96.74	40.90	37.74	17.26	0.84	
Total number of hours in meteorological data set: 43,848							
Number of calm hours: 1,428 (wind speeds less than 1 m/s)							
Period Ave. Wind Speed: 3.46 m/s (Calm hours not included)							

Stability Class Distribution:

Stability Class	Number of Hours	Percent of Hours
A	792	1.81
B	4726	10.78
C	6295	14.36
D	15147	34.54
E	8019	18.29
F	8869	20.23
Totals:	43848	100%

²⁶ The wind roses were prepared by CARB.

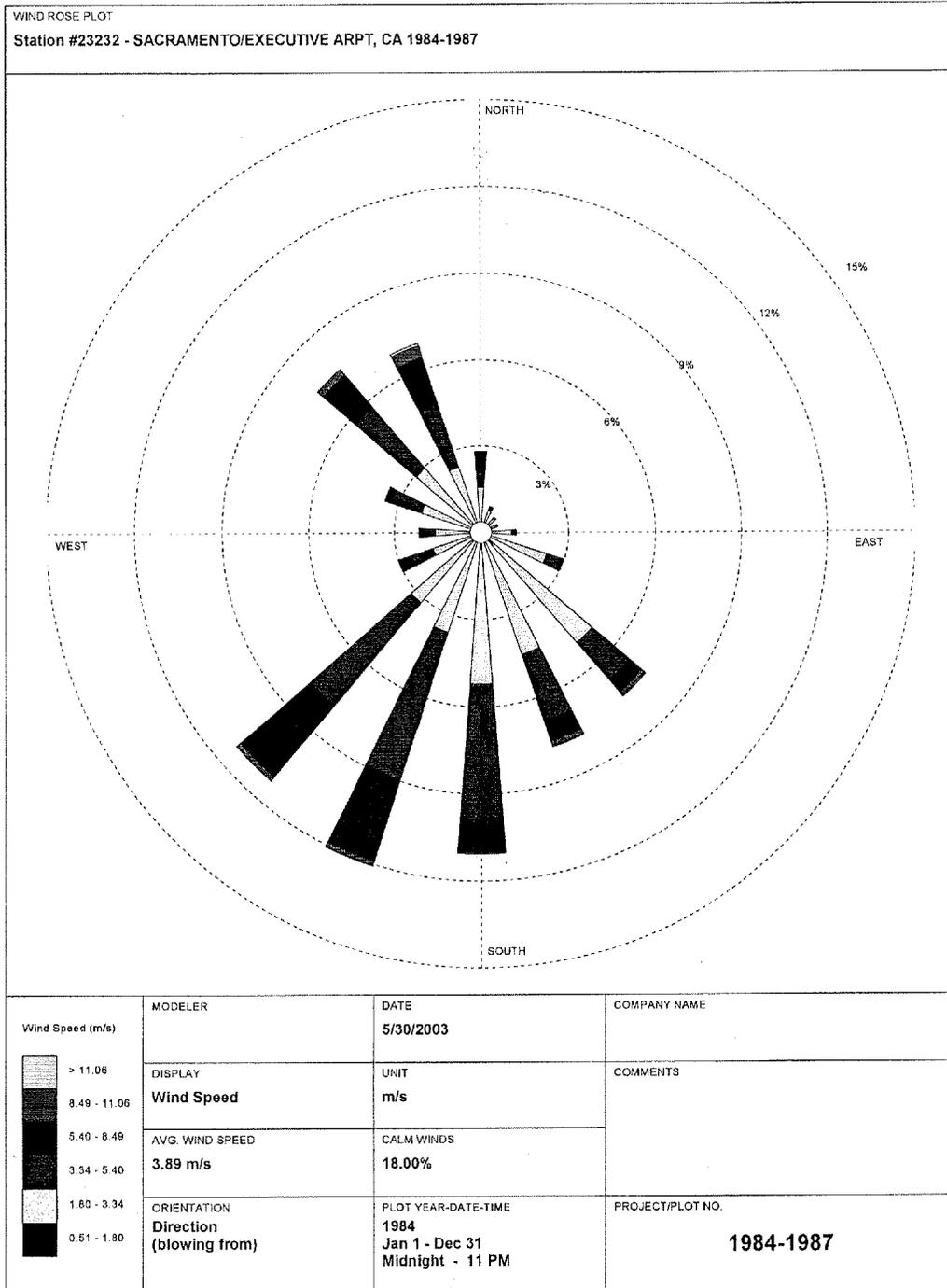


Sacramento Executive Airport: Tabular Wind Data:

Wind Frequency Distribution for: Sacramento Executive (WBAN 23232)							
Period of meteorological data set data: 1/1/1985 - 12/31/1989							
Wind Direction Sector (Degrees)	Is Greenbriar Impacted by this Wind Sector?	% Non-Calm Hours	% from 1 - 3 m/s	% from 3 - 5 m/s	% from 5 - 10 m/s	% > 10 m/s	Average WS (m/s)
N: 348.75 - 11.25		2.57	1.10	0.83	0.60	0.04	3.80
NNE: 11.25 - 33.75	Yes	0.86	0.58	0.22	0.05	0.00	2.73
NE: 33.75 - 56.25	Yes	0.60	0.48	0.10	0.02	0.00	2.41
ENE: 56.25 - 78.75	Yes	0.49	0.40	0.07	0.02	0.00	2.35
E: 78.75 - 101.25	Yes	1.11	0.89	0.19	0.03	0.00	2.40
ESE: 101.25 - 123.75	Yes	3.05	1.98	0.81	0.26	0.00	2.83
SE: 123.75 - 146.25	Yes	6.99	3.80	2.29	0.81	0.09	3.24
SSE: 146.25 - 168.75	Yes	7.98	3.33	3.29	1.27	0.09	3.53
S: 168.75 - 191.25	Yes	11.09	3.64	5.15	2.28	0.02	3.69
SSW: 191.25 - 213.75	Yes	12.39	2.42	4.88	5.04	0.05	4.50
SW: 213.75 - 236.25	Yes	11.34	2.20	4.02	5.07	0.05	4.65
WSW: 236.25 - 258.75	Yes	3.10	1.33	1.15	0.61	0.00	3.52
W: 258.75 - 281.25		2.09	1.20	0.73	0.17	0.00	2.97
WNW: 281.25 - 303.75		3.37	1.55	1.31	0.49	0.01	3.33
NW: 303.75 - 326.25		6.56	1.91	2.42	2.13	0.10	4.30
NNW: 326.25 - 348.75		6.14	1.57	2.04	2.31	0.21	4.72
Totals:		79.72	28.39	29.50	21.16	0.68	
Total number of hours in meteorological data set: 43,824							
Number of calm hours: 8,888 (wind speeds less than 1 m/s)							
Period Ave. Wind Speed: 3.91 m/s (Calm hours not included)							

Stability Class Distribution:

Stability Class	Number of Hours	Percent of Hours
A	734	1.67
B	4027	9.19
C	6120	13.96
D	14947	34.11
E	6752	15.41
F	11244	25.66
Totals:	43824	100%



Appendix C ISCST3 Input file for DPM10 HRA

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CO STARTING
CO TITLEONE Greenbriar DPM10 HRA; DPM1.ISC
CO TITLETWO McClelland AFB met; cms 1/18/08
CO MODELOPT CONC Rural
CO AVERTIME 24 period
CO POLLUTID OTHER
CO DCAYCOEF .000000
CO FLAGPOLE 1.5
CO RUNORNOT RUN
CO ERRORFIL DPM1.ERR
CO FINISHED
```

SO STARTING

** Source Location Cards:

**	SRCID	SRCTYP	XS	YS	ZS(ft)
SO LOCATION	I501	AREAPOLY	627525.	4279794.	.0
SO LOCATION	I502	AREAPOLY	627403.	4280061.	.0
SO LOCATION	I503	AREAPOLY	627318.	4280255.	.0
SO LOCATION	I504	AREAPOLY	627183.	4280560.	.0
SO LOCATION	I505	AREAPOLY	627070.	4280746.	.0
SO LOCATION	I506	AREAPOLY	626986.	4280862.	.0
SO LOCATION	I507	AREAPOLY	626852.	4280989.	.0
SO LOCATION	I508	AREAPOLY	626721.	4281084.	.0
SO LOCATION	I509	AREAPOLY	626548.	4281176.	.0
SO LOCATION	I510	AREAPOLY	626325.	4281240.	.0
SO LOCATION	I511	AREAPOLY	626065.	4281264.	.0
SO LOCATION	I512	AREAPOLY	625588.	4281258.	.0
SO LOCATION	I513	AREAPOLY	625143.	4281251.	.0
SO LOCATION	I514	AREAPOLY	624617.	4281241.	.0
SO LOCATION	I515	AREAPOLY	624151.	4281233.	.0
SO LOCATION	9901	AREAPOLY	626979.	4281699.	.0
SO LOCATION	9902	AREAPOLY	626972.	4282050.	.0
SO LOCATION	9903	AREAPOLY	626969.	4282237.	.0
SO LOCATION	9904	AREAPOLY	626961.	4282621.	.0
SO LOCATION	9905	AREAPOLY	626953.	4282978.	.0
SO LOCATION	9906	AREAPOLY	626944.	4283412.	.0
SO LOCATION	9907	AREAPOLY	626936.	4283795.	.0
SO LOCATION	INTW	AREAPOLY	626976.	4281526.	.0
SO LOCATION	INTE	AREAPOLY	626976.	4281526.	.0

** Source Parameter Cards:

**	AREAPOLY: SRCID	QS (g/s/m2)	HS (m)	#SIDES	SZ (m)
SO SRCPARAM	I501	8.192E-07	2.0	4	1.86
SO SRCPARAM	I502	8.192E-07	2.0	4	1.86
SO SRCPARAM	I503	8.192E-07	2.0	4	1.86
SO SRCPARAM	I504	8.192E-07	2.0	4	1.86
SO SRCPARAM	I505	8.192E-07	2.0	4	1.86
SO SRCPARAM	I506	8.192E-07	2.0	4	1.86

SO SRCPARAM I507	8.192E-07	2.0	4	1.86
SO SRCPARAM I508	8.192E-07	2.0	4	1.86
SO SRCPARAM I509	8.218E-07	2.0	4	1.86
SO SRCPARAM I510	8.218E-07	2.0	4	1.86
SO SRCPARAM I511	8.218E-07	2.0	4	1.86
SO SRCPARAM I512	8.218E-07	2.0	4	1.86
SO SRCPARAM I513	8.218E-07	2.0	4	1.86
SO SRCPARAM I514	8.218E-07	2.0	4	1.86
SO SRCPARAM I515	8.218E-07	2.0	4	1.86
SO SRCPARAM 9901	3.485E-07	2.0	4	1.86
SO SRCPARAM 9902	3.485E-07	2.0	4	1.86
SO SRCPARAM 9903	3.485E-07	2.0	4	1.86
SO SRCPARAM 9904	3.485E-07	2.0	4	1.86
SO SRCPARAM 9905	3.485E-07	2.0	4	1.86
SO SRCPARAM 9906	3.485E-07	2.0	4	1.86
SO SRCPARAM 9907	3.485E-07	2.0	4	1.86
SO SRCPARAM INTW	8.317E-08	2.0	13	1.86
SO SRCPARAM INTE	1.244E-07	2.0	7	1.86
SO AREAVERT I501	627525.	4279794.		
SO AREAVERT I501	627573.	4279813.		
SO AREAVERT I501	627781.	4279340.		
SO AREAVERT I501	627734.	4279319.		
SO AREAVERT I502	627403.	4280061.		
SO AREAVERT I502	627454.	4280078.		
SO AREAVERT I502	627573.	4279813.		
SO AREAVERT I502	627525.	4279794.		
SO AREAVERT I503	627318.	4280255.		
SO AREAVERT I503	627363.	4280272.		
SO AREAVERT I503	627454.	4280078.		
SO AREAVERT I503	627403.	4280061.		
SO AREAVERT I504	627183.	4280560.		
SO AREAVERT I504	627225.	4280581.		
SO AREAVERT I504	627363.	4280272.		
SO AREAVERT I504	627318.	4280255.		
SO AREAVERT I505	627070.	4280746.		
SO AREAVERT I505	627119.	4280771.		
SO AREAVERT I505	627225.	4280581.		
SO AREAVERT I505	627183.	4280560.		
SO AREAVERT I506	626986.	4280862.		
SO AREAVERT I506	627020.	4280898.		
SO AREAVERT I506	627119.	4280771.		
SO AREAVERT I506	627070.	4280746.		
SO AREAVERT I507	626852.	4280989.		
SO AREAVERT I507	626887.	4281022.		
SO AREAVERT I507	627020.	4280898.		
SO AREAVERT I507	626986.	4280862.		
SO AREAVERT I508	626721.	4281084.		
SO AREAVERT I508	626748.	4281121.		

SO AREAVERT I508	626887.	4281022.
SO AREAVERT I508	626852.	4280989.
SO AREAVERT I509	626548.	4281176.
SO AREAVERT I509	626562.	4281223.
SO AREAVERT I509	626748.	4281121.
SO AREAVERT I509	626721.	4281084.
SO AREAVERT I510	626325.	4281240.
SO AREAVERT I510	626335.	4281285.
SO AREAVERT I510	626562.	4281223.
SO AREAVERT I510	626548.	4281176.
SO AREAVERT I511	626065.	4281264.
SO AREAVERT I511	626067.	4281310.
SO AREAVERT I511	626335.	4281285.
SO AREAVERT I511	626325.	4281240.
SO AREAVERT I512	625588.	4281258.
SO AREAVERT I512	625588.	4281303.
SO AREAVERT I512	626067.	4281310.
SO AREAVERT I512	626065.	4281264.
SO AREAVERT I513	625143.	4281251.
SO AREAVERT I513	625143.	4281296.
SO AREAVERT I513	625588.	4281303.
SO AREAVERT I513	625588.	4281258.
SO AREAVERT I514	624617.	4281241.
SO AREAVERT I514	624624.	4281289.
SO AREAVERT I514	625143.	4281296.
SO AREAVERT I514	625143.	4281251.
SO AREAVERT I515	624151.	4281233.
SO AREAVERT I515	624150.	4281282.
SO AREAVERT I515	624624.	4281289.
SO AREAVERT I515	624617.	4281241.
SO AREAVERT 9901	626979.	4281699.
SO AREAVERT 9901	627023.	4281699.
SO AREAVERT 9901	627045.	4281526.
SO AREAVERT 9901	626976.	4281526.
SO AREAVERT 9902	626972.	4282050.
SO AREAVERT 9902	627007.	4282049.
SO AREAVERT 9902	627023.	4281699.
SO AREAVERT 9902	626979.	4281699.
SO AREAVERT 9903	626969.	4282237.
SO AREAVERT 9903	627004.	4282236.
SO AREAVERT 9903	627007.	4282049.
SO AREAVERT 9903	626972.	4282050.
SO AREAVERT 9904	626961.	4282621.
SO AREAVERT 9904	626997.	4282618.
SO AREAVERT 9904	627004.	4282236.
SO AREAVERT 9904	626969.	4282237.

SO AREAVERT	9905	626953.	4282978.
SO AREAVERT	9905	626993.	4282973.
SO AREAVERT	9905	626997.	4282618.
SO AREAVERT	9905	626961.	4282621.
SO AREAVERT	9906	626944.	4283412.
SO AREAVERT	9906	626982.	4283410.
SO AREAVERT	9906	626993.	4282973.
SO AREAVERT	9906	626953.	4282978.
SO AREAVERT	9907	626936.	4283795.
SO AREAVERT	9907	626971.	4283794.
SO AREAVERT	9907	626982.	4283410.
SO AREAVERT	9907	626944.	4283412.
SO AREAVERT	INTW	626976.	4281526.
SO AREAVERT	INTW	627045.	4281526.
SO AREAVERT	INTW	627045.	4281374.
SO AREAVERT	INTW	627007.	4281271.
SO AREAVERT	INTW	626930.	4281177.
SO AREAVERT	INTW	626855.	4281128.
SO AREAVERT	INTW	626784.	4281096.
SO AREAVERT	INTW	626633.	4281195.
SO AREAVERT	INTW	626739.	4281183.
SO AREAVERT	INTW	626850.	4281216.
SO AREAVERT	INTW	626925.	4281290.
SO AREAVERT	INTW	626962.	4281365.
SO AREAVERT	INTW	626971.	4281431.
SO AREAVERT	INTE	626976.	4281526.
SO AREAVERT	INTE	627019.	4281526.
SO AREAVERT	INTE	627028.	4281187.
SO AREAVERT	INTE	627056.	4280994.
SO AREAVERT	INTE	627102.	4280856.
SO AREAVERT	INTE	627150.	4280745.
SO AREAVERT	INTE	626989.	4280935.
SO EMISFACT	I501-I515	HROFDY	0.956 0.331 0.698 1.691 0.882 1.323
SO EMISFACT	I501-I515	HROFDY	1.911 1.544 1.286 1.507 1.544 1.507
SO EMISFACT	I501-I515	HROFDY	1.360 1.397 1.029 0.625 0.919 0.404
SO EMISFACT	I501-I515	HROFDY	0.625 0.294 0.809 0.735 0.294 0.331
SO EMISFACT	9901-9907	HROFDY	0.956 0.331 0.698 1.691 0.882 1.323
SO EMISFACT	9901-9907	HROFDY	1.911 1.544 1.286 1.507 1.544 1.507
SO EMISFACT	9901-9907	HROFDY	1.360 1.397 1.029 0.625 0.919 0.404
SO EMISFACT	9901-9907	HROFDY	0.625 0.294 0.809 0.735 0.294 0.331
SO EMISFACT	INTE-INTW	HROFDY	0.956 0.331 0.698 1.691 0.882 1.323
SO EMISFACT	INTE-INTW	HROFDY	1.911 1.544 1.286 1.507 1.544 1.507
SO EMISFACT	INTE-INTW	HROFDY	1.360 1.397 1.029 0.625 0.919 0.404
SO EMISFACT	INTE-INTW	HROFDY	0.625 0.294 0.809 0.735 0.294 0.331
SO EMISUNIT	1.00E+06	(GRAMS/SEC)	(UG/M3)
SO SRCGROUP	ALL		
SO FINISHED			
RE STARTING			
RE INCLUDED	HRA.REC		

RE FINISHED

ME STARTING
ME INPUTFIL c:\gb\mod\mcl92-96.asc
ME ANEMHGHT 10.00 METERS
ME SURFDATA 72483 1992 MCC
ME UAIRDATA 23230 1992 Oak
ME FINISHED

OU STARTING
OU RECTABLE 24 FIRST
OU PLOTFILE period ALL DPM1a.FIL 30
OU PLOTFILE 24 ALL First DPM1b.FIL 31
OU FINISHED

Summary

I have 25 years of regulatory and private-sector experience in air quality impact analyses, health risk assessments, meteorological monitoring, and geographic information systems. I specialize in litigation support; I have successfully provided testimony in numerous cases, both as an individual consultant and as part of a team of experts.

Education

- M.S., Atmospheric Science, University of California, Davis, 1980.
- B.S., Atmospheric Science, University of California, Davis, 1978.

Air Dispersion Modeling

- I am experienced in applying many different air dispersion models, including programs still in the development phase. I have prepared well over 1,000 air dispersion modeling analyses requiring the use of on-site or site-specific meteorological data. These runs were made with the USEPA ISC, OCD, MESOPUFF, INPUFF, CALPUFF, ISC-PRIME, AERMOD, COMPLEX-I, MPTER, and other air dispersion models.
- I prepared and submitted technical comments to the USEPA on beta-testing versions of AERMOD; these comments are being addressed and will be incorporated into the model and instructions when it is ready for regulatory application.
- I am experienced in performing air dispersion modeling for virtually every emission source type imaginable. I have modeled:
 - Refineries and associated activities;
 - Mobile sources, including cars, trains, airplanes, trucks, and ships;
 - Power plants, including natural gas and coal-fired;
 - Smelting operations;
 - Area sources, such as housing tracts, biocides from agricultural operations, landfills, airports, oil and gas seeps, and ponds;
 - Volume sources, including fugitive emissions from buildings and diesel construction combustion emissions;
 - Small sources, including dry cleaners, gas stations, surface coating operations, plating facilities, medical device manufacturers, coffee roasters, ethylene oxide sterilizers, degreasing operations, foundries, and printing companies;
 - Cooling towers and gas compressors;
 - Diatomaceous earth, rock and gravel plants, and other mining operations;
 - Offshore oil platforms, drilling rigs, and processing activities;
 - Onshore oil and gas exploration, storage, processing, and transport facilities;
 - Fugitive dust emissions from roads, wind erosion, and farming activities;
 - Radionuclide emissions from actual and potential releases.
- I have extensive experience in modeling plume depletion and deposition from air releases of particulate emissions.
- As a senior scientist, I developed the Santa Barbara County Air Pollution Control District (SBAPCD) protocol on air quality modeling. I developed extensive modeling capabilities for the SBAPCD on VAX 8600 and Intel I-860 computer systems; I acted as systems analyst for the SBAPCD air quality modeling system; I served as director of air quality analyses for numerous major energy projects; I performed air quality impact analyses using inert and photochemical models, including EPA, ARB and private-sector models; I performed technical review and evaluating air quality and wind field models; I developed software to prepare model inputs consistent with the SBAPCD protocol on air quality modeling for OCD, OCDCPM, MPTER, COMPLEX-I/II and ISC.
- I provided detailed review and comments on the development of the Minerals Management Service OCD model. I developed the technical requirements for and

- supervised the development of the OCDCPM model, a hybrid of the OCD, COMPLEX-I and MPTER models.
- I prepared the "Modeling Exposures of Hazardous Materials Released During Transportation Incidents" report for the California Office of Environmental Health Hazard Assessment (OEHHA). This report examines and rates the ADAM, ALOHA, ARCHIE, CASRAM, DEGADIS, HGSYSTEM, SLAB, and TSCREEN models for transportation accident consequence analyses of a priority list of 50 chemicals chosen by OEHHA. The report includes a model selection guide for adequacy of assessing priority chemicals, averaging time capabilities, isopleth generating capabilities, model limitations and concerns, and model advantages.
 - I am experienced in assessing uncertainty in emission rate calculations, source release, and dispersion modeling. I have developed numerous probability distributions for input to Monte Carlo simulations, and I was a member of the External Advisory Group for the California EPA *Air Toxics Hot Spots Program Risk Assessment Guidelines, Part IV, Technical Support Document for Exposure Assessment and Stochastic Analysis*.

Health Risk Assessment

- I have prepared more than 300 health risk assessments of major air toxics sources. These assessments were prepared for AB 2588 (the Air Toxics "Hot Spots" Information and Assessment Act of 1987), Proposition 65, and other exposure analysis activities. More than 120 of these exposure assessments were prepared for Proposition 65 compliance verification in a litigation support setting.
- I reviewed approximately 300 other health risk assessments of toxic air pollution sources in California. The regulatory programs in this review include AB 2588, Proposition 65, the California Environmental Quality Act, and other exposure analysis activities. My clients include the California Attorney General's Office, the Los Angeles County District Attorney's Office, the SBAPCD, the South Coast Air Quality Management District, numerous environmental and community groups, and several plaintiff law firms.
- I am experienced in assessing public health risk from continuous, intermittent, and accidental releases of toxic emissions. I am experienced in generating graphical presentations of risk results, and characterizing risks from carcinogenic and acute and chronic noncarcinogenic pollutants.
- I am experienced in communicating adverse health risks discovered through the Proposition 65 and AB 2588 processes. I have presented risk assessment results in many public settings -- to industry, media, and the affected public.
- For four years, I was the Air Toxics Program Coordinator for the SBAPCD. My duties included: developing and managing the District air toxics program; supervising District staff assigned to the air toxics program; developing District air toxics rules, regulations, policies and procedures; management of all District air toxics efforts, including AB 2588, Proposition 65, and federal activities; developing and tracking the SBAPCD air toxics budget.
- I have prepared numerous calculations of exposures from indoor air pollutants. A few examples include: diesel PM₁₀ inside school buses, formaldehyde inside temporary school buildings, lead from disturbed paint, phenyl mercuric acetate from water-based paints and drywall mud, and tetrachloroethene from recently dry-cleaned clothes.

Litigation Support

- I have prepared numerous analyses in support of litigation, both in Federal and State Courts. I am experienced in preparing F.R.C.P. Rule 26(a)(2) expert reports and providing deposition and trial testimony (I have prepared eight Rule 26 reports). Much of my work is focused on human dose and risk reconstruction resulting from multiple air emission sources (lifetime and specific events).

- I am experienced in preparing declarations (many dozens) and providing expert testimony in depositions and trials (see my testimony history).
- I am experienced in providing support for legal staff. I have assisted in preparing numerous interrogatories, questions for depositions, deposition reviews, various briefs and motions, and general consulting.
- Recent examples of my work include:
DTSC v. Interstate Non-Ferrous; United States District Court, Eastern District of California (2002).
In this case I performed air dispersion modeling, downwind soil deposition calculations, and resultant soil concentrations of dioxins (TCDD TEQ) from historical fires at a smelting facility. I prepared several Rule 26 Reports in my role of assisting the California Attorney General's Office in trying this matter.
Akee v. Dow et al.; United States District Court, District of Hawaii (2003-2004).
In this case I performed air dispersion modeling used to quantify air concentrations and reconstruct intake, dose, excess cancer risk, and noncancer chronic hazard indices resulting from soil fumigation activities on the island of Oahu, Hawaii. I modeled 319 separate AREAPOLY pineapple fields for the following chemicals: DBCP, EDB, 1,3-trichloropropene, 1,2-dichloropropane, and epichlorohydrin. I calculated chemical flux rates and modeled the emissions from these fumigants for years 1946 through 2001 (56 years) for 34 test plaintiffs and 97 distinct home, school, and work addresses. I prepared a Rule 26 Expert Report, successfully defended against Daubert challenges, and testified in trial.
Lawrence O'Connor v. Boeing North America, Inc., United States District Court, Central District of California, Western Division (2004-2005).
In this case I performed air dispersion modeling, quantified air concentrations, and reconstructed individual intake, dose, and excess cancer risks resulting from approximately 150 air toxics sources in Los Angeles and Ventura Counties, California. I prepared these analyses for years 1950 through 2000 (51 years) for 173 plaintiffs and 741 distinct home, school, and work addresses. I prepared several Rule 26 Reports, and the case settled on the eve of trial in September, 2005. Defendants did not attempt a Daubert challenge of my work.
- I have prepared hundreds of individual and region-wide health risk assessments in support of litigation. These analyses include specific sub-tasks, including: calculating emission rates, choosing proper meteorological data inputs, performing air dispersion modeling, and quantifying intake, dose, excess cancer risk, and acute/chronic noncancer health effects.
- I have prepared over 120 exposure assessments for Proposition 65 litigation support. In these analyses, my tasks include: reviewing AB 2588 risk assessments and other documents to assist in verifying compliance with Proposition 65; preparing exposure assessments consistent with Proposition 65 Regulations for carcinogens and reproductive toxicants; using a geographic information system (Atlas GIS) to prepare exposure maps that display areas of required warnings; calculating the number of residents and workers exposed to levels of risk requiring warnings (using the GIS); preparing declarations, providing staff support, and other expert services as required. I have also reviewed scores of other assessments for verifying compliance with Proposition 65. My proposition 65 litigation clients include the California Attorney General's Office, the Los Angeles County District Attorney's Office, As You Sow, California Community Health Advocates, Center for Environmental Health, California Earth Corps, Communities for a Better Environment, Environmental Defense Fund, Environmental Law Foundation, and People United for a Better Oakland.

Geographic Information Systems

- ArcGIS: I am experienced in preparing presentation and testimony maps using ArcView. I developed methods to convert AutoCAD DXF files to ArcView polygon theme shape files for use in map overlays.

- I have created many presentation maps with ArcView using MrSID DOQQ and other aerial photos as a base and then overlaying exposure regions. This provides a detailed view (down to the house level) of where air concentrations and health risks are projected to occur.
- Using ArcView, I have created numerous presentations using USGS Topographic maps (as TIFF files) as the base on to which exposure regions are overlaid.
- MapInfo for Windows: I prepared numerous presentation maps including exposure isopleths, streets and highways, and sensitive receptors, labels. I developed procedures for importing Surfer isopleths in AutoCAD DXF format as a layer into MapInfo.
- Atlas GIS: I am experienced in preparing presentation maps with both the Windows and DOS versions of Atlas GIS. In addition to preparing maps, I use Atlas GIS to aggregate census data (at the block group level) within exposure isopleths to determine the number of individuals living and working within exposure zones. I am also experienced in geocoding large numbers of addresses and performing statistical analyses of exposed populations.
- I am experienced in preparing large-scale graphical displays, both in hard-copy and for PowerPoint presentations. These displays are used in trial testimony, public meetings, and other litigation support.
- I developed a Fortran program to modify AutoCAD DXF files, including batch-mode coordinate shifting for aligning overlays to different base maps.

Ozone and Long-Range Transport

- I developed emission reduction strategies and identified appropriate offset sources to mitigate project emissions liability. For VOC offsets, I developed and implemented procedures to account for reactivity of organic compound species for ozone impact mitigation. I wrote Fortran programs and developed a chemical database to calculate ozone formation potential using hydroxyl radical rate constants and an alkane/non-alkane reactive organic compound method.
- I provided technical support to the Joint Interagency Modeling Study and South Central Coast Cooperative Aerometric Monitoring Program. With the SBAPCD, I provided technical comments on analyses performed with the EKMA, AIRSHED, and PARIS models. I was responsible for developing emissions inventory for input into regional air quality planning models.
- I was the project manager for the Santa Barbara County Air Quality Attainment Plan Environmental Impact Report (EIR). My duties included: preparing initial study; preparation and release of the EIR Notice of Preparation; conducting public scoping hearings to obtain comments on the initial study; managing contractor efforts to prepare the draft EIR.
- I modified, tested, and compiled the Fortran code to the MESOPUFF model (the precursor to CALPUFF) to incorporate critical dividing streamline height algorithms. The model was then applied as part of a PSD analysis for a large copper-smelting facility.
- I am experienced in developing and analyzing wind fields for use in long-range transport and dispersion modeling.
- I have run CALPUFF numerous times. I use CALPUFF to assess visibility effects and both near-field and mesoscale air concentrations from various emission sources, including power plants.

Emission Rate Calculations

- I developed methods to estimate and verify source emission rates using air pollution measurements collected downwind of the emitting facility, local meteorological data, and dispersion models. This technique is useful in determining whether reported source emission rates are reasonable, and based on monitored and modeled air concentrations, revised emission rates can be created.

- I am experienced in developing emission inventories of hundreds of criteria and toxic air pollutant sources. I developed procedures and programs for quantifying emissions from many air emission sources, including: landfills, diesel exhaust sources, natural gas combustion activities, fugitive hydrocarbons from oil and gas facilities, dry cleaners, auto body shops, and ethylene oxide sterilizers.
- I have calculated flux rates (and modeled air concentrations) from hundreds of biocide applications to agricultural fields. Emission sources include aerial spraying, boom applications, and soil injection of fumigants.
- I am experienced in calculating emission rates using emission factors, source-test results, mass-balance equations, and other emission estimating techniques.

Software Development

- I am skilled in computer operation and programming, with an emphasis on Fortran 95.
- I am experienced with numerous USEPA dispersion models, modifying them for system-specific input and output, and compiling the code for personal use and distribution. I own and am experienced in using the following Fortran compilers: Lahey Fortran 95, Lahey Fortran 90 DOS-Extended; Lahey F77L-EM32 DOS-Extended; Microsoft PowerStation 32-bit DOS-Extended; and Microsoft 16-bit.
- I configured and operated an Intel I-860 based workstation for the SBAPCD toxics program. I created control files and recoded programs to run dispersion models and risk assessments in the 64-bit I-860 environment (using Portland Group Fortran).
- Using Microsoft Fortran PowerStation, I wrote programs to extract terrain elevations from both 10-meter and 30-meter USGS DEM files. Using a file of discrete x,y coordinates, these programs extract elevations within a user-chosen distance for each x,y pair. The code I wrote can be run in steps or batch mode, allowing numerous DEM files to be processed at once.
- I have written many hundreds of utilities to facilitate data processing, entry, and quality assurance. These utility programs are a "tool chest" from which I can draw upon to expedite my work.
- While at the SBAPCD, I designed the ACE2588 model - the first public domain multi-source, multi-pathway, multi-pollutant risk assessment model. I co-developed the structure of the ACE2588 input and output files, supervised the coding of the model, tested the model for quality assurance, and for over 10 years I provided technical support to about 200 users of the model. I was responsible for updating the model each year and ensuring that it is consistent with California Air Pollution Control Officer's Association (CAPCOA) Risk Assessment Guidelines.
- I developed and coded the ISC2ACE and ACE2 programs for distribution by CAPCOA. These programs were widely used in California for preparing AB 2588 and other program health risk assessments. ISC2ACE and ACE2 contain "compression" algorithms to reduce the hard drive and RAM requirements compared to ISCST2/ACE2588. I also developed ISC3ACE/ACE3 to incorporate the revised ISCST3 dispersion model requirements.
- I developed and coded the "HotSpot" system - a series of Fortran programs to expedite the review of air toxics emissions data, to prepare air quality modeling and risk assessment inputs, and to prepare graphical risk presentations.
- I customized ACE2588 and developed a mapping system for the SBAPCD. I modified the ACE2588 Fortran code to run on an Intel I-860 RISC workstation; I updated programs that allow SBAPCD staff to continue to use the "HotSpot" system - a series of programs that streamline preparing AB 2588 risk assessments; I developed a risk assessment mapping system based on MapInfo for Windows which linked the MapInfo mapping package to the "HotSpot" system.
- I developed software for electronic submittal of all AB 2588 reporting requirements for the SBAPCD. As an update to the "HotSpot" system software, I created software that allows facilities to submit all AB 2588 reporting data, including that needed for risk prioritization, exposure assessment, and presentation mapping. The data submitted

by the facility is then reformatted to both ATDIF and ATEDS formats for transmittal to the California Air Resources Board.

- I developed and coded Fortran programs for AB 2588 risk prioritization; both batch and interactive versions of the program were created. These programs were used by several air pollution control districts in California.

Air Quality and Meteorological Monitoring

- I was responsible for the design, review, and evaluation of an offshore source tracer gas study. This project used both inert tracer gas and a visible release to track the onshore trajectory and terrain impaction of offshore-released buoyant plumes.
- I developed the technical requirements for the Santa Barbara County Air Quality/Meteorological Monitoring Protocol. I developed and implemented the protocol for siting pre- and post-construction air quality and meteorological PSD monitoring systems. I determined the instrumentation requirements, and designed and sited over 30 such PSD monitoring systems. Meteorological parameters measured included ambient temperature, wind speed, wind direction, sigma-theta (standard deviation of horizontal wind direction fluctuations), sigma-phi (standard deviation of vertical wind direction fluctuations), sigma-v (standard deviation of horizontal wind speed fluctuations), and sigma-w (standard deviation of vertical wind speed fluctuations). Air pollutants measured included PM₁₀, SO₂, NO, NO_x, NO₂, CO, O₃, and H₂S.
- I was responsible for data acquisition and quality assurance for an offshore meteorological monitoring station. Parameters measured included ambient temperature (and delta-T), wind speed, wind direction, and sigma-theta.
- In coordination with consultants performing air monitoring for verifying compliance with Proposition 65 and other regulatory programs, I wrote software to convert raw meteorological data to hourly-averaged values formatted for dispersion modeling input.
- Assisting the Ventura Unified School District, I collected air, soil, and surface samples and had them analyzed for chlorpyrifos contamination (caused by spray drift from a nearby citrus orchard). I also coordinated the analysis of the samples, and presented the results in a public meeting.
- Using summa canisters, I collected numerous VOC samples to characterize background and initial conditions for use in Santa Barbara County ozone attainment modeling. I also collected samples of air toxics (such as xylenes downwind of a medical device manufacturer) to assist in enforcement actions.
- For the California Attorney General's Office, I purchased, calibrated, and operated a carbon monoxide monitoring system. I measured and reported CO air concentrations resulting from numerous types of candles, gas appliances, and charcoal briquettes.

Support, Training, and Instruction

- For 10 years, I provided ACE2588 risk assessment model support for CAPCOA. My tasks included: updating the ACE2588 risk assessment model Fortran code to increase user efficiency and to maintain consistency with the CAPCOA Risk Assessment Guidelines; modifying the Fortran code to the EPA ISC model to interface with ACE2588; writing utility programs to assist ACE2588 users; updating toxicity data files to maintain consistency with the CAPCOA Risk Assessment Guidelines; developing the distribution and installation package for ACE2588 and associated programs; providing technical support for all users of ACE2588.
- I instructed approximately 20 University Professors through the National Science Foundation Faculty Enhancement Program. Instruction topics included: dispersion modeling, meteorological data, environmental fate analysis, toxicology of air pollutants, and air toxics risk assessment; professors were also trained on the use of the ISC2ACE dispersion model and the ACE2 exposure assessment model.
- I was the instructor of the Air Pollution and Toxic Chemicals course for the University of California, Santa Barbara, Extension certificate program in Hazardous Materials Management. Topics covered in this course include: detailed review of criteria and

noncriteria air pollutants; air toxics legislation and regulations; quantifying toxic air contaminant emissions; criteria and noncriteria pollutant monitoring; air quality modeling; health risk assessment procedures; health risk management; control/mitigating air pollutants; characteristics and modeling of spills and other short-term releases of air pollutants; acid deposition, precipitation and fog; indoor/occupational air pollution; the effect of chlorofluorocarbons on the stratospheric ozone layer. I taught this course for five years.

- I have trained numerous regulatory staff on the mechanics of dispersion modeling, health risk assessments, emission rate calculations, and presentation mapping. I provided detailed training to SBAPCD staff in using the HARP program, and in comparing and contrasting ACE2588 analyses to HARP.
- Through UCSB Extension, I taught a three-day course on dispersion modeling, preparing health risk assessments, and presentation mapping with Atlas GIS and MapInfo.
- I hold a lifetime California Community College Instructor Credential (Certificate No. 14571); Subject Matter Area: Physics.
- I have presented numerous guest lectures – at universities, public libraries, farm groups, and business organizations.

Indoor Air Quality

- I prepared mercury exposure assessments caused by applying indoor latex paints containing phenylmercuric acetate as a biocide.
- Using a carbon monoxide monitor, I examined CO concentrations inside rooms of varying sizes and with a range of ventilation rates. Indoor sources of CO emissions included gas appliances and candles. I also examined CO concentrations within parking garages.
- I calculated air concentrations of tetrachloroethene inside homes and cars from offgassing dry-cleaned clothes.
- I examined air concentrations of formaldehyde inside manufactured homes and school buildings. I also calculated formaldehyde exposures from carpet emissions within homes.
- I assessed lead air exposures and surface deposition from deteriorating lead-based paint applications within apartments. I also calculated lead air concentrations and associated exposures resulting from milling of brass pipes and fittings.
- While employed by the SBAPCD, I assisted with exposure assessment and awareness activities for Santa Barbara County high-exposure radon areas.
- I calculated BTEX air concentrations and health risks inside homes from leaking underground fuel tanks and resultant contaminated soil plumes. I also assessed indoor VOC exposures and remediation options with the AERIS model.
- I have assessed indoor air concentrations from numerous volatile organic compound sources, including printing operations, microprocessor manufacturing, and solvent degreasing activities.
- I calculated indoor emission flux rates and air concentrations of elemental mercury for plaintiff litigation support purposes. This analysis included an exposure reconstruction (home, school, workplace, outside, and other locations) for 16 plaintiffs who had collected spilled mercury in their village. The study required room volume calculations, air exchange rates, exposure history reconstruction, mercury quantity and droplet size estimation, elemental mercury flux rate calculations (including decay with time), and resultant air concentration calculations. I calculated both peak acute (two-hour) and 24-hour average concentrations.

Affiliations

- American Meteorological Society (former president, Ventura/Santa Barbara County Chapter).

Publications

- To establish a legal record and to assist in environmental review, I prepared and submitted dozens of detailed comment letters to regulatory and decision-making bodies.
- I have contributed to over 100 Environmental Impact Statements/Reports and other technical documents required for regulatory decision-making.
- I prepared two software review columns for the *Journal of the Air and Waste Management Association*.
- Correlations of total, diffuse, and direct solar radiation with the percentage of possible sunshine for Davis, California. *Solar Energy*, 27(4):357-360 (1981).

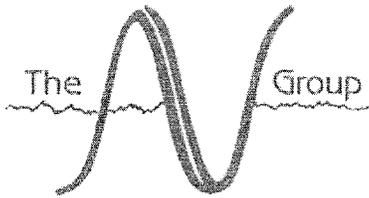
Employment History

- Self-Employed Air Quality Consultant 1992 to 2008
- Santa Barbara County APCD, Senior Scientist 1988 to 1992
- URS Consultants, Senior Scientist 1987 to 1988
- Santa Barbara County APCD, Air Quality Engineer 1983 to 1987
- Dames and Moore, Meteorologist 1982 to 1983
- UC Davis, Research Associate 1980 to 1981

Testimony History

- People of the State of California v. McGhan Medical, Inc.
Deposition: Two dates: June - July 1990
- People of the State of California v. Santa Maria Chili
Deposition: Two dates: August 1990
- California Earth Corps v. Johnson Controls, Inc.
Deposition: October 26, 1995
- Dale Anderson v. Pacific Gas & Electric
Deposition: January 4, 1996
Arbitration: January 17, 1996
- Adams v. Shell Oil Company
Deposition: July 3, 1996
Trial: August 21, 1996
Trial: August 22, 1996
- California Earth Corps v. Teledyne Battery Products
Deposition: January 17, 1997
- Marlene Hook v. Lockheed Martin Corporation
Deposition: December 15, 1997
- Lawrence O'Connor v. Boeing North America, Inc.
Deposition: May 8, 1998
- Bristow v. Tri Cal
Deposition: June 15, 1998
- Abeyta v. Pacific Refining Co.
Deposition: January 16, 1999
Arbitration: January 25, 1999
- Danny Aguayo v. Betz Laboratories, Inc.
Deposition: July 10, 2000
Deposition: July 11, 2000
- Marlene Hook v. Lockheed Martin Corporation
Deposition: September 18, 2000
Deposition: September 19, 2000
- Tressa Haddad v. Texaco
Deposition: March 9, 2001
- California DTSC v. Interstate Non-Ferrous

- United States District Court, Eastern District of California,
Case No. CV-F-97 50160 OWW LJO
Deposition: April 18, 2002
- Akee v. Dow et al.
United States District Court, District of Hawaii,
Case No. CV 00 00382 BMK
Deposition: April 16, 2003
Deposition: April 17, 2003
Deposition: January 7, 2004
Trial: January 17, 2004
Trial: January 20, 2004
 - Center for Environmental Health v. Virginia Cleaners
Superior Court of the State of California
County of Alameda. Case No. 2002 07 6091
Deposition: March 4, 2004
 - Application for Certification for Small Power Plant Exemption – Riverside Energy
Resource Center. Docket No. 04-SPPE-01.
Evidentiary Hearing Testimony before the California Energy Resource Conservation
And Development Commission: August 31, 2004
 - Lawrence O'Connor v. Boeing North America, Inc.
United States District Court, Central District of California,
Western Division. Case No. CV 97-1554 DT (RCx)
Deposition: March 1, 2005
Deposition: March 2, 2005
Deposition: March 3, 2005
Deposition: March 15, 2005
Deposition: April 25, 2005
 - Clemente Alvarez, et al, v. Western Farm Service, Inc.
Superior Court of the State of California
County of Kern, Metropolitan Division. Case No. 250 621 AEW
Deposition: April 11, 2005
 - Gary June et al. v. Union Carbide Corporation & UMETCO Minerals Corporation
United States District Court, District of Colorado,
Case No. 04-CV-00123 MSK-MJW
Deposition: January 9, 2007
 - Alberto Achas Castillo, et al. v. Newmont Mining Corporation, et al.
District Court, Denver County, Colorado,
Case No. 01-CV-4453
Deposition: February 19, 2007
Deposition: February 20, 2007
Arbitration: March 6, 2007
Arbitration: March 7, 2007



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January 15, 2008

William Kopper
William D. Kopper Attorney at Law
417 E Street
Davis, CA 95616

SUBJECT: Results of Review of Draft, Recirculated Draft and 2nd Recirculated and Final Environmental Impact Report for Greenbriar Development Project, Sacramento, California

Dear Mr. Kopper,

This letter report documents the results of a review of the Draft Environmental Impact Report (Draft EIR) [1]*, the two revisions [2,3] and the Final (Final EIR) [4] with an emphasis on noise sections of the document. The noise impact sections are inadequate and incomplete because they do misconstrue the City's maximum sound level limit [5] for homes when aircraft flights are the source, provide heavy truck and night road traffic volumes that conflict with CalTrans' publications [6,7], provide misleading information regarding how sound spreads and how people perceive changes in the sound, ignore CalTrans' requirements for calibrating noise models per the Technical Noise Supplement [8] and other measurement standards, do not evaluate the school site per the City of Sacramento Standard or the requirements of the American national Standard Institute S12.60 guidelines and accept significant impacts that cannot be mitigated without establishing the consequences regarding health and welfare influences. As a result, the significant of impacts such as the maximum sound level from military aircraft overflights are not addressed. These impacts are so significant that the City would not normally allow residential development in such place as stated in Table I, Section 8-28, of the City's General Plan [5]. The EIR documents do not discuss sound from the pump station directly west of the project site. This is a non-transportation sound source that would have to be evaluated against the requirements of the City's Noise Control Ordinance [9].

The first and second revisions to the Draft EIR and the Final EIR fail to address these specific shortcomings of the EIR documentation. Changes to traffic discussed in the Recirculated Draft EIRs did not result in significant changes to the assumptions regarding traffic mix, i.e., the percentage of autos, medium trucks and heavy trucks, and the same values are used for all roads, contrary to CalTrans' publications. Thus, noise impacts remain the same. The following sections take each of these issues and shows why the EIR documents are incomplete and inadequate at assessing noise impacts and the consequences on the health and welfare on those living in the proposed residential development and particularly for the students at the proposed school.

I. CalTrans and Federal Highway Administration, FHWA, Issues

A. CalTrans Traffic Mix Issues

1. Appendix G of Volume III of the Draft EIR provides the data used to calculate the sound generated by road traffic.

* - Number in brackets refers to references listed at the end of this letter report.



- a. Every road, both local two-lane roads and freeways/divided highways is shown with the exact same percentage of automobile, medium truck (MT) and heavy truck (HT) for the three periods used to calculate the Community Noise Equivalent Level (CNEL), daytime, evening and nighttime. For example, the heavy truck daytime volume is shown as 1.71 percent for W. Elverta Rd. west of Powerline Rd., for Powerline Rd. north of W. Elverta Road, Elkhorn Blvd between Lone Tree Rd. and SR 99/70, for SR99/70 between W. Elverta Rd. and Elkhorn Boulevard and for Interstate 5 west of SR99/70 I-5 split.
 - b. CalTrans publishes traffic volumes for automobiles, medium trucks and heavy trucks for each year on their website
<http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm>.
 - c. The 2004 Annual Average Daily Truck Traffic [7] publication shows a daily heavy truck volume of 9.63 percent for Interstate 5 and 6.12 percent for SR99/70, not 2.2 percent given in the Draft EIR. Similarly, the medium truck is shown to be 3.78 percent on Interstate 5 and 3.81 percent on SR99/70 rather than the 9.49 percent shown in the Draft EIR.
 - d. The 2004 AADTT publication was used because this was newest publication available during the writing of the Draft EIR.
 - e. The much larger volume of heavy trucks obtained from CalTrans' data has a big influence on noise impacts because the source of sound for heavy trucks is assumed to be 8 feet above road level rather than 2.3 feet assumed for medium trucks and 0 feet for automobiles and light trucks.
 - f. The higher sound source height requires much higher sound walls to achieve the same sound reduction needed to attenuate the sound of cars.
 - g. Heavy trucks also produce more low frequency exhaust noise than cars or medium trucks, and these tones are not as easily attenuated by sound walls.
 - h. A single heavy truck also generates much more sound than a single car.
 - i. Because of the higher source height, the influence of ground cover is less important at distance up to about 200 feet from the nearest lane of traffic.
 - j. Hence, heavy trucks are a significant influence on the acoustic environment for noise sensitive sights near roads with higher volumes of these vehicles.
2. Appendix A of the 2nd Recirculated Draft gives updated traffic mixes by vehicle type and time of day.
- a. Again, this document implies that the percentages are independent of the road, a conclusion contradicted by every traffic count published annually by CalTrans.
 - b. The new traffic volumes show the same percentage for heavy trucks provided in the initial DEIR.
 - c. The influence of more heavy trucks on these roads will have a larger noise impact because of the height of the noise source and the additional low frequency noise and this is left out of all of the EIR documents.
 - d. The importance of low frequency sound is discussed by several authors.
 - (1) Schomer [10] shows that higher correlations are found with annoyance when using a filter that changes with loudness than with the A-Weighted filter.
 - (2) Hellman and Broner studied the relation between loudness and annoyance over time with low frequency tones [11]. They found annoyance is not sole-



ly loudness based with low frequency pure tones, as measured for heavy trucks when passing.

- (3) Pure tones increase the annoyance over that expected just based on the loudness of the sound. A pure tone is what you hear when you blow across the mouth of a soda pop bottle filled a quarter full with a liquid.
- (4) The low frequency sound generated by heavy trucks commonly includes a significant pure tone.

B. CalTrans' Traffic Volumes by Time of Day

1. Volume III of the Draft EIR, Appendix G gives the percent of traffic during each interval of the 24-day for each vehicle type.
2. When these percentages are converted to the percentage of vehicles of each type occurring at night, they all come out the same.
 - a. 9.61 percent of automobile trips occurred at night.
 - b. 9.69 percent of medium truck trips occurred at night.
 - c. 9.55 percent of heavy truck trips occurred at night.
3. Data provided by CalTrans' District 3 office for Interstate 80 at Taylor Road in Roseville for 14 consecutive days showed an average nighttime volume of 13.53 percent.
4. Each nighttime vehicle trip counts as 10 daytime trips because of the influence of sound on people trying to sleep, usually at night.

C. CalTrans References

1. The Draft EIR references CalTrans' 1998 Technical Noise Supplement [8] as a source of an explanation of the physics of sound and testing procedures and requirements.
 - a. This manual requires traffic counts during field tests to calibrate the noise prediction model because field conditions seldom replicate every assumption used to develop the model.
 - b. There is no discussion of any traffic counts or calibration of the model used for roads and highways in the project and the, limiting the value of any predictions of CNEL or day-night average, L_{dn} , sound levels for existing, baseline or cumulative plus project conditions.
 - c. Reference 8 says that sound is described two main characteristics, its amplitude (loudness) and its frequency (pitch or tones).
 - (1) Defining the tonal content of the sound is required to evaluate how it is perceived by noise-sensitive receptors and to control sound reduction from the exterior to the interior of structures.
 - (2) No tonal measurements were made at any of the test positions.
 - (3) This is a requirement near the school site and along each major road, particularly near roads along which the traffic volumes will change dramatically, e.g., Elkhorn Boulevard between SR99/70 and Lone Tree Road where the exiting volume of 454 vehicles per day will increase to 66,090 vehicles per day at full build out.



D. FHWA Noise Prediction Model

1. The Draft EIR says that the 1988 FHWA Traffic Noise Prediction Computer Model program was used to estimate CNEL sound levels from road traffic.
2. CalTrans allow only the 1978 FHWA Traffic Noise Prediction Model [12] or the Transportation Noise Model Version 2.5 to be used for modeling road traffic. The reference in the Draft EIR lacks sufficient detail to know whether the computer program refers to the 1978 report or to some other report.
3. According to requirements of CalTrans, the traffic model must be modified to include the CalTrans noise emission levels [13]. The EIR documents make no reference to using a model with this modification. Few if any programs from the FHWA would include this option. As a result, the predicted sound levels could be incorrect.
4. The Draft EIR says that an assumption of “soft” ground was assumed when predicting the propagation of sound from the roadway vehicles to the noise-sensitive receptor.
5. The FHWA Noise Prediction Model states that when a barrier is assumed, the ground becomes acoustically “hard” and that the assumption of “soft” ground is not correct [14]. This occurs when houses form the barrier/shielding or a formal sound wall is constructed.
6. The resulting predicted sound level would be substantially higher with the acoustically hard ground because sound is attenuated at 3 dB per doubling of distance rather than 4.5 dB per doubling of distance as it does for soft ground.
7. Hence the predicted noise contours shown in Exhibit 6.3-5 are inaccurate, resulting in incorrect conclusions regarding the significance of noise impacts.
8. None of the EIR documents discuss the sound generated by traffic traveling on ramps from Interstate 5 southbound to SR99/70 northbound or from SR99/70 southbound to Interstate 5 southbound or northbound. The first two ramps are elevated, resulting in acoustically hard ground and allowing sound to affect more residences without encountering in sound walls or barriers at ground level. Higher sound will be received at the homes and school from this source.
9. The FHWA specifically says that predictions are good to only ± 1.5 dB(A). Hence, exterior and interior sound levels specified by the City and County of Sacramento and State of California must be met using predictions that include a safety factor when discussing road traffic. A minimum 2 dB(A) margin of safety is recommended for homes and for schools.
10. This could be very important for the school because the City requires interior hourly average, L_{eq} , sound levels to be less than or equal to 40 dB in all classrooms, 5 dB(A) less than allowed for the interior CNEL values in residences.
11. The American National Standard Institute standard S12.60, S12.60 [15], Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools sets an interior limit of 35 dB(A) for all background sources. This includes sound from the mechanical equipment, noise in other classrooms and sources exterior to the building. This standard withstood challenges in court and is at least in part underwritten by the Americans with Disabilities Act.
12. The Draft EIR incorrectly states that the interior limit given in ANSI S12.60 is 40 dB(A) for the background sound level.
13. The California High Performance Schools (CHPS) program [16] requires a background sound of less than 45 dB as a prerequisite and provides 1 point for background sound levels of 40 dB(A) or less and 3 points for background sound levels of 35 dB(A) or less. The CHPS program references ANIS S12.60.



14. The background sound level is defined [17] as the sound measured when the source or sources of interest are absent.

II. Aircraft Operations

A. Maximum sound levels

1. The Draft EIR in Table 6.3-8 notes that the maximum acceptable interior sound levels for single family and multi-family homes is an instantaneous level of 50 dB in bedrooms and 55 dB.
2. Exhibit 6.8-1 and 6.8-2 show that at least 75 percent of the project site is within the overflight zone. That is, some flights departing from Sacramento International Airport west of the project will pass over the project. Only the east 25 percent is expected to have no overflights from the airport.
3. According to the Draft EIR, maximum sound levels were around 75 dB(A) due to commercial aircraft and up to 109 dB(A) due to military aircraft flying out of Sacramento International Airport.
4. The City's maximum interior noise limit appears to apply only when the L_{dn} sound level exceeds 60 dB(A) due to the source of interest.
 - a. No relationship exists between the L_{dn} sound level and the maximum instantaneous sound level. The L_{dn} sound level is the daily average based often on annual average conditions, not the conditions that occur on any given day.
 - b. The quote regarding the L_{dn} sound level is a direct rephrasing of words from Tittle 24, California Building Codes, Appendix 12A, stating that the interior L_{dn} sound level requirement applies only when the exterior L_{dn} exceeds 60 dB.
 - c. The State sets limits only the average sound level, not the maximum.
5. The Draft EIR notes that the high maximum sound levels could cause speech interference, sleep problems and stress. This needs to be addressed as noted in the Draft EIR even if the City does not enforce the interior limit near airports when the L_{dn} sound level is less than 60 because the noise impacts are significant. The Draft EIR on page 6.3-35 says that the L_{dn} sound level may not adequately identify the influence of individual flights on sleep disturbance and speech.
 - a. CEQA guidelines in Appendix G require evaluation of short duration changes in the sound environment including periodic changes as represented by commercial and military aircraft flights.
 - b. The hourly average sound level of a maximum sound level of 109 dB(A) that lasted 1 second would be no less than 73 dB(A). This is significantly above the CNEL or L_{dn} sound level average of less than 60 predicted for average aircraft operations from Sacramento International. Based on the sound energy, this is the difference between being paid \$10 per hour and \$200 an hour.
6. The Acoustics & Vibration Group, TAVG, has been required by the City of Sacramento to include the influence of maximum sound levels to evaluate the influence of single and multi-family homes impacted by activity at McClellan AFB before its closure.



7. The Draft EIR says a debate is occurring regarding the appropriateness of Single Event Noise Level, SENL. This is not true. The case has been decided in the appeals courts and is referenced as the Berkeley aircraft case [18]. The ruling handed down was that relying on standard sound level criteria was not adequate to define the noise impacts to a neighborhood. The influence of single events is an important consideration as people are affected by individual events, not the average of many events.
8. The Draft EIR must address this issue and set up standards and thresholds of significance that addresses the consequences of the periodic very high sound levels. Both students at the elementary school and those residing in the homes will be affected by this activity is likely to get worse as the airport grows.

The evidence provided here is sufficient to show that the Draft and Recirculated EIRs and the Final EIR are not complete, accurate or adequate. They contradict traffic mixes published by CalTrans and result in significant under reporting of the sound generated by heavy trucks. The lack of tonal measurements for existing and future conditions renders any assessment of the influence of changes in road traffic mix and large increases in volumes useless. Though referencing CalTrans' technical notes, the analysis and calibration do not meet these standards. Especially troubling is the acknowledgment of the potential adverse impacts for very high maximum sound levels due to aircraft overflights and the decision to ignore them because the project is outside a contour based on long term averages. The sound will have a deleterious influence on the learning environment at the school and for those living at the project site.

Please call if you have any questions regarding the comments and conclusions reached regarding the adequacy of the multiple EIR documents. Let me know if additional information is needed.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Steve Pettyjohn'. The signature is fluid and cursive, with the first name 'Steve' being more prominent than the last name 'Pettyjohn'.

Steve Pettyjohn, Principal

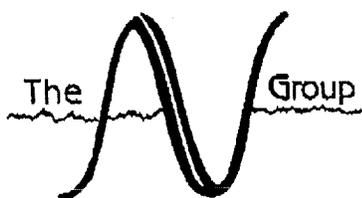
Certified: Institute of Noise Control Engineers-1981

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2. Anon., *Greenbriar Development Project, Sacramento, California, Recirculated Draft Environmental Impact Report*, for City of Sacramento, Environmental Planning Services and Sacramento Local Agency Formation Commission, by EDAW, Sacramento, SCH #2005062144, November 2006.
3. Anon., *Greenbriar Development Project, Sacramento, California, Second Recirculated Draft Environmental Impact Report*, for City of Sacramento, Environmental Planning Services and Sacramento Local Agency Formation Commission, by EDAW, Sacramento, SCH #2005062144, April 2006.



4. Anon., *Greenbriar Development Project, Sacramento, California, Final Environmental Impact Report; Responses to Comment and Additional Information*, for City of Sacramento, Environmental Planning Services and Sacramento Local Agency Formation Commission, by EDAW, Sacramento, SCH #2005062144, August 2007.
5. Sacramento City Planning Commission, "Noise Element" from Chapter 8, "Health and Safety Element" from the *City of Sacramento General Plan Updated*, Adopted January 19, 1988.
6. California Department of Transportation, Traffic and Vehicle Data Systems Unit, "2004AADT", <http://traffic-counts.dot.ca.gov/2004all/docs/2004aadt.xls>, Interstate 5 and SR99/70 at and around I-5 and SR99/70 split.
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15. American National Standard, *Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools*, ANSI S12.60-2002, Acoustical Society of America, Melville, NY.
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18. *Berkeley Keep Jets over the Bay Committee v. Board of Port Commissioners*, 91 California Appeals Court 4th 1344, 1372-1383, 2001.



The Acoustics & Vibration Group

5700 Broadway Sacramento, CA 95820-1852

916-457-1444 FAX: 916-457-1475

Consultants in Acoustics, Vibration, Noise Control & Audio Visual Design

STEVE PETTYJOHN

Principal

Steve is an engineering professional responsible for overseeing services provided by The Acoustics & Vibration Group (TAVG). He is especially proficient at setting realistic goals, explaining what the purpose is of these goals and how sound and vibration influences a project. He has extensive experience in designing facilities for optimum sound quality, measuring sound, analyzing data and completing noise impact statements. Steve analyzes heating, ventilating, air-conditioning systems for sound characteristics and vibration isolation; does sound level surveys to document employee noise exposures; and designs sound reinforcement systems and sound paging systems. He executes vibration measurements for industrial, commercial and public utility projects and specifies mechanical equipment systems to meet acoustic and vibration criteria. In addition he serves as an expert witness in cases involving acoustic and vibration issues.

TAVG was formed in Sacramento by Steve in 1986 after completing seven years of acoustic and vibration research for Cummins Engine Company, a major international manufacturer headquartered in Indiana, and five years with acoustic and vibration consulting firms in Atlanta, Georgia. During these years he has completed hundreds of projects encompassing a wide scope of work. Clients have included manufacturing and industrial firms, retail businesses and commercial firms, architects, engineering and mechanical companies, governments and governmental agencies, developers, contractors, churches, hospitals and schools.

Steve is a registered Professional Engineer in Acoustics (#19639PE) in Oregon, the only state with a test for this discipline. He attained certification (#81010) in 1981 by the Institute of Noise Control Engineers in an exam patterned on the professional engineer examinations given by the states. The Vibration Institute certified him in 1994 as Vibration Specialist III (#9403-004B). Steve received a Master of Science degree in an acoustics multi-disciplinary program in 1979 from the School of Mechanical Engineering from the Georgia Institute of Technology. This program exposed him to acoustics and vibration courses from the Departments of Architecture, City Planning, Psychology, Physics, Electrical Engineering, Geophysical Science, Aerospace Engineering and Solid Mechanics as well as Mechanical Engineering. In 1976 Steve was certified as an Engineer-In-Training, from the state of Georgia. His experience in acoustics and vibration began at Oregon State University, OSU, where he completed special projects on engine vibration and chain saw sound. In 1972 he earned a Bachelor of Science degree in Mechanical Engineering from OSU.

He is a member of relevant professional organizations. They include The Vibration Institute, Acoustical Society of America (ASA), Institute of Noise Control Engineers (INCE), American Society of Mechanical Engineers (ASME) and American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).

**Judith Lamare Ph.D.
500 N Street, 1403
Sacramento, Ca. 95814**

January 22, 2008

Mayor Heather Fargo and City Council
City Hall
Sacramento, Ca. 95814

Re: Greenbriar Annexation Public Hearing
**Greenbriar (M05-046 / P05-069) (Noticed on 1-10-08,
passed for publication on 1-15-08, published on 1-18-08)**
Location: South of Elkhorn Boulevard, north of Interstate 5,
west of Highway 99, and east of Metro Airpark (County) /

Dear Mayor Fargo and Members of the Council:

I am a resident of District 1 and have lived in the City since 1977. These are my personal comments and not those of any organization. On January 8, I spoke to you as the representative of Friends of the Swainson's Hawk to point out that state and federal agencies had not approved the "effects analysis" submitted by the City, and had rejected the CEQA analysis and mitigation as inadequate for the project. Looking more closely at other aspects of the project, I am concerned that there is a general pattern of disconnect between local government perception and state and federal expectations regarding this project. We saw this last week with FEMA's announcement on flood risk and the release of DWR's expert flood risk report.

It is also the case with the light rail project that federal interest in this project is very low. **Despite seven years of effort and tens of millions spent in planning studies, RT has not made the case to the Federal Transit Administration that this line is needed, and will be cost-effective.** The total cost of all this effort has never been publicly disclosed. Nor has there been anything in the record to explain why the FTA has declined to move forward with a federal environmental review of the DNA line. The idea that we can pressure Congress to change FTA's decision ignores the question "why does FTA not find the DNA line an attractive federal investment?"

RT has told its board (December 10, 2007) "Current construction and operating cost estimates coupled with a moderate expected ridership increase limit the project funding prospects."

What is not talked about is the location of these lands in a deep floodplain behind levees with repeated decertifications which makes further federal investment questionable. Recently the Federal Aviation Administration notified the airport that it would delay further consideration of funding for anticipated runway improvements, including extension of the east runway that would make non-stop flights to Europe and Asia possible. Again there is a disconnect between local expectations and federal expectations about federally funded facilities in the Natomas Basin.

What we do know for sure is that lack of local funding dooms further consideration of DNA at the federal level.

1. No transit operating funds exist to operate the DNA line and therefore it is ineligible for further consideration for federal capital construction funding. This fact was explained to the community in December 2006 by former General Manager Beverley Scott, and Council has a copy of the Bee article reporting this fact (submitted with the ECOS package on January 8, 2008). RT itself lacks authority to initiate a ballot measure for a transit tax. Continued expenditure of scarce transit dollars to pursue this project cannot be justified.

2. An RT proposal for a one mile segment of light rail extension from 7th and H to 7th and Richards to be constructed by 2010 was described to you on January 15. It is based on the unsupported assumption that RT can reprogram federal funds that were allocated by the state (STP funds) for environmental review, engineering and right of way for a federally approved (under the National Environmental Protection Act) DNA line. Page 14 of the RT DNA project Status Report on December 10, 2007 refers to MOS1 capital funding from "federal funds (previously approved)." The federal funding is not available for that purpose. The redefined project does not meet federal standards. RT use of these funds to pay consultants for further analysis of how to make a one-mile locally-funded line work is not justified since RT does not have the revenue to operate this service and lacks identified funding for all the construction costs.

3. The Metropolitan Transportation Plan is the underpinning for establishing the DNA line as a federal project. ECOS has commented on the MTP's inadequacies. It relies on the unsupported assumption that two-thirds of the voting public will approve a new sales tax for the County of Sacramento by 2012 that will allocate sufficient funding for transit operations to allow the DNA line to be constructed to the Greenbriar project by 2027.

ECOS, the Environmental Council of Sacramento, recently commented on the SACOG Metropolitan Transportation Draft Plan and EIR (December 20, 2007), and addressed the issue of lack of funding for new transit operations in that plan. ECOS said (~~attached~~), among other things:

“ . . . the finance policies and strategies outlined in Chapter 5 do not consider innovative Regional solutions timed in a way to increase funding in the early years of the Plan where it is most needed. Such strategies include: employer taxes (Portland, Oregon); congestion pricing and toll roads (San Diego); parking surcharges; increased developer fees; and regional vehicle license fee surcharges. ECOS would like to see these ideas fully explored in this 28-year vision document.”

Also ~~attached~~ ^{here} is a letter from Friends of the Swainson's Hawk on the MTP funding assumptions that explores in more detail the flaws in the MTP and EIR regarding unrealistic estimation of revenues for transit operations. These comments address the federal criteria for local funding to match federal funds for the programmed projects. The Sacramento Region has fallen way behind other

regions in providing local revenues for transportation projects, and most especially for transit operations.

4. Will DNA to the Airport appreciably improve performance of I-5? Will DNA to the Airport operate as an alternative to I-5?

Greenbriar proponents argued on January 15 that the light rail line to the airport is a critical link in the regional transportation system. None explained why Airport has not provided any operating funding for public transit to the Airport. (Airport parking generates substantial revenues for Airport.) Despite the fact that the environmental review of the DNA line is available (submitted to Council on January 8, 2008), no one has offered quantitative evidence for the argument that DNA to the airport will significantly relieve congestion on I-5. **The DNA PEIR Executive Summary (page ES 4.2.2) states that the project would have minimal effect on congestion in the corridor that it serves.**

With Arco Arena leaving Natomas Basin, expected future congestion in this study area will be declining.

What the County Board of Supervisors would like is for the City to approve more land uses in the corridor so that heavier traffic generated by these land uses on I-5 might help to justify the expenditure of public funds to extend the light rail line to the airport. This is the same county that approved the development of Metro Airpark when there was, and continues to be, no market for these land uses.

I served on the Community Advisory Group reviewing the Alternatives Analysis in the period 2001-2003, and at that time, no convincing evidence was presented that the DNA line extension to the airport could be justified by the ridership it would generate from the airport.

The history of the DNA project is a history of tens of millions of dollars spent to do and redo public meetings, ridership estimates, costs, and technical studies for a line that is not feasible now, may never be feasible, and cannot be shown to be feasible, at least until there is a source of revenue to operate the service. Meanwhile there are very serious flood management issues and habitat protection issues in the corridor that are significant state and federal concerns.

RT does not have the funding to take on even a one mile extension of light rail toward the airport. Pushing forward with this plan is disservice to the community that relies on transit service and the community that chooses transit service. It results in a diversion of resources which might otherwise be aimed at increasing and improving services in the existing urban area. Greenbriar approval will not appreciably change these realities.

Sincerely,



Judith Lamare Ph.D

**APPENDIX E
CONSULTANT CONTRACT AND SUBCONTRACT AMOUNTS**

Under California Government Code 7550, when the cost to prepare a document is more than \$5,000, the document must contain a separate section listing the contracts and subconsultants and their dollar amounts relating to the preparation of the document.

Consultant	Responsibilities	Fee
Parsons Brinckerhoff Quade & Douglas, Inc.	Project Management; AA Report Management and Preparation; Definition of Alternatives; LRT Engineering; Capital Cost Estimates	\$4,671,166
CH2M Hill, Inc.	Draft EIS/EIR Management and Preparation; Air Quality; Biology; Cultural Resources; Energy; Geology, Soils and Seismicity; Environmental Justice; Hazardous Materials; Hydrology and Water Quality; Land Use; Noise and Vibration; Section 4(f); Socioeconomic Impacts	2,341,274
DKS Associates	Travel Demand Forecasting; Transportation and Traffic	1,564,054
Manuel Padron & Associates	Transit Operations Analysis and O&M Costing	308,660
McCormick Rankin International	BRT Engineering and Capital Cost Estimates	274,752
The Hoyt Company	Public Involvement	766,366
Koegel & Associates	Financial Planning and Institutional Analysis	198,991
Kleinfelder, Inc.	Geotechnical Evaluation and Analysis	66,967
Psomas, Inc.	Corridor Surveying and Evaluation of Public Utilities	242,103
Bay Area Economics	Assessment of Opportunities for Transit-Oriented Development; Real Estate Economics	89,385
Company 39	Photosimulations; Visual Graphics; Project Website Development and Maintenance	44,307
Design Styles	Graphic Design Support	6,775
Alternative Resources	Transportation Planning	38,852
Total – All Consultants		\$10,613,652

MOS-1 Capital Funding

Measure A

- Federal funds (previously approved)
- Developer fees/agreements
- ROW provided by City

GREENBRIAR comments by Barry L. Wasserman, FAIA

- Totally inappropriate to approve an EIR before serious mitigation is spelled out. Feds are going to weigh in and the impact on the project and its HCP is unknown most likely will be more than the proponents have opted for
- Ag land mitigation is inadequate (see Sacramento Farm Bureau letter)
- Inappropriate to approve in advance of Joint Vision open space study underway and completion of the General Plan. Present draft calls for Sacramento to "grow smarter" i.e. develop inward before expanding to greenfields
- No guarantee that it will help pay for funding North Natomas deficit let alone pay for itself. Finance plan based on 2005 sale prices and 2007 construction costs
- There needs to be a true analysis of the impact on the cities infill priorities and new growth area priorities within existing urban growth boundaries i.e. railyards. township 9. the docks area. delta shores. Particular concern on competing with housing which will support downtown, a stated policy priority
- Not a very livable site, hemmed in by two freeways with thier pollution and noise and subject to aircraft takeoff route noise
- Flawed master plan (poor smart growth)

At project entry from Elkhorn the design guidelines illustrate an auto focused big box project including a 140,000 sq.ft, building and big parking lot with little pad buildings at the extremes. Nowhere near as good as the Target proposal at 65th, which itself can be better.

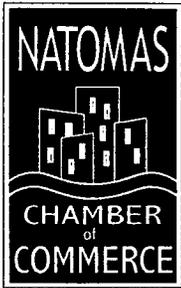
Inadequate internal connectivity. The central portion of site has a housing area equivalent to 12 city blocks with only three streets connecting to rest of area.

Inappropriate inclusionary housing plan. All such housing clustered/segreated into 3 sites providing no distribution throughout project

- DNA argument flawed. Regional Transit now starting a new community master plan with community input. Better route structure, better head times, etc. within existing communities (including North Natomas) would seem to be a higher priority and better use of minimal available resources than focusing on DNA to the airport which RT admits is light years away from reality.

In Summary

WRONG TIME FOR THIS; WRONG PLACE FOR THIS



Natomas Chamber of Commerce

1143 North Market Blvd., Suite #2, Sacramento, CA 95834
Admin@natomaschamber.com • www.natomaschamber.org

January 22, 2008

Honorable Mayor and City Council
City of Sacramento
915 I Street, 5th Floor
Sacramento, CA 95814

Re: Greenbriar project endorsement

Dear Mayor Fargo and Councilmembers:

With this letter, please accept on behalf of the Natomas Chamber of Commerce our strong endorsement of the Greenbriar project. We submit this letter with the understanding it shall be added to the formal administrative record to clearly communicate the Chamber's support.

Please know that the Natomas Chamber has monitored closely the ample public discourse regarding the project, both formally at on-going public hearings and informally as a Natomas-based organization cognizant of our community's concerns and opportunities. As such, it is with much forethought that the Chamber has concluded public support for Greenbriar is judicious and in the best interest of the Natomas community.

According to the City's own fiscal analysis, Greenbriar will not only "pay its own way" in terms of the necessary infrastructure and services required to serve it, it will also contribute nearly \$17 million for other improvements and facilities serving the greater North Natomas area. This includes \$1.8 million for a new library, \$800,000 for a community center, \$1.5 million for a new fire station, nearly \$2.5 million for local police facilities, and \$3.4 million for the North Natomas Regional Park. These are all significant contributions to our community that the Chamber cannot ignore, and we believe wholeheartedly demonstrate Greenbriar is not only a quality plan, but also a welcomed, and responsible addition to the Natomas community.

Please consider our position in your upcoming deliberations regarding project approvals. We hope to present our position even more publically with oral testimony at upcoming hearings (both City and LAFCo), and intend to promote among our membership active support for the project. Should you have questions about our position, please do not hesitate to contact me or Mr. Bob Moreno who serves on the Natomas Chamber's Land Use Committee.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Hatalla". The signature is written in a cursive, flowing style.

Steve Hatalla
Natomas Chamber of Commerce, Board President

cc: Sacramento LAFCo