ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
PUBLIC HEALTH DEPARTMENT

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October 21, 2016

CalEnviroScreen
c/o Carolyn Flowers
Officer of Environmental Health Hazard Assessment
P.O. Box 4010
Sacramento, CA 95812-4010
Via email: CalEnviroScreen@oehha.ca.gov

Re: CalEnviroScreen 3.0 and Alameda County

Dear Ms. Flowers:

I write to express concern with some of the changes to CalEnviroScreen (CES) 3.0 in identifying "disadvantaged" communities. The passage of SB 535 created an enormous opportunity to reduce disparities while promoting environmental, social, and health improvements for all through investments to communities disproportionate impacted by negative outcomes in the state. As Health Officer for Alameda County, I am responsible for monitoring the health status of our communities and advising on the policies and actions needed to reduce risk in vulnerable and disproportionately impacted communities, while improving health and well-being for all in our county. I recommend OEHHA consider making the following modifications to CES 3.0 to ensure that environmentally, economically, and physically vulnerable communities in Alameda County, the Bay Area, and statewide are identified as "disadvantaged":

- Use a mixed threshold approach (detailed below) and equally weight Pollution Burden Indicators to ensure inclusive and accurate identification of "disadvantaged" communities;
- Include all-cause mortality in Population Characteristics indicators and light industrial facilities in Pollution Burden indicators;
- Commit to periodic review and develop an ongoing process for robust community and stakeholder engagement.

I am concerned that the updates and changes from CES 2.0 to 3.0 result in an unintended consequence in Alameda County, the Bay Area, and possibly other regions in the State, where fewer communities that are highly vulnerable from a health perspective are not being identified as a Disadvantaged Community (DAC). In our County, we use high poverty (≥20% of people living in poverty) and high all-cause mortality (top quartile) to identify communities that are most impacted by and vulnerable to cumulative health risks, and I believe this aligns with the intent of SB 535. Under CES 3.0, most of these high-risk communities in Alameda County (81%) and the Bay Area (75%) are excluded (See Appendix A). It is troubling that only 8 out of 42 high-risk census tracts in Alameda County are identified as a DAC under CES 3.0 (compared to the still low 14 that were identified under CES 2.0). Communities heavily burdened by poverty, cumulative health risks/impacts, and low life expectancy in West Oakland, East Oakland, North Oakland, Ashland-Cherryland, Hayward, and West Berkeley are missed under CES 3.0 (See Appendix B). The unintended but harmful policy implication is that high-risk and heavily impacted- communities in Alameda County, the Bay Area, and statewide are largely

ineligible for funding from Cap and Trade auction revenues. This is a missed opportunity for public health co-benefits in communities that we know are in serious need of investments.

Our analysis and the health literature show that Population Characteristics, like poverty and unemployment, have a stronger correlation with cumulative health outcomes (as measured by life expectancy) than Pollution Burden indicators (See Appendix C). Given the strong impact of socioeconomic vulnerability, it does not make sense that communities with high Population Characteristic scores and significant levels of Pollution Burden like West Oakland (CTs 6001410500, 6001402400, 6001401500, 6001401700, 6001401600, 6001401800, and 6001402700) are not qualifying as a DAC under CES 3.0 – many of which were previously identified as DACs under CES 2.0. Communities with high Population vulnerabilities and significant Pollution Burden should be included as well as communities with high Pollution Burden and moderate-high levels of socio-economic and other Population risks. This ensures that CES does a better job at capturing vulnerable communities in Alameda County, the Bay Area, and statewide compared to CES 2.0 and the current CES 3.0 (see Appendix A). I recommend expanding and improving the approach to identifying DAC by using a mixed threshold approach that includes communities that meet at least one of the following three criteria:

1) The top quartile from the overall CES score state ranking;
2) The top quartile ranking for Population Characteristics and >25% ranking for Pollution Burden; or
3) The top quartile ranking for Pollution Burden and >50% ranking for Population Characteristics.

This approach is grounded in the understanding that socio-economic factors (along with sensitive populations) play a big role in vulnerability to environmental and cumulative health risks. The analysis in Appendix A shows how this approach results in greater inclusion of high-risk communities in Alameda County, the Bay Area, the Inland Empire, Los Angeles County, the San Joaquin Valley, and statewide. This approach also reflects SB 535 requirements that Cal EPA should identify disadvantaged communities for investment based on "geographic, socioeconomic, public health, and environmental hazard criteria (aligns with criteria 1-3 above), and may include, but are not limited to, either of the following: a) Areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation (aligns with criteria 3 above), (b) Areas with concentrations of people that are of low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment" (aligns with criteria 2 above).

An additional concern I have is related to the unsubstantiated weighting of Pollution Burden indicators (weighting "Environmental Effects" half as much as "Exposures"). The environment and pollution certainly impact health outcomes. However, the identification of indicators as "Exposures" versus "Environmental Effects" and the assignment and magnitude of weights are not well justified. For example, the community of West Oakland, which is well-established as being heavily impacted by air pollution, high rates of asthma, and increased cancer risk due to environmental and cumulative risks, does not fall into the top quartile for Pollution Burden because its census tracts are generally and relatively low in terms of ozone, PM2.5 (questionable), drinking water, and pesticides (weighted two times), while very high in terms of diesel PM, cleanup sites, groundwater threats, hazardous waste, and impaired water bodies (all weighted half except diesel PM). Existing research and health literature do not clearly differentiate between "Exposures" and "Environmental Effects" nor provide evidence for the relative weighting used in CES. To strengthen the measurement of Pollution Burden, I recommend equal weighting of the Pollution Burden indicators. This substantially increases inclusion of high-risk, high-need communities in the Bay Area and Alameda County. Accepting this recommendation to equally weight Pollution Burden indicators in combination with the mixed threshold approach proposed above will result in more accurate and inclusive identification of high-risk communities across the state (see Appendix A).

I am pleased that OEHHA has taken steps to include public health indicators in assessing Population risk. I recommend including all-cause mortality as well. All-cause mortality is a global health indicator that can capture vulnerability to cumulative health impacts of persistent and historical social and health inequities. Another indicator to consider including in Pollution Burden measurement is light industrial facilities, which contribute to cumulative health burdens in environmental justice communities.

Finally, given the significant changes made in CES 3.0, I recommend OEHHA commit to periodic review and developing an ongoing process for community and stakeholder engagement from the various regions across the state, including representation from public health, environmental science, and environmental justice/cumulative impacted communities. Our Health Department staff would be interested and willing to participate and share our expertise.

Thank you for the opportunity to comment and for considering my recommendations in order to ensure vulnerable and disproportionately impacted communities in Alameda County are included in the defined DACs and eligible for funding from the Cap and Trade auction revenues. Please feel free to contact Anna Lee at anna.lee@acgov.org should you have any questions. Thank you for your consideration.

Sincerely,

Muntu Davis, MD, MPH
Alameda County Health Officer

cc: Alameda County Board of Supervisors
Lauren Zeise, Acting Director, OEHHA
Matt Rodriquez, California Secretary for Environmental Protection

APPENDIX A: Analysis of How CES 3.0 Currently & Potentially Performs in Identifying High-Risk Communities in CA

	# of High-Risk[1] Census Tracts	# and % of High-Risk CTs Identified as "Disadvantaged" under CES 2.0	# and % of High-Risk CTs Identified as "Disadvantaged" under CES 3.0	# and % with Approach 1 to Improve CES 3.0: "Disadvantaged" = 1) Top Quartile Overall, 2) Top Quartile Population Characteristics & >25% Pollution Burden, OR 3) Top Quartile Pollution Burden & >50% Population Characteristics	# and % with Approach 2 to Improve CES 3.0: Weight Pollution Burden indicators equally	# and % of High-Risk CTs Identified as "Disadvantaged" with Approaches 1 & 2
California	1178	657	695	819	683	826
		56%	59%	70%	58%	70%
Alameda County	42	14	8	20	20	24
		33%	19%	48%	48%	57%
Bay Area[2]	102	31	26	52	45	62
		30%	25%	51%	44%	61%
Inland Empire[3]	218	115	124	154	110	146
		53%	57%	71%	50%	67%
Los Angeles County	275	200	224	233	211	228
		73%	81%	85%	77%	83%
San Joaquin Valley[4]	307	252	253	273	237	267
		82%	82%	89%	77%	87%

Notes

1 High-Risk = High poverty (>20% of people living in poverty) and bottom quartile for life expectancy

2 Bay Area = Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma Counties

3 Inland Empire = Riverside, San Bernardino Counties

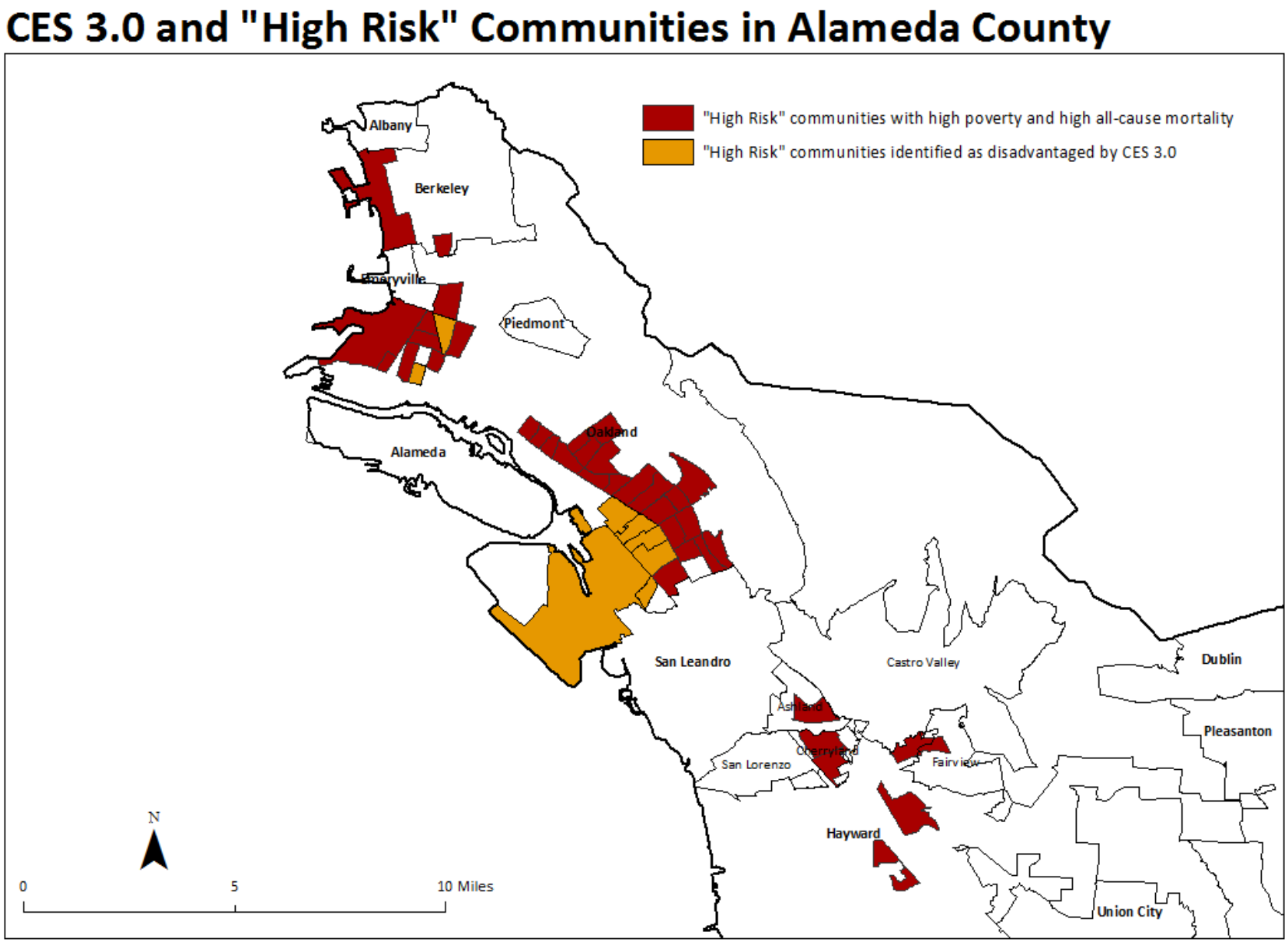
4 San Joaquin Valley = San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, Kern Counties

Majority of high-risk census tracts NOT identifed as "Disadvantaged"

Increase over CES 3.0

Sources: Life expectancy data from The California Poverty Study by VCU Center on Society and Health, calculated from 2009-2011 vital statistics files; other analyses by Alameda County Public Health Department, using CES 3.0 raw data

APPENDIX B: Map of CES 3.0 "Disadvantaged" Communities versus "High-Risk" Communities in Alameda County



Source: ACPHD, with data from 2012-2014 vital statistics files and raw data for CES 3.0

APPENDIX C: Analysis of Correlations between CES 3.0 Indicators and Life Expectancy in CA

	Correlation between CES indicators and life expectancy			Correlation between CES indicators and asthma	
	correlation value, r	correlation strength		correlation value, r	correlation strength
DRAFT CES 3.0 SCORE	**0.379**	**low**		**0.511**	**moderate**
POLLUTION BURDEN SCORE	**0.073**	**none-very weak**		**0.119**	**none-very weak**
Ozone	*0.237*	*weak*		0.064	*none-very weak*
PM2.5	*0.074*	*none-very weak*		0.093	*none-very weak*
Diesel PM	*0.001*	*none-very weak*		0.185	*none-very weak*
Drinking Water	*0.090*	*none-very weak*		0.049	*none-very weak*
Pesticides	*0.016*	*none-very weak*		0.004	*none-very weak*
Tox. Release	*0.025*	*none-very weak*		0.039	*none-very weak*
Traffic	*0.078*	*none-very weak*		0.024	*none-very weak*
Cleanup Sites	*0.029*	*none-very weak*		0.065	*none-very weak*
Groundwater Threats	*0.072*	*none-very weak*		0.117	*none-very weak*
Haz. Waste	*0.048*	*none-very weak*		0.085	*none-very weak*
Imp. Water Bodies	*0.043*	*none-very weak*		0.022	*none-very weak*
Solid Waste	*0.054*	*none-very weak*		0.003	*none-very weak*
POPULATION CHARACTERISTIC SCORE	**0.518**	**moderate**		**0.671**	**strong**
Asthma	*0.490*	*moderate*		*1.000*	*strong*
Low Birth Weight	*0.249*	*weak*		*0.355*	*weak*
Cardiovascular Disease	*0.457*	*moderate*		*0.663*	*strong*
Education	*0.311*	*weak*		*0.390*	*weak*
Poverty	*0.480*	*moderate*		*0.481*	*moderate*
Unemployment	*0.470*	*moderate*		*0.427*	*moderate*
Rent-Adjusted Income	*0.500*	*moderate*		*0.452*	*moderate*
	2010 life expectancy by CT in CA based on California Poverty Study by VCU Center on Society and Health, calculated from 2009-2011 vital statistics files *Correlation analysis for 7647 CTs in CA*			*Spatially modeled, age-adjusted rate of ED visits for asthma by CT in CA, averaged over 2011-2013, from CalEnviroScreen 3.0* *Correlation analysis for 7929 CTs in CA*	