

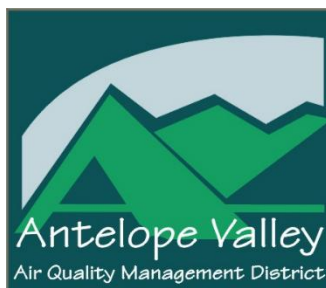
# ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM



**SUBMITTED BY:  
THE ANTELOPE VALLEY AIR QUALITY  
MANAGEMENT DISTRICT**

**IN PARTNERSHIP WITH THE  
ASSOCIATION OF  
RURAL TOWN COUNCILS**

**JULY 31, 2018**



## TABLE OF CONTENTS

- I. INTRODUCTION
- II. THE ANTELOPE VALLEY COMMUNITY MONITORING PROPOSAL WAS DEVELOPED FROM A COMMUNITY-FOCUSED FRAMEWORK.
- III. THE ANTELOPE VALLEY COMMUNITY MONITORING PROGRAM BUILDS ON EXISTING INFORMATION AND FILLS PARTICULATE "DATA-GAPS"
- IV. THE ANTELOPE VALLEY COMMUNITY MONITORING PROGRAM IS A COMMUNITY-DRIVEN ACTION.
- V THE ANTELOPE VALLEY COMMUNITY MONITORING PROGRAM WILL MEET CARB'S TIMELINE FOR ACTION ESTABLISHED FOR AB 617 IMPLEMENTATION.
- VI. PUBLIC ENGAGEMENT IS ESSENTIAL TO THE DEVELOPMENT OF THE PROPOSED ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM.
- VII. THE ANTELOPE VALLEY COMMUNITY WARRANTS SELECTION AS A "FIRST YEAR" PRIORITY COMMUNITY
- VIII. THE ANTELOPE VALLEY COMMUNITY WARRANTS SELECTION AS A "FIRST YEAR" COMMUNITY BECAUSE THE "STATEWIDE STRATEGIES TO DELIVER NEW REDUCTIONS IN IMPACTED COMMUNITIES" ARE INAPPLICABLE TO MOST OF THE PARTICULATE SOURCES IN THE ANTELOPE VALLEY.
- IX. THE ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM IS AN ACTION-ORIENTED PROGRAM.
- X. ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM GRANT REQUEST

### ENDNOTES

**ATTACHMENT 1** - Letters and communications from individuals and organizations expressing intent to participate in the antelope valley community monitoring program steering committee.

**ATTACHMENT 2** - Letters of support from throughout the Antelope Valley Community

**ATTACHMENT 3** - Draft test matrix and data quality objectives for the Antelope Valley Community Air Monitoring Program.

**ATTACHMENT 4** - AVAQMD and ARTC joint CAPP submittal dated April 30, 2018

## **I. INTRODUCTION**

The Antelope Valley Air Quality Management District ("AVAQMD"), in partnership with the Association of Rural Town Councils ("ARTC"), seeks to develop and implement an action-oriented community air monitoring plan under the Community Air Protection Program ("CAPP") established pursuant to AB 617. Consistent with the requirements established for the CAPP by the California Air Resources Board ("CARB"), the AVAQMD provided an initial submittal on April 30, 2018 that set forth detailed information regarding the Antelope Valley Community including health indicator data showing the substantial health inequities experienced by Antelope Valley residents along with data demonstrating that the Antelope Valley Community meets the "Disadvantaged Community" criteria established by AB 617. As discussed in the April 30 submittal, the Antelope Valley Community often experiences elevated ambient particulate levels that are not localized and are in fact widely dispersed by sustained wind events that frequently shift direction. It is believed that all neighborhoods and areas within the Antelope Valley Community experience high ambient particulate events<sup>1</sup>, however there is insufficient data to determine whether some areas are more affected than others, or even where the primary particulate sources are. This uncertainty is magnified by the fact that the compliance status of the Antelope Valley with respect to state and federal ambient air quality standards for PM<sub>2.5</sub> and federal standards for PM<sub>10</sub> has never been established.

What is certain is that ambient particulate is directly responsible for the sharp rise in Valley Fever diagnoses in the Community (the Antelope Valley is burdened with the highest incidents of Valley Fever in Los Angeles County<sup>2</sup> and has the fifth highest burden in California<sup>3</sup>; the incidence of Valley Fever in the Antelope Valley Community continues to increase at an alarming rate<sup>4</sup>) and it substantially exacerbates other health problems that disproportionately burden Antelope Valley Community residents. For instance (and as discussed in detail below), portions of the Antelope Valley are in the 99<sup>th</sup> percentile for cardiovascular disease rates and asthma, and in the 100<sup>th</sup> percentile for low birth weights according to the June 2018 version of CalEnviroScreen.

Ambient particulate in the Antelope Valley Community results from a combination of factors including unique geology and geography, highly variable meteorological conditions, sustained winds, and a wide variety of particulate sources (dispersed in some areas and concentrated in others) which results in particulate that is entrained in one area to be carried great distances and deposited in a different area. For this reason, the AVAQMD and ARTC consider ambient particulate to be a systemic problem that affects the Antelope

Valley Community "as a whole", and we propose to address it "as a whole" through implementation of the Antelope Valley Community Air Monitoring Program wherein the AVAQMD expects to 1) Use the particulate concentration data to ascertain the extent to which elevated PM2.5 concentrations occur; 2) Reconcile the particulate concentration data with meteorological data to identify the primary source or sources of particulate that contribute to ambient particulate levels; and 3) Work with residents, business owners, health experts, and CARB to develop and implement particulate emission reduction strategies that are tailored to the primary particulate sources that are identified. As shown below, the proposed Antelope Valley Community Air Monitoring Program satisfies all elements established for the CAPP by AB 617, and it achieves the "action oriented" community monitoring objectives that CARB has established as set forth in the in the draft "Community Air Protection Blueprint" released June 7, 2018. For simplicity, the Antelope Valley Community Monitoring Plan set forth below is presented in a format that parallels the "Blueprint" document.

## **II. THE ANTELOPE VALLEY COMMUNITY MONITORING PROPOSAL WAS DEVELOPED FROM A COMMUNITY-FOCUSED FRAMEWORK.**

The AVAQMD and ARTC recognize that AB 617 mandates community-based air pollution monitoring and reduction programs, and it seeks to enfranchise residents to become partners in developing and implementing strategies for cleaning up the air in their communities. As presented in detail in the following sections, the Antelope Valley Community Monitoring Program encompasses all aspects of the "Community-Focused Framework" embodied by AB 617 because it:

- Will be implemented in partnership with community members and solicits participation by schools and local agencies;
- Engages local land use and transportation agencies;
- Provides community members with direct access to local air quality data;
- Pinpoints the location and characteristics of sources responsible for high particulate levels in the Antelope Valley Community.
- Relies on source-based data to develop appropriate and effective control measures.

### **III. THE ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM BUILDS ON EXISTING INFORMATION TO FILL PARTICULATE CONCENTRATION DATA-GAPS**

The Antelope Valley is an isolated and predominantly rural area which has demonstrably disproportionate health burdens that are either directly attributable to, or exacerbated by, airborne particulate<sup>5</sup> and which has monitoring facilities that are insufficient for determining whether the area meets state or federal air quality standards for PM 2.5<sup>6</sup> or federal PM10 standards. However, the data that is provided by the single Beta Attenuation Mass Monitor (BAMS) located within the Antelope Valley Community demonstrates that the area is out of compliance with state ambient air quality standards for PM10, and it reveals exceedances of the federal 24-hour standard for PM2.5. The proposed Antelope Valley Community Monitoring Program builds on this foundation by quantifying ambient particulate concentrations throughout the community to increase our understanding of air quality in the community and increase public awareness regarding neighborhood particulate levels. As discussed in more detail below, this is achieved by deploying low-cost sensors at key locations throughout the community to capture real-time air quality "snapshots" that are immediately accessible by the public via on-line tools. Through extensive community participation efforts undertaken to date, the AVAQMD and the ARTC recognize that the Antelope Valley Community is burdened with a wide range of particulate sources, such as:

- A freeway and several major highways that traverse the community as mapped CalTrans "Truck Networks" and also carry more than 110,000 vehicles per day.
- Multiple freight lines that run both north-south and east-west through the community as well as a heavily-used passenger railway that runs down the center of the community.
- 45,000 acres of solar fields where native vegetation has been removed and routine "mowing" occurs. These solar fields are crisscrossed with unpaved roads that are used for access and panel washing and which generate significant fugitive dust.
- Numerous agricultural operations that are exempt from fugitive dust regulations and which are scheduled to become fallow over the next 5 years due to new water restrictions and therefore contribute additional fugitive dust that will be dispersed across the Antelope Valley Community.
- Construction and development to accommodate sharp population increase projections.

- Multiple large sand, gravel and quarry operations that are neither covered nor enclosed.

The Antelope Valley Community Air Monitoring Program strategically places sensors throughout the community to ensure these sources are captured; as discussed in detail below, final sampling locations will be selected based on extensive community input and discussions with residents throughout the Antelope Valley Community, thus placing data collection decisions directly in the hands of residents and community-based organizations like the ARTC. The Antelope Valley Community Air Monitoring Program is action-based and will use data that is collected to identify principal particulate pollutant sources and develop effective control strategies. Therefore, it achieves the "overlap" that CARB seeks between communities selected for air monitoring and communities selected for emission reductions. It will also be useful in evaluating the effectiveness of specific emissions reduction strategies and tracking progress in air pollution reductions achieved.

**IV. THE ANTELOPE VALLEY COMMUNITY MONITORING PROGRAM IS A COMMUNITY-DRIVEN ACTION.**

The AVAQMD and ARTC recognize that Antelope Valley Community members are intimately familiar with their neighborhoods and are the best resource for identifying particulate monitoring sites that properly capture the particulate "profile" within the community. The AVAQMD and ARTC also recognize the importance of enlisting participation and support from land use agencies and public health officials to address the public health-based purpose which lies at the core of AB 617. Correspondingly, the Antelope Valley Community Monitoring Program described herein has incorporated the expertise and input from community members, elected officials, land use experts, health officials, and soil experts in an extensive and collaborative process; key outreach efforts are summarized in Table 1.

Table 1. Collaboration Activities Undertaken in Furtherance of the Proposed Antelope Valley Air Quality Monitoring Plan.

May 30, 2018	Presentation at the regularly scheduled meeting of the Association of Rural Town Councils attended by elected representatives from more than 10 neighborhoods that represent the entirety of rural Antelope Valley. At this meeting, an update on the grant process was provided, and it was conveyed that most outreach activities would occur in June after the CARB released further details on AB 617 implementation.
--------------	---

Table 1 (continued)

June 15, 2018	Outreach to rural town councils to request the opportunity to present the Antelope Valley Community Monitoring Plan and solicit input on locations and implementation from rural residents.
June 19, 2018	Presentation at the regularly scheduled meeting of the AVAQMD Governing Board (comprised of rural residents, elected officials from the Cities of Lancaster and Palmdale, and representatives of the County of Los Angeles). An update of the grant proposal effort was provided along with a draft proposal for locating the particulate sensors.
June 20, 2018	Presentation at the regularly scheduled meeting of the Antelope Acres Town Council attended by residents and elected community members from the northwesternmost neighborhood of the Antelope Valley. At this meeting, input on sample locations and support was solicited and received; the draft plan was modified accordingly.
June 23, 2018	Presentation at the "2018 AV Valley Fever Awareness Seminar" where input on sample locations and support was solicited from community members, elected city officials, and public health experts.
June 26, 2018	Presentation at the regularly scheduled meeting of the Lake Los Angeles Town Council attended by community members from the easternmost neighborhood of the Antelope Valley. At this meeting, input on sample locations and support was solicited and received.
June 27, 2018	Presentation at the regularly scheduled meeting of the Association of Rural Town Councils attended by elected representatives from more than 10 neighborhoods that represent the entirety of rural Antelope Valley. At this meeting, input on sample locations and support was solicited and received; the draft plan was modified accordingly.
June 28, 2018	Coordination with the Los Angeles County Department of Regional Planning to solicit support and commitment to serve on the Antelope Valley Community Air Monitoring Program Steering Committee.
July 1, 2018	Outreach to Dr. Antje Lauer of the University of California at Bakersfield Department of Biology to solicit support and commitment to serve on the Antelope Valley Steering Committee
July 5, 2018	Meeting with the Antelope Valley Resource Conservation District to gather input, inquire regarding soil data, and solicit recommendations regarding sample locations; the draft plan was modified accordingly.
July 5, 2018	Meeting with the Antelope Valley Dust Control Group to gather input and solicit participation and recommendations regarding sample locations; the draft plan was modified accordingly.
July 10, 2018	Presentation at the regularly scheduled meetings of the Palmdale City Council. At this meeting, input and support was solicited and received.
July 12, 2018	Presentation at the regularly scheduled meeting of the Littlerock/Pearblossom Town Council attended by community members from the southernmost neighborhood of the Antelope Valley. Input on sample locations and support was solicited and received.

It is the AVAQMD's and the ARTC's intent to disseminate the data that are collected and use it to identify which of the many sources identified above are contributing to unhealthy particulate levels, and then implement targeted action through: 1) The development of new control strategies; and 2) Engagement with local land use authorities and public health experts to reduce emissions and exposure to air pollution. Toward this end, the AVAQMD and the ARTC have already solicited the participation of community members, land use agencies, public health officials, soil specialists, and Valley Fever experts from academia to participate in the Steering Committee that will be formed upon award of the CAPP Grant. Letters and communications expressing the intent of these agencies, organizations and individuals are provided in Attachment 1. We are also coordinating with schools and local agencies for their participation in the Antelope Valley Community Air Monitoring Program, and we believe we have assembled all the elements of local knowledge, land use authority, and scientific expertise that is essential to the development and implementation of effective clean-air solutions and healthy communities.

#### **V. THE ANTELOPE VALLEY COMMUNITY MONITORING PROGRAM WILL MEET CARB'S TIMELINE FOR ACTION ESTABLISHED FOR AB 617 IMPLEMENTATION.**

The AVAQMD and the ARTC recognize that an ambitious schedule has been established for the development and implementation of the community monitoring component of AB 617. Among other things, this schedule demands the formation of a steering committee by the Fall of 2018, and the deployment of monitors by July, 2019. To meet this schedule, the AVAQMD and the ARTC have undertaken the following actions:

- We have already received commitments from community members, land use authorities, public health experts, transportation authorities, and academics to participate in the Steering Committee as soon as the grant is awarded. This enables us to "hit the ground running" and ensures that the Antelope Valley Community Steering Committee will be fully operational before the Fall 2018 deadline.
- We have already identified proposed locations for deploying the monitors based on extensive community input and we have developed a test matrix with established Data Quality Objectives that are discussed in more detail below.

As a result of these extensive outreach and planning efforts undertaken to date, the Antelope Valley Community Air Monitoring Program is almost "shovel ready"; as such, the AVAQMD and the ARTC are confident that the Program will meet all the AB 617 deadlines established by CARB.



## **VI. PUBLIC ENGAGEMENT IS ESSENTIAL TO THE DEVELOPMENT OF THE PROPOSED ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM.**

The AVAQMD and ARTC understand that the success of the Antelope Valley Community Air Monitoring Program hinges on coordination with a wide variety of stakeholders, therefore we have conducted multiple outreach activities and different types of engagement and will continue to do so going forward. As indicated in Table 1, engagement activities conducted to date include community meetings, town council meetings, workshops, seminars, AVAQMD Board meetings, City Council Meetings, and individual and small group meetings. As a result of these activities, a draft test matrix setting forth proposed monitoring sites and data quality objectives was prepared (as discussed in more detail below). We have identified the following benefits that will be provided by the Antelope Valley Community Monitoring Program as a result of past and future outreach efforts:

- It ensures a ground-up, community-based approach to identify the proposed monitoring sites; this is appropriate, since it is the community residents who are the experts regarding ambient particulate "problem areas". This achieves a fundamental AB 617 objective by directly involving community members in the design of solutions for their community.
- It provides an entirely transparent process for identifying proposed monitoring sites because public involvement and community input occurs at every step.
- The focus on all public outreach efforts has been on 1) air quality data access opportunities; and 2) The location of air monitoring sites to ensure proper capture of all essential locations throughout the Antelope Valley Community based on local experience and knowledge provided by the affected community members. This provides residents with better information about their community and it supports actions to reduce emissions and exposure within communities. Data quality measures and objectives (such as precision and accuracy) have also been discussed (particularly at the ARTC meeting on June 28); such measures are essential to ensure that monitoring data support sound decision-making and action.
- It achieves a strong technical- and science-based foundation by coordinating with soil specialists, land use agencies and public health experts to identify and address the most significant particulate emissions sources that contribute to elevated health risks such as Valley Fever, COPD and childhood asthma.
- It focuses immediate action where the nature of contributing particulate air pollution sources is known.

- It provides a path to ensure that particulate emissions in the Antelope Valley do not increase because it establishes important baseline ambient particulate levels from existing sources.
- It facilitates the implementation of measures to reduce the impacts of emissions sources that sit close to sensitive populations by identifying the extent to which such sources contribute to ambient particulate burdens on sensitive populations.
- City and county government participation is guaranteed because city and county government agencies have committed to participating on the Steering Committee that will be formed for the Antelope Valley Community Air Monitoring Program.
- It incorporates a strong focus on public health by engaging public health officials and academic experts on the steering committee with the aim of tracking health data (including Valley Fever, COPD and childhood asthma) and improving the availability of public health information for the decision-making process.

These benefits that will be garnered by the Antelope Valley Community Air Monitoring Program mirror the public engagement benefits set forth in Carb's "Blueprint" document, and they achieve the goals and objectives established by AB 617 for community air monitoring programs under the CAPP.

**VII. THE ANTELOPE VALLEY COMMUNITY WARRANTS SELECTION AS A "FIRST YEAR" PRIORITY COMMUNITY.**

Beginning on page 10 of the draft "Blueprint" document, CARB establishes the steps and proposed criteria for considering the prioritization and selection of communities in the first year of CAPP Program implementation. The following paragraphs set forth how the Antelope Valley Community Air Monitoring Program meets each of these criteria, and why it should be approved for the first year of CAPP implementation.

**The Antelope Valley Community merits inclusion in the list of Step 1 communities - IDENTIFICATION OF POTENTIAL COMMUNITIES:**

CARB will develop a broad list of communities based on recommendations by local air districts and individual communities according to requirements set forth in the draft "Process and Criteria for 2018 Community Selections" document issued February, 2018 which address the extent to which communities are disadvantaged and experience air pollution-related adverse health impacts. On April 30, 2018, the AVAQMD and ARTC jointly and timely submitted extensive evidence<sup>7</sup> showing that the Antelope Valley Community

meets all of CARB's criteria pertaining to significant adverse health impacts within the Antelope Valley Community that are either directly attributed to, or significantly exacerbated by, high ambient particulate levels. We also submitted extensive documentation showing that the Antelope Valley Community meets every element of the AB 617 definition of "Disadvantaged Community" and it satisfies all the "Disadvantaged Community" criteria set by California Health & Safety Code § 39711. The extensive information that the AVAQMD and the ARTC have already jointly submitted reflects the first-hand knowledge of local air quality impacts and it resoundingly represents the concerns of both community members and community-based organizations. All of this constitutes substantial evidence that the AVAQMD has been, and will continue, working to develop a comprehensive and robust community monitoring program that is action-based, and pollutant-reduction focused. For all of these reasons, the Antelope Valley Community warrants inclusion in the CARB's initial identification of potential communities.

***The Antelope Valley Community merits inclusion in the list of Step 2 communities: ASSESSMENT OF CUMULATIVE AIR POLLUTION EXPOSURE BURDEN.***

CARB has identified 6 criteria that will be applied to assess the cumulative air pollution exposure burden of each community that is identified in Step 1; the Antelope Valley Community scores very high on each of these factors, to wit:

1. Exposure to Air Pollution - Concentrations of Pollutants:

The Antelope Valley Community is substantially burdened by high ambient particulate levels that are generated by large, uncontrolled, and unenclosed area sources (agriculture, solar farms, sand and gravel operations) as well as mobile sources (freeways, highways, truck routes and freight rail lines) that are slated to increase substantially with population growth and which are exacerbated by sustained high wind profiles and frequent gust events. It is already firmly established that the Antelope Valley Community substantially exceeds state and federal ambient air quality standards for PM10 and, according to the June, 2018 version of CalEnviroscreen, the entire Antelope Valley Community is in the 91<sup>st</sup> percentile for ozone (see Figure 1). These data from reliable sources clearly establish that the Antelope Valley Community is exposed to high pollutant concentrations and therefore meets Criteria #1.

## 2. Exposure to Air Pollution – Density of Air Pollution Sources:

The Antelope Valley Community has a high density of mobile and stationary particulate sources, including multiple freight lines, a major freeway (SR14) and three major highways (Sierra Highway, CA-138, and the Pearblossom Highway). In addition, there are 45,000 acres of solar farms that generate fugitive dust located west of (and therefore typically upwind of) Northeast Lancaster and environs which (according to the June, 2018 version of CalEnviroScreen) has a CALENVIROSCREEN Disadvantaged Community Score of 75-80% (see Figure 2). There are also at least 5 unenclosed and uncontrolled rock, sand and gravel operations that are all located immediately west of (and therefore typically upwind of) the community of Littlerock and environs which has a CALENVIROSCREEN Disadvantaged Community Score of 75%. There is no doubt that the Antelope Valley Community is burdened with a high density of large magnitude air pollutant sources and therefore meets Criteria #2.

## 3. Exposure to Air Pollution – Health Risks:

As a preliminary comment, the ARTC and AVAQMD note that the only health concern identified in the Draft "Blueprint" as being pertinent to the Step 2 health "criteria" is "cancer burden"; we are concerned that this singular focus erroneously ignores serious non-cancer health impacts of air pollution, including cardiovascular disease, COPD, childhood asthma, Valley Fever, etc. When a broader lens is applied to health risks and burdens, published health indicator data reveal that the Antelope Valley Community experiences excessive, substantial, and seriously life-threatening non-cancer health burdens that are linked to high particulate levels. For instance, ambient particulate is directly linked to the incidence of Valley Fever (which has recently spiked in the Antelope Valley Community). It also exacerbates COPD and childhood asthma (which disproportionately burden the Antelope Valley; in fact, the Antelope Valley COPD and childhood asthma rates are the highest in Los Angeles County *and twice the county average* (as discussed in our April 30 2018 submittal included in Attachment 4). There is no question that the Antelope Valley Community faces excessive, life-threatening health burdens from pollution, and thus meets Criteria #3.

4. Sensitive Populations: The Antelope Valley Community has a number of sensitive populations located near mobile and stationary area sources. For instance, there are at least 5 senior/assisted living facilities located within 400 meters of either the Antelope Valley Freeway, the High Desert Corridor, or freight/passenger railways. Additionally, the



large K-8 Palmdale Learning Plaza is located immediately adjacent to the 14 freeway and the R. Rex Parris High School lies adjacent to a freight/passenger railway. The Del Sur Elementary school is entirely surrounded by solar farms where vegetation (which controls fugitive dust) is routinely removed. The Lake Los Angeles School is within 2,000 feet of a large agricultural operation and the Knight High School is approximately 2,500 feet from large sand/gravel/quarry operations. There is no question that the Antelope Valley Community has a number of sensitive populations located in close proximity to mobile and stationary pollutant emission sources of concern, and therefore meets Criteria #4.

#### 5. Measures of Vulnerability to Air Pollution - Public Health Indicators:

The draft "Blueprint" document identifies asthma, heart disease, and low birth weight as key indicators of health that reflect the incidence or worsening of disease related to air quality. Published data reveal a substantial prevalence of these health problems in the Antelope Valley Community; in fact, they are the highest in the state. For instance, according to the June 2018 version of CalEnviroScreen, areas within the Antelope Valley Community rank in the 99<sup>th</sup> percentile for cardiovascular disease rates (see results reported for census tract 6037900701, 6037900803, 6037900804, etc.) and asthma (census tract 6037900804, 6037900806, 6037900701, etc.) The incidence of low birth weight is even worse; the June 2018 version of CalEnviroScreen reports that portions of the Antelope Valley Community are in the 100<sup>th</sup> percentile for low birth weight (see for example reports for census tract 6037910101). These facts supplement the health indicator data previously provided in our April 30, 2018 submittal (reproduced in Attachment 4) showing that emphysema/COPD is a top cause of death in the Antelope Valley Community, claiming 58.9 lives per 100,000 which is more than double the county-wide death rate and nearly the highest in the country. Additionally, the incidence of childhood asthma across all zip codes in the Antelope Valley Community uniformly exceeds 15% and can be as high as 16.5% according to health statistics reported by the UCLA Center for Health Policy Research. There is no doubt that the Antelope Valley Community meets every element of Criteria #5, and perhaps even ranks highest in the state in this regard.

#### 6. Measures of Vulnerability to Air Pollution – Socioeconomic Factors and Unemployment:

The draft "Blueprint" document identifies poverty levels and unemployment rates as socioeconomic factors that indicate vulnerability to air pollution. Published data reveal a substantial prevalence of these and other socioeconomic factors within the Antelope Valley

Community. For instance, according to the June 2018 version of CalEnviroScreen, a large area of the Antelope Valley Community ranks above the 94<sup>th</sup> percentile for both poverty and unemployment (see results reported for census tract 6037900102 and 6037910501 with rates as high as 99%). Other areas rank well above the 80<sup>th</sup> percentile for poverty (i.e. census tracts 6037900104, 6037910001, 6037900103...) and well above the 90<sup>th</sup> percentile for unemployment (i.e. 6037900104, 6037910402, 6037910403...). These facts supplement the socioeconomic data previously provided by the AVAQMD and ARTC in our April 30, 2018 submittal. There is no doubt that the Antelope Valley Community meets every element of Criteria #6.

The health indicator data and facts presented above reveal that the Antelope Valley Community experiences among the highest "cumulative air pollution exposure burdens" in California, and thus warrants inclusion on the list of "first year" communities selected under the CAPP.

**The Antelope Valley Community merits inclusion in the list of Step 3 communities: *SELECTION OF FIRST YEAR COMMUNITIES.***

The Draft "Blueprint" indicates that, to select the "first-year" communities, CARB will consider two other factors in addition to the "cumulative air pollution exposure burden". These factors are 1) Regional Diversity - to build capacity and support existing community led solutions; and 2) Source Variety – to support development of a range of emission reduction strategies that can be transferred to other communities. As set forth below, the Antelope Valley Community meets all the elements of each of these factors.

*Regional Diversity:* By selecting the Antelope Valley as a "first year" community, CARB will achieve regional diversity by increasing particulate monitoring capacity and supporting existing community led activities because the Antelope Valley Community Air Monitoring Program will:

- Substantially increase particulate monitoring capacities within the Antelope Valley by collecting extensive ambient particulate concentration data to supplement the lone BAMS site that is currently operated. The Antelope Valley Community is woefully underserved in terms of particulate monitoring capabilities which are so inadequate that CARB has never even established whether the community is in compliance with either state or federal PM<sub>2.5</sub> standards. There is no question that there is a substantial need to increase the particulate monitoring capacity in the Antelope Valley, and the proposed Antelope Valley Community Monitoring Program does precisely that.

- Supplement the particulate monitoring activities of community-based groups such as the Antelope Valley Dust Control Group and individual residents who have installed and operate particulate sensors and unique "dust trap" monitoring equipment in several areas of the Antelope Valley Community. The data that these groups and individuals have collected indicate that neither the federal nor the state PM2.5 ambient air quality standards are met; however, limited funds and manpower prevent them from developing and implementing a comprehensive, source-based particulate monitoring program such as that proposed herein as the Antelope Valley Community Air Monitoring Program. There is no question that this proposed monitoring program will both support AND enhance existing community-led pollutant monitoring and reduction solutions already underway.

*Source Variety:* By selecting the Antelope Valley as a "first year" community, CARB will capture a variety of particulate emission and thereby support development of a range of emission reduction strategies that can be transferred to many different communities, including both urban and rural. The Draft "Blueprint" document identifies 5 specific source types as the "pollution source mix" that CARB is targeting to support strategies that benefit different types of highly burdened communities: 1) Freight- related; 2) Industrial sources common in disproportionately burdened areas; 3) Urban mixes of traffic, commercial, and residential sources of air pollution; 4) Rural sources of air pollution; and 5) Sources along the US-Mexico border. The AVAQMD and ARTC point out that *the proposed Antelope Valley Community Air Monitoring Program captures every one of these source types except those along the US Mexico Border*. This is because the Antelope Valley Community is unique in that it includes:

- An extensive and heavily used freight railway network that connects North and Central California to the Southwestern and Eastern United States AND extensive trucking routes (including SR 14, CA 138, and the Pearblossom Highway) that connect North, Central, and Southern California to Southwestern and Eastern United States.
- A high concentration of multiple large industrial rock, sand, and gravel quarry operations. Such operations are common in disproportionately burdened urban areas where particulate standards have never been met (such as individual operations that exist in the City of Los Angeles along the Los Angeles River) as well as in rural areas (such as those found in the Temescal Valley in Riverside County).
- A dense urban core that is home to several hundred thousand residents that are immersed in an urban mix of traffic, commercial and residential sources.



- A rural area that routinely experiences significant ambient particulate events because it is home to extensive agricultural activities *as well as* approximately 45,000 acres of solar farms from which all native vegetation has been removed and is routinely "mowed".

Because the Antelope Valley Community encompasses a broad spectrum of pollution sources, it warrants inclusion as a "First Year" Community under the CAPP Program. This is particularly true since most of the "Statewide Strategies to Deliver New Reductions in Impacted Communities" that are identified in CARB's Draft "Blueprint" are not applicable to major particulate sources in the Antelope Valley Community (as discussed in further detail below).

**VIII. THE ANTELOPE VALLEY COMMUNITY WARRANTS SELECTION AS A "FIRST YEAR" COMMUNITY BECAUSE THE "STATEWIDE STRATEGIES TO DELIVER NEW REDUCTIONS IN IMPACTED COMMUNITIES" ARE INAPPLICABLE TO MOST OF THE PARTICULATE SOURCES IN THE ANTELOPE VALLEY.**

The AVAQMD and the ARTC appreciate CARB's recognition that local planning decisions often contribute to the placement of residences and sources too close to each other; this causes cumulative impacts that can only be mitigated through the development and implementation of multiple pollution reduction strategies. To meet this need, CARB has developed a number of emission reduction strategies, incentive programs, and regulations addressing clean cars, trucks, buses, vehicles, ships at port, cargo handling equipment and locomotives, and stationary sources such as chrome plating, composite wood project manufacturing, and commercial cooking operations. We note however that these strategies address only two of the five primary particulate sources of concern in the Antelope Valley Community, thus they are not applicable to most of the key sources of concern.

The AVAQMD and ARTC are also aware that AB 617 requires certain industrial sources to be retrofit with pollution controls in areas that are designated as non-attainment. However, these additional regulations will not address the Antelope Valley Community's concerns with PM<sub>2.5</sub> because the attainment status of the Antelope Valley Community with respect to PM<sub>2.5</sub> has never been demonstrated. Thus, the added stationary source control requirements imposed by AB 617 will not address PM<sub>2.5</sub> concerns in the Antelope Valley Community.

It is essential that the Antelope Valley Community be identified as a "first-year" community as a means of monitoring and ultimately controlling major particulate sources which are a

direct cause of the substantial increases in Valley Fever diagnoses and which are proven to increase the frequency and severity of health problems such as COPD, heart disease, and asthma which disproportionately burden the nearly 600,000 residents of the Antelope Valley Community.

**IX. THE ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM IS AN ACTION-ORIENTED PROGRAM.**

The AVAQMD and ARTC propose the Antelope Valley Community Air Monitoring Program for the twofold purpose of enhancing understanding particulate pollution impacts within our community and supporting effective implementation of emission reduction programs. We have prepared a draft test matrix and established Data Quality Objectives ("DQOs") for this effort (presented in Attachment 3) and we intend to begin air monitoring by February, 2019 to assess particulate levels during the "Spring Winds" that are common in the Antelope Valley. The AVAQMD and ARTC are therefore confident that the Antelope Valley Community Air Monitoring Program will meet CARB's July 1, 2019 deadline for initiating monitoring activities.

We recognize that CARB's overarching goal for community air monitoring programs is to acquire action-oriented data to meet community needs. To achieve this goal, we will build on the proposed test matrix and implement best practices to create a collaborative partnership between the AVAQMD, the Antelope Valley Community, and CARB which ensures the data will be accessible, transparent, and understandable. Correspondingly, the AVAQMD and the ARTC are committed to developing an "Air Monitoring Strategy" that encompasses all of the 14 elements that fall into the 3 key categories set forth in the "Blueprint" Document: 1) The purpose of the community air monitoring program; 2) How the community air monitoring program will be conducted; 3) How the data will be used to support air pollution reductions in the community. Each of these categories are reflected in the draft test matrix provided in Attachment 3 and summarized below:

***The Purpose of the Antelope Valley Community Air Monitoring Program:***

The Antelope Valley Community Air Monitoring Program purpose is to assess particulate levels within the Antelope Valley Community in a manner that allows primary particulate sources to be identified and paves the way for developing particulate emission reduction strategies; the program will also establish the extent to which the Antelope Valley complies

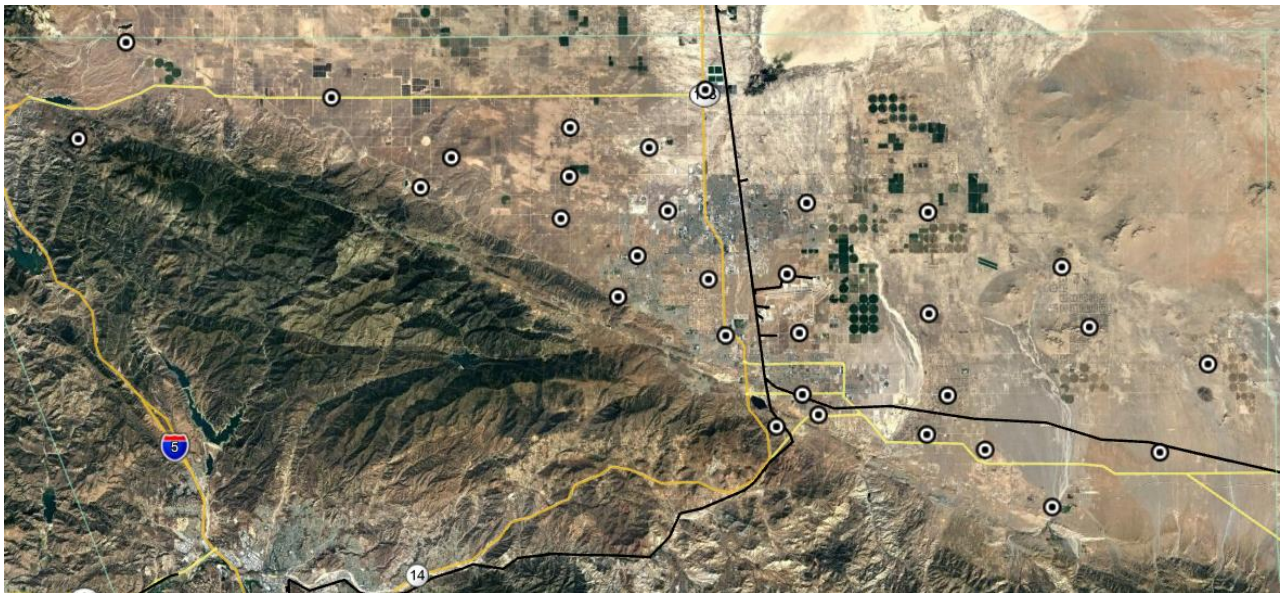
with State and Federal Ambient particulate Standards. Thus, it achieves the goal of acquiring "action-oriented" data under the CAPP as set forth in AB 617.

***How the Antelope Valley Community Air Monitoring Program Will Be Conducted:***

The Antelope Valley Community Air Monitoring Program will be conducted by deploying a network of particulate sensors at strategic locations throughout the Antelope Valley Community which provide real-time particulate concentration data that will be made accessible to the public via internet access to the "cloud". The particulate concentration results will also be reconciled with meteorological data from nearby airport and federal met station facilities to identify the primary source(s) of ambient particulate within the Antelope Valley Community. Over time, when areas of high particulate concentrations are found, additional monitors will be installed surrounding the problem area to more closely pinpoint the source.

The AVAQMD and ARTC have tentatively identified 31 sampling locations that are strategically placed to characterize particulate levels throughout the Antelope Valley Community. These sampling locations are depicted in Figure 3 and were developed based on source location studies and extensive community outreach in which community members and local officials were asked to mark sampling locations that they considered to be critical for project success.

Figure 3. Antelope Valley Community Air Monitoring Program Sampling Locations.



The AVAQMD and ARTC recognize that the Antelope Valley Community Air Monitoring Program will only be successful if the data collected is accurate and representative of actual ambient particulate conditions. To ensure accurate and representative data, the Antelope Valley Community Air Monitoring Program will incorporate comprehensive data quality measures and objectives that address data accuracy, precision and completeness; details regarding the proposed "Data Quality Objectives" ("DQOs") and data validation that will be implemented are provided with the draft test matrix in Attachment 3.

***How Data from the Antelope Valley Community Air Monitoring Program Will Support Actions to Reduce Air Pollution:***

The data from the Antelope Valley Community Air Monitoring Program will be made immediately available to the public via online access and will communicate current air quality conditions. The data will also be used to identify primary particulate sources and assess the extent to which source-focused monitoring (i.e. fenceline monitoring) would be efficacious. It will also pave the way for developing particulate emission reduction strategies that are tailored to match the source characteristics. Emission reduction strategies will be developed based on stakeholder input and complement ongoing control efforts currently underway by the Antelope Valley Resource Conservation District and the Antelope Valley Dust Control Group. Additionally, the data will be used to establish the extent to which the Antelope Valley complies with State and Federal Ambient particulate Standards and track the progress of emission reduction strategies that are implemented. As such, the Antelope Valley Community Air Monitoring Program supports all of the actions established in the "Blueprint" document because it:

- Provides real-time air quality data to notify residents and inform their daily activities and "flag" air quality concerns to protect children during school activities.
- Identifies sources contributing to air pollution burdens within the community to support development of a community emissions reduction program.
- Tracks progress toward improving air quality within the community by measuring the effectiveness of emission reduction strategies that are developed and implemented by the AVAQMD.

When taken together, the draft test matrix, DQO's and "action plan" elements of the Antelope Valley Community Air Monitoring Program that are set forth above meet all the "checklist" items for developing a community air monitoring program that are established by the "Blueprint" document as shown in Figure 4.

Figure 4. Checklist for the Antelope Valley Community Air Monitoring Program

CATEGORY	PLANNING ELEMENT	DESCRIPTION	✓
WHAT IS THE PURPOSE THE AIR MONITORING WILL ADDRESS?	1. Community partnerships	Establishes community steering committee to develop community air monitoring.	✓
	2. Community-specific purpose for air monitoring	Characterizes the air pollution concern within the community (e.g., pollutants, locations of pollution) and monitoring need(s).	✓
	3. Scope of actions	Describes the range of potential communication and actions that air monitoring data will support.	✓
	4. Air monitoring objectives	Defines the purpose of monitoring - what will be measured, when and where it will be measured, and why (e.g., to document highest concentration).	✓
	5. Roles and responsibilities	Identifies all parties responsible for air monitoring.	✓
HOW WILL MONITORING BE CONDUCTED?	6. Data quality objectives	Establishes level of data quality required to meet objective (e.g., precision, bias, sensitivity).	✓
	7. Monitoring methods and equipment	Identifies selected method and suitability of method to meet data quality objectives.	✓
	8. Monitoring areas	Indicates where monitoring will be conducted and the rationale for selecting those areas.	✓
	9. Quality control procedures	Specifies procedures that will be utilized to ensure data is scientifically defensible.	✓
	10. Data management	Describes how data will be collected, managed, and stored.	✓
HOW WILL THE DATA BE USED TO TAKE ACTION?	11. Field measurements	Lays out the air monitoring timeline and field procedures for those conducting monitoring.	✓
	12. Evaluating effectiveness	Designates a procedure to check that original objectives are being met.	✓
	13. Analyze and interpret data	Outlines approach for analyzing data (e.g., comparing trends, identifying sources).	✓
	14. Communicate results	Establishes how information will be shared with the community, decision-makers, and CARB to inform appropriate actions.	✓

## **X. ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM GRANT REQUEST**

### **Project Management and Staffing**

The Antelope Valley Community Air Monitoring Program will be conducted by deploying a network of particulate sensors at strategic locations throughout the Antelope Valley Community providing real-time particulate concentration data that will be made accessible to the public via internet. The final sampling locations will be selected based on extensive community input and discussions with residents throughout the Antelope Valley Community. The data collection decisions will be developed directly from local residents and Antelope Valley community-based organizations.

The Antelope Valley Community Program Steering Committee, for administrative purposes, will provide oversight of all aspects of this study along with interactions with the local community during the entire duration of the project. All field work involving the sensors will be performed AVAQMD air monitoring staff.

### **Proposed Schedule**

The proposal is for an 18-month monitoring program with a data reduction/analysis effort conducted in parallel; after 12 months, the results will be evaluated to identify which areas of the Antelope Valley Community experience high concentrations. Sensor locations will be modified accordingly to identify the location(s) of primary particulate sources of concern. These efforts will be followed by a two-month period for issuing draft and final project reports that will identify areas where high particulate concentrations are noted and outline future steps to be implemented to mitigate and control particulate emissions from the noted areas of concern.

### **Proposed Cost and Payment Terms**

The AVAQMD intends to complete the project within the costs as outlined. The project charges will include labor expended to conduct the project, plus any incidental expenses such as field supplies, travel, and report production shown in the table below. The average labor rate assumed for this project is \$100/hour; the overall cost for the proposed work is estimated at \$115,000.

*This cost estimate assumes the CAPP Program imposes minimal progress and final report requirements and does not include extensive Test/QA Plan development labor hours. If CARB requires extensive reporting and Test/QAPP preparation for the CAPP Program, project costs will be higher than those set forth here.*

<b>TASK</b>	<b>HOURS</b>	<b>COST</b>
Finalize particulate sensor locations	80	\$8,000
Develop CARB-approved Test/Quality Assurance Plan	60	\$6,000
Acquire ~40 PurpleAir PAll Sensors	N/A	\$12,000
Deploy sensors with data acquisition and public access capabilities.	160	\$16,000
Review sensor results during the initial 12-month period & reconcile with meteorological data to identify high particulate concentration area(s)	360	\$36,000
Redeploy sensors to further characterize sources contributing to high particulate concentrations	100	\$10,000
Final data reduction and draft report	120	\$12,000
Final report	40	\$4,000
Contingency & Steering Committee coordination (~10%)	N/A	\$11,000
<b>Total</b>		<b>\$115,000</b>

## ENDNOTES:

<sup>1</sup> The Antelope Valley Community is not in compliance with state Ambient Air Quality Standards for PM10; it is not known whether the Antelope Valley complies with federal PM10 standards.

<sup>2</sup> In a presentation by the Los Angeles County Department of Public Health at the Valley Fever Awareness Seminar on June 23, 2018, Dr. Rachel Civen reports that the Antelope Valley is the epicenter for Valley Fever infections in Los Angeles County and it is where 80% of all Valley Fever diagnoses in the County occur. In 2016, the Valley Fever burden in the Antelope Valley was nearly 55 cases per 100,000.

<sup>3</sup> The 2016 Valley Fever burden in Kings County, Kern County, San Luis Obispo County and Fresno County exceeded 60 per 100,000; the Antelope Valley's burden was 53.8 per 100,000 (*supra*).

<sup>4</sup> The incidence of Valley Fever in Los Angeles County in 2017 increased by 49% (from 668 cases reported in 2016 to 994 cases reported in 2017 [*supra*]).

<sup>5</sup> Valley Fever is directly caused by exposure to soil-based particulate (*supra*) and as set forth in the April 30, 2018 CAPP submittal from the AVAQMD and ARTC, airborne particulate exacerbates COPD and asthma.

<sup>6</sup> The Antelope Valley's compliance status for state and federal ambient air quality standards for PM 2.5 is "unclassified", meaning that there is insufficient data to establish whether the area complies with these standards.

<sup>7</sup> For the sake of completeness, the AVAQMD's entire submittal dated April 30, 2018 is included herein as Attachment 4.



**ATTACHMENT 1**

**LETTERS AND COMMUNICATIONS FROM INDIVIDUALS AND ORGANIZATIONS  
EXPRESSING INTENT TO PARTICIPATE IN THE ANTELOPE VALLEY COMMUNITY  
MONITORING PROGRAM STEERING COMMITTEE.**



Los Angeles County  
Department of Regional Planning

*Planning for the Challenges Ahead*



Amy J. Bodek, AICP  
Director

July 9, 2018

Bret Banks, Executive Director  
Antelope Valley Air Quality Management District  
bbanks@avaqmd.ca.gov

VIA E-MAIL

Dear Mr. Banks:

**LETTER OF INTENT REGARDING THE COMMUNITY AIR PROTECTION  
PROGRAM COMMUNITY STEERING COMMITTEE GRANT APPLICATION**

As you may know, the Los Angeles County (County) Department of Regional Planning (Department) is responsible for planning and shaping the development of safe, healthy, equitable, and sustainable communities while respecting individual rights and protecting the natural environment in the unincorporated areas of the County.

The County Board of Supervisors recently adopted the Antelope Valley Area Plan (AV Plan), a component of the Los Angeles County General Plan, that provides a blueprint for future development and conservation within the unincorporated Antelope Valley. The AV Plan establishes a number of policies related to air quality, including coordination with the Antelope Valley Air Quality Management District (AVAQMD) to develop and implement regional air quality policies and programs, and encourage native vegetation to reduce erosion and wind-borne dust and sand.

The Department is currently working with 13 communities within the Antelope Valley to implement the AV Plan through Community Standards Districts that tailor zoning regulations to meet community needs. This effort will require extensive community engagement and partnership with local Town Councils to ensure that the communities are informed and can participate with a greater understanding of planning and zoning.

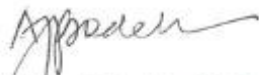
The Community Air Grants Program (Air Grants) and the Community Air Protection Program (CAPP), a community-focused emissions reduction program under Assembly Bill 617 to reduce air pollution in disproportionately burdened communities, are consistent with the County's goals for improving air quality and meaningfully engaging with communities to identify and implement solutions.

Mr. Bret Banks  
July 9, 2018  
Page 2

I am in support of AVAQMD's application for an Air Grant under CAPP, and should an Air Grant be awarded to AVAQMD, we also intend to participate as a member on the CAPP Community Steering Committee to further our local partnerships and support community engagement and land use planning efforts in the Antelope Valley.

If you have any questions, please do not hesitate to contact Ms. Susan Tae, AICP, Supervising Regional Planner of the Community Studies North Section, who is overseeing our long-range planning efforts in the Antelope Valley. She may be reached by e-mail at [stae@planning.lacounty.gov](mailto:stae@planning.lacounty.gov), or by phone at (213) 974-6476.

Sincerely,



Amy J. Bodek, AICP  
Director

AJB:DS:MC:ST:ems

S\_AP\_070918\_L\_GRANT\_APP\_BANKS



**BARBARA FERRER, Ph.D., M.P.H., M.Ed.**  
Director

**JEFFREY D. GUNZENHAUSER, M.D., M.P.H.**  
Interim Health Officer

**CYNTHIA A. HARDING, M.P.H.**  
Chief Deputy Director

**FRANK ALVAREZ, M.D., M.P.H.**  
SPA 1 & 2 Area Health Officer, Community Services  
26415 Carl Boyer Drive, #160  
Santa Clarita, CA 91350  
TEL (661) 287-7054 • FAX (661) 255-5531

[www.publichealth.lacounty.gov](http://www.publichealth.lacounty.gov)

**BOARD OF SUPERVISORS**

**Hilda L. Solis**  
First District

**Mark Ridley-Thomas**  
Second District

**Shella Kuehl**  
Third District

**Janice Hahn**  
Fourth District

**Kathryn Barger**  
Fifth District

July 25, 2018

**Bret Banks**

**The Antelope Valley Air Quality Management District**  
43301 Division Street Suite 206  
Lancaster, CA 93535

**Subject: The Los Angeles County Department of Public Health's partnership with the Antelope Valley Air Quality Management District to Implement a Community Air Protection Program.**

The Los Angeles County Department of Public Health (Public Health) is pleased to partner with the Antelope Valley Air Quality Management District (AVAQMD) to pursue a grant opportunity under AB 617 to develop and implement a much needed PM10 and PM2.5 monitoring program within the Antelope Valley Community. Public Health's mission is to protect health, prevent disease and injury, and promote health and well-being for everyone in Los Angeles County. Public Health is concerned by the high prevalence of childhood asthma and chronic obstructive pulmonary disease ("COPD") among Antelope Valley residents, along with an increase in Valley Fever diagnoses in the Antelope Valley Region over the past couple of years. Funding for a monitoring program is the essential first step to understand the major air impacts in the region.

The Community Air Grants Program (Air Grants) and the Community Air Protection Program (CAPP), a community-focused emissions reduction program under Assembly Bill 617 to reduce air pollution in disproportionately burdened communities, align with the County's goals for improving air quality and meaningfully engaging with communities to identify and implement solutions.

Should an Air Grant be awarded to AVAQMD, Public Health intends to participate as a member on the CAPP Community Steering Committee to further our local partnerships and support community engagement and land use planning efforts in the Antelope Valley.

If you have any questions, please do not hesitate to contact me by e-mail at [alvarez@ph.lacounty.gov](mailto:alvarez@ph.lacounty.gov).

Sincerely,

Frank Alvarez, MD  
SPA 1 & 2 Area Health Officer, Community Services

Dr. Antje Lauer, Professor of Biology, California State University, Bakersfield

----- Forwarded message -----

From: **Antje Lauer** <[alauer@csub.edu](mailto:alauer@csub.edu)>

Date: Thu, Jul 5, 2018 at 3:59 PM

Subject: RE: Fwd:

To: merrylou nelson <[merrylou.nelson@gmail.com](mailto:merrylou.nelson@gmail.com)>

Hello Merrylou, thank you for considering me being part of this effort. And yes, I would like to be part of the committee. I hope the meetings will not be during the week. I am not teaching on Fridays next semester. Also, I will be on vacation from July 15<sup>th</sup> to August 16<sup>th</sup> this year.

Best regards,

Antje Lauer

Association of Rural Town Councils  
C/O Three Points-Liebre Mountain Town Council  
P.O. Box 76  
Lake Hughes, CA 93532  
[ourartc@gmail.com](mailto:ourartc@gmail.com)

28 July 2018

SENT VIA EMAIL

Mr. Bret Banks, Executive Director  
Antelope Valley Air Quality Management District  
43301 Division Street, Suite 206  
Lancaster, CA 93535  
[bbanks@avaqmd.ca.gov](mailto:bbanks@avaqmd.ca.gov)

Dear Mr. Banks,

RE: AB 617, Community Air Protection Program Steering Committee

The Association of Rural Town Councils (ARTC) consists of fourteen rural council areas representing constituents across the Greater Antelope Valley Community. The ARTC has fully supported the Antelope Valley Air Quality Management District's collaboration with our organization to identify, quantify, evaluate, and set forth plans to reduce PM2.5 and PM10 particulates that contribute to our high rates of respiratory diseases, and can carry valley fever spores that cause the fungal infection—*Coccidioidomycosis*. The Antelope Valley (AV) is prone to dust control issues exacerbated by frequent high-wind events, predictable drought, development, agricultural activities, mining operations; and will face further impacts due to projected population increase, major infrastructure projects, and continued utility-scale renewable energy development, further increasing health risks to residents.

The Association is committed to engagement with the AV community regarding air quality, and has already participated in numerous meetings meant to address complex issues associated with reducing and controlling fugitive dust. Our work has included outreach to the public, medical professionals, many meetings with city and county officials and departments, professional educators, the farming/agricultural community, and the military. There is much more to accomplish, and we see that our participation in the Steering Committee is another important step to further our goal of improving air quality and protecting the health of residents in the Antelope Valley.

Sincerely,



Susan Zahnter  
Director



#### EXECUTIVE BOARD

ED KNUDSON, PRESIDENT  
ANTELOPE VALLEY COLLEGE  
BRET BANKS, VICE PRESIDENT  
ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT  
DIANE WALKER, SECRETARY  
ANTELOPE VALLEY UNION HIGH SCHOOL DISTRICT  
ANTHONY BRUNEAU, TREASURER  
COBB, DOERFLER & ASSOCIATES  
JOHN CURRADO, DIRECTOR-AT-LARGE  
LISA MOULTON, DIRECTOR-AT-LARGE

#### DIRECTORS

GUSTAVO CAMACHO • CAMACHO AUTO SALES  
RICHARD CALUKINS • SANITATION DISTRICTS OF L.A. COUNTY  
RICHARD COOK  
SCOTT CUMMINGS • ANTELOPE VALLEY MALL MANAGEMENT  
NADIA DICKINSON • DICKINSON GRAHAM  
ROB DUCHOW • SOUTHERN CALIFORNIA GAS COMPANY  
JOHN FERDIONE  
TROY GABBARD • LOCKHEED MARTIN  
CATHY HART • ANTELOPE VALLEY COLLEGE  
MARK HEMSTREET • HEMSTREET HOSPITALITY  
CHUCK HOEY • CHARLES HOEY & ASSOCIATES  
ALLEN HOFFMANN • THE BOEING COMPANY  
HARVEY HOLLOWAY • CB COMMERCIAL-VALLEY REALTY  
DIANNE KNIPPEL • ANTELOPE VALLEY COLLEGE FOUNDATION  
ROBYN LAMHON • MERRILL LYNCH  
MIKE MILLER • CITY OF PALMDALE  
RHONDA NELSON • NORTHROP GRUMMAN  
MACY NESHATI • ANTELOPE VALLEY TRANSIT AUTHORITY  
DR. COLETTE NICHOLS • ANTELOPE VALLEY HOSPITAL  
CARRIE RAWLINGS • MOJAVE AIR AND SPACE PORT  
DONALD RHEA • CLANCY/JG INTERNATIONAL  
OLIN ROGERS • LEGAL SHIELD  
REGINA ROSSALL • WESTSIDE UNION SCHOOL DISTRICT  
BILL TAYLOR • GRANITE CONSTRUCTION COMPANY  
MARK TROTH • BERKSHIRE HATHAWAY HOME SERVICES • TROTH REALTORS  
GEORGE WHITESIDES • THE SPACESHIP COMPANY  
JOHNNY ZAMRZLA • WESTERN PACIFIC ROOFING CO.  
LIFETIME HONOREES  
JANICE ANDERSON  
CHERIE BRYANT  
KATE CORBETT  
JOSEPH DAVIES  
MICHAEL DISPENZA  
GORDON ELDER  
RON EMMARD  
DR. JACKIE FISHER  
PATRICIA FREGOSO-COX  
ROGER HESIME  
AIDA O'CONNOR  
ALIS KLAUSEN ODETHAL  
DR. GEORGE 'BUJ' REAMS  
FRANK C. ROBERTS  
THE HONORABLE DICK SPANN  
CHRIS SPEISER  
JACK STEWART  
LEW STULTS  
MONNA WAGNER  
COLLEEN WALKER CLUTTERHAM

July 11, 2018

Brett Banks  
Antelope Valley Air Quality Management District  
43301 Division Street  
Suite 105  
Lancaster, CA 93535

Dear Mr. Banks,

The Antelope Valley Board of Trade is a civic and membership organization founded in 1957. Our mission is to engage in maintaining and promoting diverse business and industry, quality infrastructures, and a strong legislative voice for the benefit of its members and the Greater Antelope Valley. We take pride in our community and are appreciative of AVAQMD and Association of Rural Towns Council for implementing the Community Air Protection Program. This project is of interest to the entire Antelope Valley and critical to addressing the issue in a systematic and comprehensive way. AVBOT represents the entire Antelope Valley and due to its comprehensive focus, we intend to participate in the Antelope Valley Community Monitoring Program Steering Committee. Whatever duties this entails, we fully wish to comply and serve as a helpful resource to this project and our community. Thank you for spearheading this initiative. We look forward to working with you.

Best,

Anna Lee Buehn  
Executive Director  
Antelope Valley Board of Trade

**ATTACHMENT 2**

**LETTERS OF SUPPORT FROM THROUGHOUT THE ANTELOPE VALLEY COMMUNITY**



Association of Rural Town Councils  
C/O Three Points-Liebre Mountain Town Council  
P.O. Box 76  
Lake Hughes, CA 93532  
661.724.2043  
[ourartc@gmail.com](mailto:ourartc@gmail.com)

25 April 2018

Mr. Bret Banks, Executive Director  
Antelope Valley Air Quality Management District  
43301 Division Street Suite 206  
Lancaster CA 93535

Dear Mr. Banks,

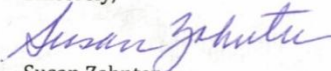
Subject: The Association of Rural Town Council's Partnership with the Antelope Valley  
Air Quality Management District to Implement a PM10 and PM2.5 Monitoring  
Program within the Antelope Valley Community

Reference: California Air Resources Board's AB617 Grant Program

The Association of Rural Town Councils is pleased to partner with the Antelope Valley Air Quality Management District in pursuing a grant opportunity under AB 617 to develop and implement a PM10 and PM2.5 monitoring program within the Antelope Valley Community. The Association of Rural Town Councils (ARTC) has long been concerned by the extremely high incidence of childhood asthma and chronic obstructive pulmonary disease (COPD) among Antelope Valley residents, and we note with growing alarm the steep increase in Valley Fever diagnoses that has occurred over the last two years within in the Antelope Valley Community. The latter is directly related to the presence of respirable particulate in the air, and the former health outcomes are certainly exacerbated (and perhaps even caused) by the same. This, coupled with the fact that the Antelope Valley has not been shown to comply with all state and federal ambient air quality standards for particulate, has led the ARTC to partner with the AVAQMD to explore a PM2.5 and PM10 monitoring program. The ARTC seeks to investigate and document the extent to which high PM2.5 and PM10 concentrations occur within the Antelope Valley Community as a necessary "first step" in addressing broader health concerns in the area.

The ARTC appreciates the opportunities provided by AB 617, and we look forward to collaborating with the AVAQMD in pursuit of such opportunities.

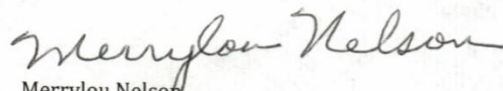
Sincerely,



Susan Zahnter  
Director



Jeffrey Hillinger  
Assistant Director



Merrylou Nelson  
Secretary



R. Rex Parris *Mayor*  
 Mervin E. Crist *Vice Mayor*  
 Ken Mann *Council Member*  
 Angela E. Underwood-Jacobs *Council Member*  
 Raj Malhi *Council Member*  
 Merik V. Bozgian *City Manager*

July 5, 2018

Bret Banks  
 Antelope Valley Air Quality Management District  
 43301 Division Street, Suite 206  
 Lancaster CA 93535

**Subject: The Antelope Valley Resource Conversation District's Partnership with the Antelope Valley Air Quality Management District to Implement a Community Air Protection Program (AB617).**


Dear Mr. Banks:

The City of Lancaster is pleased to submit this letter of support for Antelope Valley Air Quality Management District (AVAQMD) and its partnering participant Antelope Valley Resource Conversation District (AVRCD), in pursuing a grant opportunity under AB 617. Receiving funding to develop and implement a PM10 and PM2.5 monitoring program within the Antelope Valley Community will be essential in addressing major impacts to our region's air quality. With a mission to develop various mitigation strategies and promote conservation and restoration of natural resources for our area, AVRCD and AVAQMD will work together to address concerns related to extremely high incidences of childhood asthma and chronic obstructive pulmonary disease ("COPD") among Antelope Valley residents, as well as address the increase in Valley Fever diagnoses that has occurred in the Antelope Valley Region.

AVAQMD and AVRCD are integral members of the Antelope Valley community and the City applauds your efforts to help remedy ongoing issues related to extremely high occurrences of respiratory illnesses impacting Antelope Valley residents.

As such, it is with great pleasure that I offer my support in the efforts of AVAQMD and AVRCD to receive funding to implement a Community Air Protection Program in the Antelope Valley.

Respectfully,

  
 R. Rex Parris, Mayor  
 RRP:aw



## Antelope Valley Resource Conservation District

Claudette Beck, President  
Jeff Olesn, Vice President  
Tammy Lucas, Secretary/Treasurer  
Keith Deagon, Director  
Jenna Roper, Director  
Debra Gillis, Executive Director

Promote conservation and restoration of natural resources by  
providing plant materials, educational programs, and expertise in conservation.

---

April 25, 2018

Bret Banks  
The Antelope Valley Air Quality Management District  
43301 Division Street Suite 206  
Lancaster CA 93535

**Subject: The Antelope Valley Resource Conservation District's Partnership with the Antelope Valley Air Quality Management District to Implement a Community Air Partner Program (AB617).**

Dear Mr. Banks:

The Antelope Valley Resource Conservation District (AVRCD) is pleased to partner with the Antelope Valley Air Quality Management District in pursuing a grant opportunity under AB 617 to develop and implement a PM10 and PM2.5 monitoring program within the Antelope Valley Community. The AVRCD's mission is to promote conservation and restoration of natural resources for our area by providing plant materials, educational programs, and expertise in conservation. AVRCD has become concerned by the extremely high incidence of childhood asthma and chronic obstructive pulmonary disease ("COPD") among Antelope Valley residents, along increase in Valley Fever diagnoses that has occurred in the Antelope Valley Region.

The AVRCD has been active in researching and developing various mitigation strategies to control wind-blown fugitive dust in the Antelope Valley. A better understanding of fugitive dust, the specific regional areas of concern along with various control strategies should result in approaches reverse the high incidence of lung disease in the Antelope Valley.

The AVRCD is excited to support and partner with the AVAQMD to explore a PM2.5 and PM10 monitoring program. The AVRCD seeks to explore the extent to which high PM2.5 and PM10 concentrations occur within the Antelope Valley Community as a necessary "first step" in addressing broader health concerns in the area.

The AVRCD appreciates the opportunities provided by AB 617, and we look forward to collaborating with the AVAQMD in pursuit of such opportunities.

Sincerely,

Claudette Beck  
President of the Board of Directors

44811 N. Date Avenue, Suite G, Lancaster, CA 93534  
861-305-3405, 861-752-8246 fax  
www.avrcd.org

April 25, 2018

Bret Banks  
The Antelope Valley Air Quality Management District  
43301 Division Street Suite 206  
Lancaster CA 93535

**Subject: The Partners for Fugitive Dust/Valley Fever with the Antelope Valley Air Quality Management District to Implement a Community Air Partner Program (AB617).**

Dear Mr. Banks:

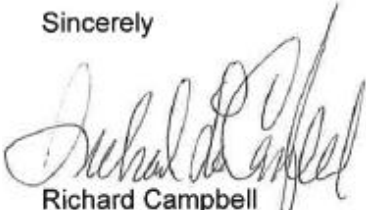
The Partners for Fugitive Dust/Valley Fever (PFDVF) is pleased to partner with the Antelope Valley Air Quality Management District in pursuing a grant opportunity under AB 617 to develop and implement a PM10 and PM2.5 monitoring program within the Antelope Valley Community. PFDVF has become concerned by the extremely high incidence of childhood asthma and chronic obstructive pulmonary disease ("COPD") among Antelope Valley residents, along increase in Valley Fever diagnoses that has occurred in the Antelope Valley Region.

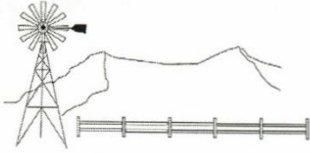
The PFDVF has been active promoting awareness of Valley Fever throughout the High Desert Region. PFDVF Walk for Valley Fever was established to raise awareness of the disease and fund medical research. The Antelope Valley has been identified as having one of the highest incidences of Valley Fever in all of California. The Valley Fever spores are commonly associated with disturbed soil, fugitive dust and high wind areas. A better understanding of fugitive dust, the specific regional areas of concern along with various control strategies should result reduce cases of Valley fever in the Antelope Valley.

The PFDVF is excited to support and partner with the AVAQMD to explore a PM2.5 and PM10 monitoring program. The PFDVF seeks to explore the extent to which high PM2.5 and PM10 concentrations occur within the Antelope Valley Community as a necessary "first step" in addressing broader health concerns in the area.

The PFDVF appreciates the opportunities provided by AB 617, and we look forward to collaborating with the AVAQMD in pursuit of such opportunities.

Sincerely

  
Richard Campbell  
Partners for Fugitive Dust/Valley Fever



## SAVE OUR RURAL TOWN

Brett Banks  
Air Pollution Control Officer  
The Antelope Valley Air Quality Management District  
43301 Division Street Suite 206  
Lancaster CA 93535

April 27, 2018

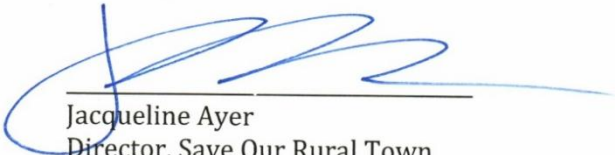
Subject: Save Our Rural Town's Collaboration with the Antelope Valley Air Quality Management District to Implement a Particulate Monitoring Program within The Antelope Valley Community

Reference: California Air Resources Board's AB617 Grant Program

Dear Mr. Banks;

Save Our Rural Town ("SORT") is thrilled to collaborate with the Antelope Valley Air Quality Management District ("AVAQMD") in its pursuit of a grant to develop a PM10 and PM2.5 monitoring program within the Antelope Valley. As you know, SORT has members that live throughout the Antelope Valley, and SORT actively participates in discretionary project reviews conducted by Federal, County, and Local agencies to ensure that projects within the Antelope Valley are appropriately conditioned with adequate emission controls. SORT also seeks to establish the compliance status of the Antelope Valley with regard to State and Federal Ambient Air Quality Standards, and toward this end, continues to collaborate with State, County, and Local agencies. SORT supports the AVAQMD's proposed effort under the AB 617 Grant Program, and we stand ready to provide the technical and community outreach support that the AVAQMD requires in pursuit of this effort.

Sincerely



Jacqueline Ayer  
Director, Save Our Rural Town

SAVE OUR RURAL TOWN

[saveourruraltown.org](http://saveourruraltown.org)

P.O. Box 757, Acton, CA 93510



July 29, 2018

California Air Resources Board  
1001 I Street  
Sacramento, CA 95814

To Whom it May Concern,

I write on behalf of the Antelope Valley Dust Control Group ("AVDCG") in support of the Antelope Valley Air Quality Management District ("AVAQMD") and the Association of Rural Town Councils ("ARTC") in their proposal to develop and implement an action-oriented community air-monitoring plan under the Community Air Protection Program ("CAPP") established pursuant to AB 617. We have had the opportunity to review the proposed program, and we strongly support it. Additional monitoring to identify active source areas would greatly benefit the Antelope Valley Community, as the area often experiences elevated ambient particulate levels that are not localized and are widely dispersed by sustained wind events. Based on health indicator data showing the substantial health inequities experienced by Antelope Valley residents along with data demonstrating that the Antelope Valley Community meets the "Disadvantaged Community" criteria established by AB 617, it seems as though the Antelope Valley is a perfect fit for funding during the first year of the program.

As an organization with extensive knowledge and expertise in desert wind erosion, and which focuses on reducing PM10 emissions from fugitive dust particulate sources within the Antelope Valley specifically, we can attest to the poor air quality, attributable health concerns, and the need to identify primary sources within the region. It is believed that all areas within the Antelope Valley Community experience high ambient particulate events, however there is insufficient data to determine whether some areas are more affected than others, or even where the primary particulate sources are, due to the fact that there is only one PM10 monitor within the entire region. This uncertainty is magnified by the fact that the compliance status of the Antelope Valley with respect to state and federal ambient air quality standards for PM2.5 and federal standards for PM10 has never been established.

Thank you for your time and attention to this matter. Your approval of the grant proposal that has been submitted by the Antelope Valley Air Quality Management District ("AVAQMD") and the Association of Rural Town Councils ("ARTC") would be greatly appreciated by the Antelope Valley community.

Sincerely,

Julie Schuder  
President  
Antelope Valley Dust Control Group

July 6, 2018

To: Bret Banks, Executive Director, Antelope Valley Air Quality Management District

Dear Sir: The Antelope Acres Town Council would like to comment on the Antelope Valley Community Air Monitoring Program, based on AB 617, a project proposed by the AVAQMD in partnership with the Association of Rural Town Councils, and the Cities of Lancaster and Palmdale.

We appreciate the opportunity to comment on this project. We live in an atmosphere of undetermined air quality due to the fact that there has never been research to establish whether the Antelope Valley is in or out of compliance with state and federal air quality requirements.

We strongly support this project. It will be the first opportunity to establish a system of reliable data collecting monitors to determine what the PM 2.5 levels truly are in the Antelope Valley (AV).

We are confident that this program will generate sufficient information to give the AVAQMD the ability to establish local programs to further reduce air pollution.

We have only one air monitor in the entire Antelope Valley and we believe that due to the fact it is located in downtown Lancaster the data collected is not reliable and does not reflect the true conditions in the outlying areas of the Antelope Valley.

We have very diverse conditions here in the AV. Contributing factors like rock quarries in the southern portion of the Valley, Agricultural

operations in many areas , thousands of acres solar farms, railroad emissions, diesel exhaust from hundreds of thousands of cars and trucks traveling on HWY 14, Sierra Hwy and Hwy 138. Additionally the blowing fugitive dust and sand generated from many different sources affect the overall air quality.

We the residents of Antelope Acres would appreciate it if this grant proposal is awarded to this group so that once and for all the true conditions can be identified and acknowledged for future projects. We are confident that we will finally be able to have reliable data for future use.

Sincerely,

Virginia Stout, President

Antelope Acres Town Council





July 25,2018

Mr. Bret Banks, Executive Director

Antelope Valley Air Quality Management District

43301 Division Street, Suite 206

Lancaster, CA 93535

Re: ARTCAVAQMD CAPP Proposal

Dear Mr. Banks,

Thank you for the opportunity for Lake Los Angeles Town Council (LLARTC) to support this extremely important proposal for the Antelope Valley. Lake Los Angeles is situated in the northeast portion of the Antelope Valley and frequently experience severe wind and dust storms. The education that we have gained about the serious fugitive dust and PM2.5 problems has made us aware of some serious issues and the need for the monitoring that ARTC and AVAQMD is proposing.

We have learned that the Antelope Valley has the highest COPD, childhood asthma, and Valley Fever rates in LA County and is among the highest in the State. We have learned that 100,000 cars and trucks per day on the freeway contribute heavily to PM 2.5 as well as the many gravel, sand and quarry operations. Solar farms and large agricultural operations are contributing source and are exempt from dust regulations.

We support the ARTC's and AVAQMD's air monitoring proposal because it considers the Antelope Valley community as a whole; it does not "pick and choose" which neighborhoods will be monitored because it properly recognizes that frequent and sustained wind events in the Antelope Valley carry dust and PM2.5 that is generated in one neighborhood to adjacent neighborhoods. The ARTC's and AVAQMD's air monitoring proposal factors this in, and accounts for the fact that PM2.5 generated in one neighborhood is often carried to adjacent neighborhoods and even miles away.

We already know that fugitive dust is the cause of all our Valley Fever concerns, but the major sources of fugitive dust in the Antelope Valley have never been identified or located. We support the the ARTC's and AVAQMD's air monitoring proposal because it seeks to identify and locate these major sources *which is the first step in eliminating them.*

We support the ARTC's and AVAQMD's air monitoring proposal because the Antelope Valley continues to be underserved in terms of air monitoring, and continues to be designated as "unclassified" for PM2.5, (which means that no state or federal agency has bothered to determine whether the our community is even in compliance with ambient air quality standards for PM2.5). The ARTC's and AVAQMD's air monitoring proposal addresses this deficiency, and attempts to answer the question: Could PM2.5 be a problem in the Antelope Valley that perhaps contribute to the high incidence of COPD and childhood asthma that is experienced in the Antelope Valley?

Sincerely Yours

Stormy Hope

Corresponding Secretary

Lake Los Angeles Rural Town Council

CC: ARTC-AV



*Littlerock Town Council (661) 944-2299*  
*P.O. Box 05*  
*Littlerock, CA 93543*  
[www.littlerocktc.org](http://www.littlerocktc.org)

07/23/2018

**RE: Community Air Protection Program, AB617**

To Whom It May Concern,

The Littlerock Town Council supports the ARTC's and AVAQMD's air monitoring proposal under the CAPP program. We have needed something like this for a long time. The communities of Littlerock, Sun Village, Pearblossom, Llano, and Lake Los Angeles all reside down wind of several industrial rock quarries and the dust that they produce has been a very big concern for the Southeast Antelope Valley community.

Since 2014, it has been noted by the Los Angeles County Health Department that the community of the Antelope Valley has the highest account of COPD, child asthma, and other breathing related conditions. We know that there are several industries in our region that create dust across the entire valley and so this is a condition that we all share. When we looked into who was monitoring our air we found out from the AVAQMD that there was only one system that was being used and that it was located in the middle of the City of Lancaster which does not equally represent the conditions that are found in the outlining desert community.

ARTC's and AVAQMD's air monitoring proposal would provide sensors that could be placed in and around the areas where the heaviest activity might be suspected for a true and accurate account of the particulates in the air that we breathe.

We truly hope that the ARTC's and AVAQMD's air monitoring proposal will be accepted in order to identify where the troubled areas are and classify them so that we can address ways to control the matter over time.

I appreciate you taking the time to listen to my concerns and look forward to hearing from you in the near future.

Very truly yours,

A handwritten signature in black ink, appearing to be "J. Hillinger".

Jeffrey W. Hillinger

Councilman, Littlerock Town Council



## LEONA VALLEY TOWN COUNCIL

P.O. Box 795 • LEONA VALLEY • CA 93551

July 24, 2018

Bret Banks, Executive Director  
AV Air Quality Management District  
43301 Division St.  
Lancaster, CA 93535

Re: CAPP, AB 617

To Whom it May Concern:

The Leona Valley Town Council (LVTC) supports the Associated Rural Town Council's (ARTC) and Antelope Valley Air Quality Management District's (AVAQMD) air monitoring proposal under the CAPP program because it properly considers all the varied sources of PM<sub>2.5</sub> scattered throughout the Antelope Valley Community and it provides a logical path to determine which sources are problematic and which are not.

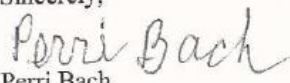
It also considers the Antelope Valley community as a whole; it does not "pick and choose" which neighborhoods will be monitored, because it properly recognizes that frequent and sustained wind events in the Antelope Valley carry dust and PM<sub>2.5</sub> that is generated in one neighborhood to adjacent neighborhoods. For that reason, LVTC requests at least one monitor be located in the main area of Leona Valley to determine the particulate levels in our community.

Fugitive dust and PM<sub>2.5</sub> is a problem in the Antelope Valley, but it has never been properly measured or assessed. We understand that Antelope Valley has the highest COPD, childhood asthma, and Valley Fever rates in Los Angeles County and is among the highest in the State.

There are several major sources of PM<sub>2.5</sub> in Antelope Valley, including mobile sources (110,000 cars and trucks per day on the freeway) that travel numerous routes; many gravel, sand, and quarry operations that are entirely unenclosed; fugitive dust generated by solar farms (45,000 acres at last count); and large agricultural operations that are entirely exempt from local fugitive dust regulations.

We understand that Antelope Valley continues to be designated as "unclassified" for PM<sub>2.5</sub>, (which means that no state or federal agency has bothered to determine whether our community is even in compliance with ambient air quality standards for PM<sub>2.5</sub>). The ARTC's and AVAQMD's air monitoring proposal addresses this deficiency.

Sincerely,

  
Perri Bach  
President, LVTC



Pearblossom Rural Town Council  
P.O. Box 416  
Pearblossom, CA 93553  
PearblossomRTC@gmail.com

Atmospheric particulate matter that have a diameter of less than 2.5 micrometers ( $PM_{2.5}$ ) and are transported within fugitive dust is a problem in the Antelope Valley, but it has never been properly measured or assessed.

The Antelope Valley has the highest number of cases of COPD, childhood asthma, and Valley Fever rates in LA County, and has among the highest in the State.

There are several major sources of  $PM_{2.5}$  in Antelope Valley, including mobile sources (110,000 cars and trucks per day on the freeway); many gravel, sand, and quarry operations that are entirely unenclosed; fugitive dust generated by solar farms (45,000 acres at last count); and large agricultural operations that are entirely exempt from local fugitive dust regulations.

We support the Association of Rural Town Councils' (ARTC) and Antelope Valley Air Quality Management District's (AVAQMD) air monitoring proposal under the Community Air Protection Program (CAPP) because it properly considers all the varied sources of  $PM_{2.5}$  scattered throughout the Antelope Valley Community and it provides a logical path for us to determine which sources are problematic and which are not.

We also support the ARTC's and AVAQMD's air monitoring proposal because it ensures that control measures that are developed will be tailored to the sources that are causing  $PM_{2.5}$  problems within our community, so it is both fair and balanced.

We support the ARTC's and AVAQMD's air monitoring proposal because it considers the Antelope Valley community as a whole; it does not "pick and choose" which neighborhoods will be monitored because it properly recognizes that frequent and sustained wind events in the Antelope Valley carry dust and  $PM_{2.5}$  that is generated in one neighborhood to adjacent neighborhoods. The ARTC's and AVAQMD's air monitoring proposal factors this in, and accounts for the fact that  $PM_{2.5}$  generated in one neighborhood is often carried to adjacent neighborhoods and even miles away.

We already know that fugitive dust is the cause of all our Valley Fever concerns, but the major sources of fugitive dust in the Antelope Valley have never been identified or

located. We support the ARTC's and AVAQMD's air monitoring proposal because it seeks to identify and locate these major sources *which is the first step in eliminating them.*

We support the ARTC's and AVAQMD's air monitoring proposal because the Antelope Valley continues to be underserved in terms of air monitoring, and continues to be designated as "unclassified" for PM<sub>2.5</sub>, (which means that no state or federal agency has bothered to determine whether the our community is even in compliance with ambient air quality standards for PM<sub>2.5</sub>). The ARTC's and AVAQMD's air monitoring proposal addresses this deficiency, and attempts to answer the question: Could PM<sub>2.5</sub> be a problem in the Antelope Valley that perhaps contributes to the high incidence of COPD and childhood asthma that is experienced in the Antelope Valley?

# ROOSEVELT RURAL TOWN COUNCIL

48157 70th Street East, Lancaster, California 93535 (661)946-1323

President: Barbara Firsick Vice President: Ron Ferrell  
Treasurer: Doris Hoepfner Secretary: Myrle McLernon,

July 24, 2018

Subject: ARTC CAPP AB617

Fugitive dust and PM2.5 is a problem in the Antelope Valley, but it has never been properly measured or assessed.

Rural communities and the entire Antelope Valley are experiencing the consequences of declining Agriculture, influx of Utility Scale Solar Development and suburban development construction and the Adjudication project has the potential to create further consequences with regard to fugitive dust and its impact on air quality and public health.

We support the ARTC's and AVAQMD'S air monitoring proposal because the Antelope Valley continues to be underserved in terms of air monitoring, and continues to be designated as "unclassified" for PM2.5, (which Means that no state or federal agency has bothered to determine whether our community is even in compliance with ambient air quality standards for PM2.5) The ARTC's and AVAQMD's air monitoring proposal addresses this deficiency, and attempts to answer the question: Could PM2.5 be a problem in the Antelope Valley that perhaps contribute to the high incidence of COPD and childhood asthma that is experienced in the Antelope Valley?

Sincerely,

Barbara Firsick  
President  
Roosevelt Rural Town Council



Three Points-Liebre Mountain Town Council  
P. O. Box 76  
Lake Hughes, CA 93532  
[3pointsliebremountain@gmail.com](mailto:3pointsliebremountain@gmail.com)  
661.724.2043

30 July 2018

SENT VIA EMAIL

Mr. Bret Banks, Executive Director  
Antelope Valley Air Quality Management District  
43301 Division Street Suite 206  
Lancaster CA 93535  
[bbanks@avaqmd.ca.gov](mailto:bbanks@avaqmd.ca.gov)

Dear Mr. Banks,

RE: AB 617 Grant Proposal, Community Air Protection Program

It is our desire to support Antelope Valley Air Quality Management District's (AVAQMD) efforts in obtaining grant monies provided by State Assembly Bill 617, and for your organization to transmit this support to Community Air Protection Program officials. Without doubt, the Antelope Valley has air quality issues concerning particulate matter in our air. Certain members of our town council have been involved for some time with efforts to address air quality issues across the Valley due to various types of development. As a result of geographical and climatic conditions, the Valley is prone to dust control issues exacerbated by frequent high-wind events, drought, development, agricultural activities, and fallowing of agricultural land--all of which have contributed to Dust Bowl conditions and the highest rates of pulmonary and respiratory illness, including Coccidioidomycosis (also known as Valley Fever), in Los Angeles County.

To our misfortune, our Antelope Valley Community has only one air quality monitoring station situated in downtown Lancaster. It is vitally necessary to increase the number of monitoring stations, and vitally necessary to record, evaluate, and classify air quality conditions for the protection of residents, which remain incomplete and unquantified at this time, in order to determine best practices to control or prevent airborne dust and other pollutants, and to prioritize action in addressing local air quality.

Furthermore, the Antelope Valley Community faces a plethora of major infrastructure, housing, and commercial/industrial development that will certainly add to air quality concerns in the years ahead: The High Desert Corridor (with a planned inland truck port); the Northwestern Highway 138 Improvement Project (a planned truck and commuter route to I-5 North); California High Speed Rail; Centennial Specific Plan (over 19,000 homes plus 10 million square feet of industrial space) with accompanying auto and industrial pollution; and local cities' ongoing suburban, commercial, and industrial development. Additionally, there are currently more than 40,000 acres across the Greater Antelope Valley of existing industrial-scale renewable energy projects; National Cement Company mining and kiln operations; several active sand, rock, and gravel mining operations; mineral and metals




mining; as well as current Interstate 5, State Route 138--east and west, and State Highway 14 contributions to vehicle exhaust pollutants.

Again, we offer our support for the AVAQMD's AB 617 CAPP grant proposal, and your organization's effort to improve monitoring for Antelope Valley air quality, prioritize evaluation and remediation in areas of most need, and recommend and implement subsequent actions. We are certain the District will perform such work with integrity and transparency, and with an ongoing desire for improvement of health outcomes and quality of life issues related to particulate pollutants in our air.

Most Sincerely,



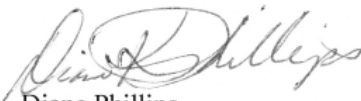
Richard Zahnter  
President



Susan Zahnter  
Vice President



Karen Plemmons  
Secretary



Diane Phillips  
Treasurer

**ATTACHMENT 3**

**DRAFT TEST MATRIX AND DATA QUALITY OBJECTIVES FOR THE  
ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM.**

The AVAQMD and ARTC have developed a monitoring strategy which assesses particulate levels within the Antelope Valley Community in a manner that allows primary particulate sources to be identified and paves the way for developing particulate emission control strategies and establishing the extent to which the Antelope Valley complies with State and Federal Ambient Air Quality Standards for particulate. Thus, it achieves CARB's goal of acquiring "action-oriented" data under the community air monitoring portion of the CAPP as set forth in AB 617. The following paragraphs briefly summarize the Test Plan and QAPP aspects of our proposed Antelope Valley Community Air Monitoring Program.

#### **PROBLEM DEFINITION AND BACKGROUND:**

The Antelope Valley is recognized as an area that does not meet State Ambient Air Quality Standards for PM10, however it is not known whether the area meets State or Federal standards for PM2.5. Additionally, the Antelope Valley Community experiences disproportionate health burdens which are substantially exacerbated by excessive levels of ambient particulate and (in the case of Valley Fever) are directly caused by ambient dust. To address these problems, the AVAQMD and ARTC propose to implement an extensive particulate monitoring program within the Antelope Valley Community that will identify the location of primary sources of ambient particulate and provide the data necessary to develop and implement particulate reduction strategies that are tailored for these sources once they are identified. Ambient particulate in the Antelope Valley is attributed to the following disparate and unquantified sources:

*The 14 Freeway and several major highways* traverse the heart of the community and serve as mapped CalTrans "Truck Networks" that also carry more than 110,000 vehicles per day during the work week. Particulate emissions generated by the mobile sources that use these freeway and highway facilities will increase over time because the population of the Antelope Valley Community is projected to increase by more than 30% by 2040 (see the Southern California Association of Governments Regional Transportation Plan [http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS\\_DemographicsGrowthForecast.pdf](http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_DemographicsGrowthForecast.pdf) ).

*Multiple freight lines* run both north-south and east-west through the community and carry goods from Central and Southern California to all points east of California. The north-south tracks are also heavily-used by passenger rail; all of these uses are slated to increase with population.

*45,000 acres of solar fields* have been developed within the Antelope Valley, and all have had their native vegetation removed (which has also removed the native root systems that hold dirt in place). These solar fields are crisscrossed with miles of unpaved roads used for

access and panel washing and which generate significant levels of fugitive dust. Many of these solar fields are located in soil areas that are documented as having active Valley Fever spores. The number of solar fields in the Antelope Valley is projected to increase substantially over the next 10 years with the implementation of SB 350 which established a new "Renewable Portfolio Standard" ("RPS") of 50%.

*Construction and development*; these sources are slated to grow significantly to accommodate the sharp population increase (>30%) that is slated for the Antelope Valley by 2040.

*Agricultural operations* (all of which are specifically exempt from fugitive dust regulations). It is expected that fugitive dust generated by these sources will increase considerably over the next 5 years because new water restrictions will cause many existing farms to cease operations and their lands will become fallow.

*Numerous and large sand, gravel and quarry operations* that are not covered or enclosed are operated in the southern portion of the Antelope Valley Community.

The multi-fold "problem" that will be addressed by the proposed Antelope Valley Community Air Monitoring Program is to identify 1) The extent to which the Antelope Valley Community does or does not comply with adopted PM2.5 standards; 2) The location and nature of the primary sources that contribute to ambient particulate levels in the Antelope Valley Community; and 3) Strategies that will reduce or eliminate particulate emissions from these primary sources once they are identified.

## **PROJECT DESCRIPTION**

The Project is to deploy a network of particulate sensors at strategic locations throughout the Antelope Valley Community that provide real-time particulate concentration data that will be made accessible to the public via internet access to the cloud. The particulate concentration results will also be reconciled with meteorological data from nearby airport and federal met station facilities to identify the primary source(s) of ambient particulate within the Antelope Valley Community. Once these sources are identified, tailored emission reduction strategies can be developed and implemented to reduce ambient particulate concentrations within the community.

## **DATA GENERATION AND ACQUISITION**

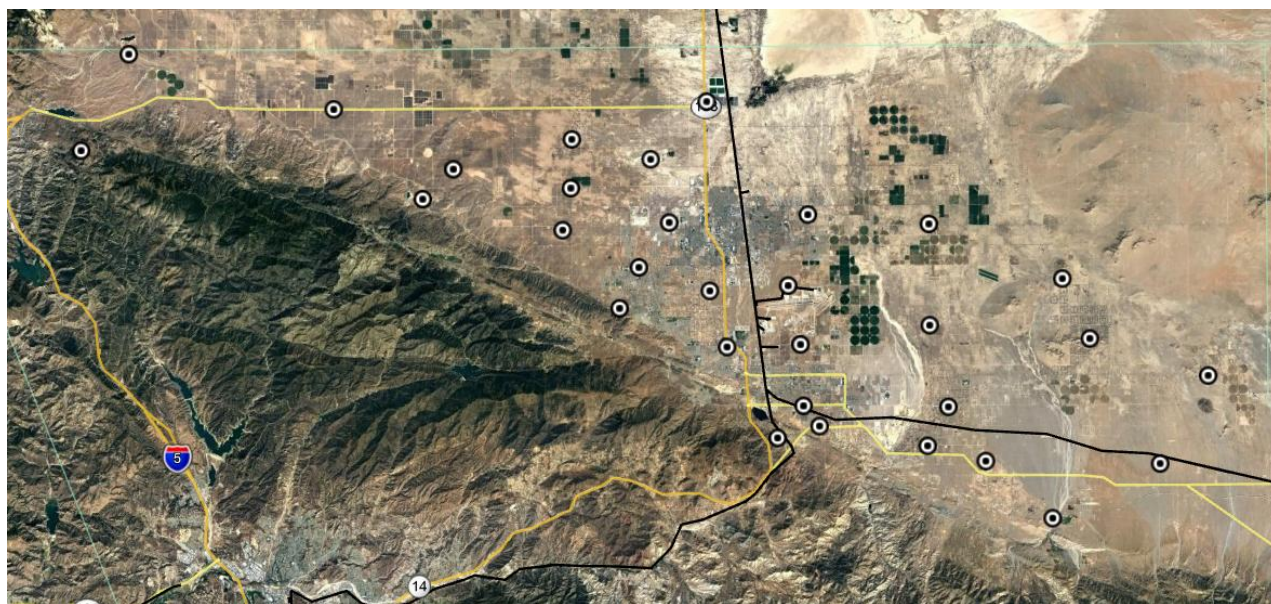
The success of the data generation and acquisition portion of the Antelope Valley Community Air Monitoring Program hinges on 3 essential elements that are necessary for a

comprehensive and robust program: 1) Sampling Methodology; 2) Sampling Location, and 3) Sampling duration/frequency. Each of these elements are discussed below:

Sampling Methodology: The proposed Antelope Valley Community Air Monitoring Program will deploy "Purple Air II" ("PA-II") optical sensors which provide real-time PM10, PM2.5, and PM1.0 particulate concentration data that is immediately accessible in the "cloud" for monitoring sites equipped with "wifi". As discussed in more detail below, most of the proposed sampling sites will have "wifi" capability, however those sensors placed in remote areas where "wifi" is not available will be equipped with data logging capabilities that permit data retrieval from a micro-chip assembly. The PA-II system has been field-evaluated by the South Coast Air Quality Management District ("SCAQMD") and found to provide reasonably accurate data (see <http://www.aqmd.gov/docs/default-source/aq-spec/field-evaluations/purple-air-pa-ii---field-evaluation.pdf?sfvrsn=2> ). However, the Antelope Valley Community Air Monitoring Program will implement its own quality assurance plan to assess data accuracy, precision and completeness (as discussed below).

Sampling Location: The AVAQMD and ARTC have tentatively identified approximately 30 sampling locations that are strategically placed to characterize particulate levels throughout the Antelope Valley Community. These tentative sampling locations are depicted in the figure below and were developed based on source locational studies and extensive community and stakeholder outreach in which residents and local officials were asked to mark the key sampling locations.

#### ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM SAMPLING LOCATIONS.



Sampling Duration/Frequency: The PA-II sensors proposed for use in the Antelope Valley Community Air Monitoring Program operate continuously and will provide data 24/7. When excess particulate levels are measured, the PA-II data will be reconciled with meteorological data to identify the particulate source location. Over time, areas with high ambient particulate levels will be differentiated from low level areas, and the sensors can be relocated to "cluster" around high load areas to more accurately locate primary particulate sources.

## **DATA QUALITY OBJECTIVES AND CRITERIA**

The AVAQMD and ARTC recognize that the Antelope Valley Community Air Monitoring Program will only be successful if the data that is collected is reasonably accurate and representative of ambient particulate conditions occurring within the Antelope Valley Community. To achieve this purpose, "Data Quality Objectives" ("DQOs") are typically established that are intended to reflect the purpose of the study, define the most appropriate type of information to collect, and specify tolerable levels of potential errors. The DQOs recognize that:

- The particulate concentration data collected for the Antelope Valley Community Air Monitoring Program is intended to be quantitative, though not to such a degree that it will be "regulatory quality" (such as determining compliance with ambient air quality standards).
- The data is also intended to reflect particulate concentrations throughout the varied neighborhood profiles of the Antelope Valley Community; to achieve the high level of representativeness required for program DQO's, PA-II sensors will be deployed at more than 30 sample locations.
- The particulate concentration data are also intended to provide "real time" results that will be relied upon by the public and must therefore be reasonably reliable.

Based on lab studies of the PA-II system conducted by the SCAQMD, it appears that the system achieves a high (85-95%) accuracy rate for PM1 at concentrations in the 10-30  $\mu\text{g}/\text{m}^3$  range and is biased low (65-75%) for at concentrations exceeding 50  $\mu\text{g}/\text{m}^3$ . These results indicate that the PA-II is more likely to underreport high PM1 concentrations rather than overreport them. For PM2.5, the PA-II is biased somewhat high for low (<45  $\mu\text{g}/\text{m}^3$ ) particulate concentrations but is fairly accurate for higher concentrations. For PM10, PA-II results are consistently biased low, however they are reasonably accurate for low (<45  $\mu\text{g}/\text{m}^3$ ) particulate concentrations. These results indicate that the PA-II is unlikely to

overpredict ambient particulate concentrations and will provide data that can reasonably assumed to be "floor values". Based on mass measurement correlation data obtained from field studies of the PA-II system conducted by the SCAQMD, the AVAQMD and ARTC have determined that project DQOs can be met by the PA-II systems if a sampling completeness of 85% is achieved for the 30+ sampling sites that are proposed. According to SCAQMD field test results, the PA-II appears to be a generally reliable instrument, but to ensure that the Antelope Valley Community Monitoring Program achieves an 85% completeness level or better, we propose to acquire 25% more sensors than is required; this will allow us to quickly replace sensors that have failed and thus maintain a high data recovery rate and, by extension, achieve sample representativeness.

To ensure that total measurement uncertainty will be within the range prescribed for the Antelope Valley Community Air Quality Monitoring Program DQO, the initially proposed Measurement Quality Objectives ("MQOs") are set forth below; these MQOs will likely change based on discussions with CARB and other stakeholders.

*An Accuracy threshold on the order of +/- 30%:* To assess data accuracy, the Antelope Valley Community Air Monitoring Program will deploy duplicate PA-II sensors at the BAMS site located in the City of Lancaster. Data from the PA-II sensors will be compared to certified PM10 and PM 2.5 data from the BAMS to assess the level of accuracy achieved by the PA-II sensors, and the "accuracy band" that is calculated from this comparison will be applied to the results obtained from all the sampling locations. The AVAQMD and ARTC recognize that the PA-II sensors rely on optical sensing rather than gravimetric analysis, and that the results may be sensitive to particulate characteristics. We also recognize that the "accuracy band" derived for the PA-II sensors deployed at the urban Lancaster BAMS site may not be directly transferrable to rural areas next to a solar farm because the characteristics of urban-sourced particulate may differ from rural-based ambient dust. To address this, the AVAQMD and ARTC request that CARB permit the intermittent deployment of highly accurate portable monitors that CARB maintains to assess data accuracy in the non-urban portions of the Antelope Valley Community.

*A Precision threshold on the order of 85%:* The test matrix for the proposed Antelope Valley Community Air Monitoring Program includes a 10% duplicate rate to assess measurement precision. This means that 10% of the sampling locations will be outfitted with duplicate PA-II sensors that will be used to establish a measurement "precision band".

*A Detection Level threshold of 5  $\mu\text{g}/\text{m}^3$ :* This detection level seems reasonable, based on SCAQMD lab- and field-studies.

## **DATA VALIDATION AND USABILITY**

The accuracy and precision factors derived from the duplicate and comparative analysis results will be applied to the particulate data that is collected to establish a valid data set. When high particulate levels are measured, the data will be validated through application of the accuracy and precision factors and then reconciled with meteorological data from the Fox Field Airport (in the north portion of the community) and the U.S Weather Station at Sandberg (located in the west); we also hope to access data collected by private air fields and US Air Force Plant 42 (located in the south-central portion of the community). The primary source locations that are identified via this methodology will be visually inspected to the greatest extent possible to confirm proper source identification. Over time, these activities will enable the AVAQMD and ARTC to "map" primary source locations, and based on this information, cluster PA-II sensors in the area to confirm the extent to which the source contributes significantly to ambient particulate levels. The data will be configured, maintained and stored in a format that is easily understood and readily accessible.

## **POST MONITORING ACTIONS**

The Antelope Valley Community Air Monitoring Program will be conducted by deploying a network of particulate sensors at strategic locations throughout the Antelope Valley Community which provide real-time particulate concentration data that will be made accessible to the public via the internet. The particulate concentration results will also be reconciled with meteorological data from nearby airport and federal metrological stations to identify the primary source(s) of ambient particulate within the Antelope Valley Community. Over time, when areas of high particulate concentrations are found, additional monitors will be installed surrounding the problem area to more closely pinpoint the source. Source-focused monitoring (i.e. fenceline monitoring) will be utilized to accurately determine the specific source of emissions.

AVAQMD will develop particulate emission reduction strategies that are tailored to the individual source characteristics. Emission reduction strategies will be developed based on stakeholder input and complement ongoing control efforts currently underway by the air district along with various support organizations in the Antelope Valley. Additionally, all data will be reviewed to determine the Antelope Valley Region's compliance with State and Federal Ambient Particulate Standards. Finally, AVAQMD will track the progress of emission reduction strategies that are developed and implemented based on data collected from the CAPP study.



**ATTACHMENT 4**  
**AVAQMD AND ARTC JOINT CAPP SUBMITTAL DATED APRIL 30, 2018**

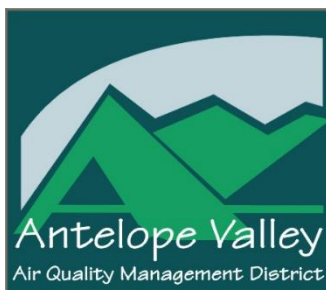
# ANTELOPE VALLEY COMMUNITY AIR MONITORING PROPOSAL



**SUBMITTED BY:**

**THE ANTELOPE VALLEY AIR QUALITY  
MANAGEMENT DISTRICT**

**IN PARTNERSHIP WITH THE  
ASSOCIATION OF RURAL TOWN COUNCILS**



**APRIL 30, 2018**

## **INTRODUCTION**

The Antelope Valley Air Quality Management District seeks to participate in the CAPP program to establish the prevalence of ambient PM<sub>10</sub> and PM<sub>2.5</sub> as a potentially significant source of the severe and extensively documented health problems that are extant in the Antelope Valley. For more than a decade, the Antelope Valley has experienced among the highest incidence of emphysema and chronic obstructive pulmonary disease ("COPD") in the country<sup>1</sup>, and very high childhood asthma rates occur uniformly throughout the Antelope Valley Community. According to health statistics gathered by the UCLA Center for Health Policy Research, 15.4% of children in the Antelope Valley Community have asthma; this is notably higher than the California average of 14.1% and the Los Angeles County average of 13.1%<sup>2</sup>. Additionally, the incidence of Valley Fever in the Antelope Valley is substantial; nearly 30% of all Valley Fever cases reported in Los Angeles County have occurred in the Antelope Valley, and Los Angeles County is second only to Kern County in the number of Valley Fever cases reported each year<sup>3</sup>. The incidence rate of Valley Fever in the Antelope Valley Community is substantial, based on preliminary 2017 data, the incidence rate is estimated to be 62 cases per 100,000 in population<sup>4</sup>. Ambient particulate pollution causes respiratory insults that demonstrably exacerbate both COPD<sup>5,6</sup> and asthma<sup>7,8,9</sup> and are causally linked to the incidence of Valley Fever<sup>10</sup>.

The Antelope Valley Community is predominately rural, but it has a suburban core comprised of the Cities of Lancaster and Palmdale where approximately 60% of the population resides. It is one of a handful of areas in California that has never been properly assessed for compliance with either the National or California Ambient Air Quality Standards ("AAQS") for PM<sub>2.5</sub><sup>11, 12</sup>. It has also not been properly assessed for compliance with the National AAQS for PM<sub>10</sub><sup>13</sup> though it is established that the Antelope Valley Community does not comply with California's AAQS for PM<sub>10</sub><sup>14</sup>.

The Antelope Valley Community is a "high desert" community that is surrounded by mountains; it is formed by the convergence of the Tehachapi range (running south and west) and the Sierra Pelona/Portal Ridge/San Gabriel ranges (running north and west). This essentially creates a desert "bowl" area that is characterized by high wind speeds which shift direction quickly and unpredictably. As a result, particulate from areas sources located in one portion of the Antelope Valley Community are rapidly transported to, and deposited within, other portions of the community. As discussed in further detail below, high windspeeds (> 20 miles per hour) and inconsistent wind patterns predominate in the Antelope Valley; this results in rapid dust dispersion throughout the Antelope Valley Community irrespective of area source location. In other words, particulate released on the west side of the Valley affects residents on the east side just as particulate released from the east side of the Valley affect residents on the west side. This, coupled with the fact

**FIGURE 1. ANTELOPE VALLEY COMMUNITY**



----- Antelope Valley Community Boundary

that health burdens from Valley Fever, childhood asthma and COPD occur uniformly throughout the Antelope Valley mean that the District's proposal considers the Antelope Valley Community "as a whole" rather than a patchwork of neighborhoods.

Based on local knowledge, the District believes that the principal particulate sources in the Antelope Valley Community are: 1) The large disturbed areas on the west side where more than 40,000 acres of defunct agricultural operations and utility-scale solar farms are located; 2) The 100,000+ vehicles per day that enter and exit the Antelope Valley Community along the southern boundary via the 14 Freeway (the primary route of access to the Los Angeles area); 3) The agricultural operations on the east side (which include both defunct and active operations); and 4) The numerous rock, gravel, and sand quarries/processing operations along the south side.

The District is applying for CAPP funding to achieve the threefold purpose of assessing PM10 and PM2.5 levels in the Antelope Valley Community, identifying the principal area sources of these particulate, and facilitating public access to particulate data in a manner that permits health-impaired individuals to make informed decisions regarding the extent to which they should participate in outdoor activities. In this regard, the District's CAPP proposal achieves multiple goals established by AB 617, including community air monitoring, data display/communications, and emission assessment.

## **COMMUNITY DESCRIPTION**

The Antelope Valley Community lies entirely within the County of Los Angeles and is bounded by the Tehachapi Range on the northwest, the Sierra Pelona/Portal Ridge/San Gabriel ranges on the south, the Kern County line on the north, and the San Bernardino County line on the east. Antelope Valley Community boundaries are depicted in Figure 1. The Antelope Valley Community meets the definition of "Disadvantaged Community" that is contemplated by AB 617 and it satisfies all the "Disadvantaged Community" criteria set forth in the California Health and Safety Code § 39711:

- The Antelope Valley Community is disproportionately burdened by negative health effects that either result from, or are exacerbated by, ambient particulate pollution. For instance, the Antelope Valley Community has one of the highest Valley Fever incidence rates in California (a condition directly attributable to ambient levels of respirable particulate). Additionally, (and as set forth above) the Antelope Valley Community is disproportionately burdened by COPD and childhood asthma; these COPD and asthma health burdens are demonstratively exacerbated by ambient PM10 and PM2.5 levels.

- The Antelope Valley Community has the highest "housing instability" rate in the County<sup>15</sup>; 11.3% of adults in the Antelope Valley Community report not having their own place to live or sleep over the last 5 years (more than twice the County average of 4.8%). The Antelope Valley Community meets the "Disadvantaged Community" criteria pertaining to "low levels of homeownership" and "high rent burden".
- The Antelope Valley Community has among the highest unemployment rates in Los Angeles County; 12.4% of adults are unemployed and looking for work <sup>16</sup>. This is 22% higher than the county average, and only one area within Los Angeles County has a markedly higher rate (South Los Angeles County is at 13.6%). The Antelope Valley Community meets the "Disadvantaged Community" criteria for high unemployment.
- 21.4% of the population of the Antelope Valley Community has a household income that is less than 100% of the Federal Poverty Level ("FPL")<sup>17</sup>. This is 16% higher than the County average of 18.4% and 53% higher than the state average of 14%<sup>18</sup>. The Antelope Valley Community meets the low income "Disadvantaged Community" criteria.

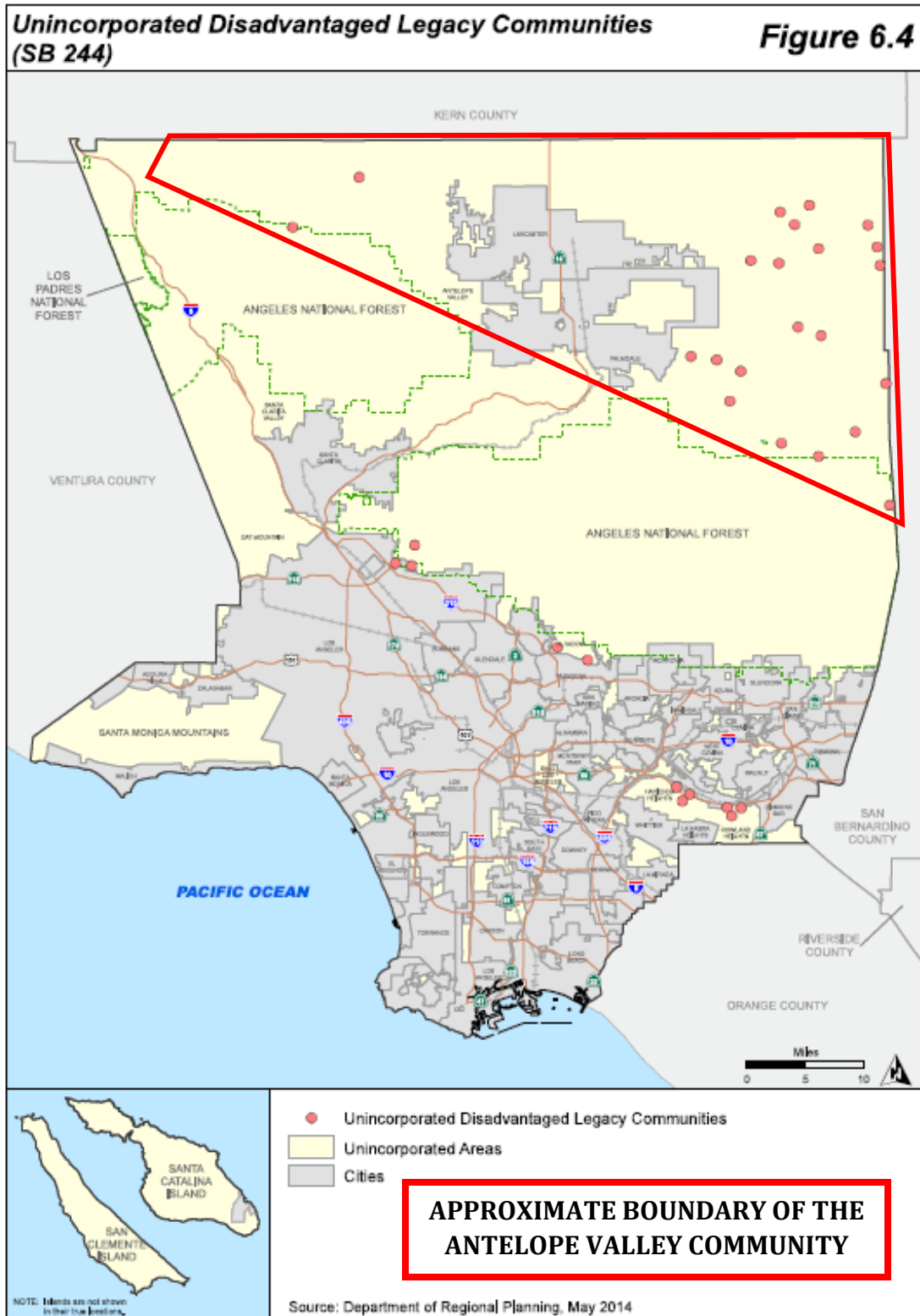
The boundaries of the Antelope Valley Community encompass the residents that have the highest PM10 and PM2.5 exposure burden from anthropogenic and non-anthropogenic area sources. These boundaries were established based on the District's assessment of likely mobile and stationary area source locations, soil erodability indices, land use characteristics, and meteorological data. The District acknowledges that this boundary encompasses a large area, but this is necessary because of the unique characteristics which create health burdens in areas that are not immediately adjacent to area sources of ambient particulate.

## **DATA SOURCES FOR EXPOSURE BURDEN ASSESSMENT**

The data resources relied upon to assess exposure burden within the Antelope Valley Community include CalEnviroScreen, SB 244 Disadvantaged Legacy Community data, ambient monitoring data, meteorological data, health indicator data, soil erodability data, CalTrans traffic data and additional data assembled from a variety of historical records.

*Disadvantaged Legacy Communities under SB 244:* SB 244 mandates the identification of disadvantaged unincorporated communities (referred to as "legacy Communities") where the lack of public and private investment threatens the health and safety of the residents of these communities and fosters economic, social, and educational inequality. In accordance with SB 244, the County of Los Angeles mapped Disadvantaged Unincorporated Legacy Communities and identified these Legacy Communities in the recently adopted County General Plan. The map is provided in Figure 2 and has been edited slightly to show the approximate boundaries of the Antelope Valley Community. As indicated in Figure 2, the Antelope Valley Community encompasses numerous Disadvantaged Legacy Communities.

**FIGURE 2. DISADVANTAGED LEGACY COMMUNITIES IN THE ANTELOPE VALLEY.**



CalEnviroScreen: California state law defines environmental justice to mean “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations, and policies.” Environmental justice principles are an important part of State’s goal to restore, protect and improve the environment, and to ensure the health of people, the environment and the economy. CalEnviroScreen is a mapping tool developed to identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution’s effects. A screenshot of CalEnviroScreen 3.0 results are provided in Figure 3 which has been modified slightly to show the approximate boundaries of the Antelope Valley Community. As indicated in this figure, the heart of the Antelope Valley Community is a disadvantaged area where residents are deemed “especially vulnerable to pollution's effects”.

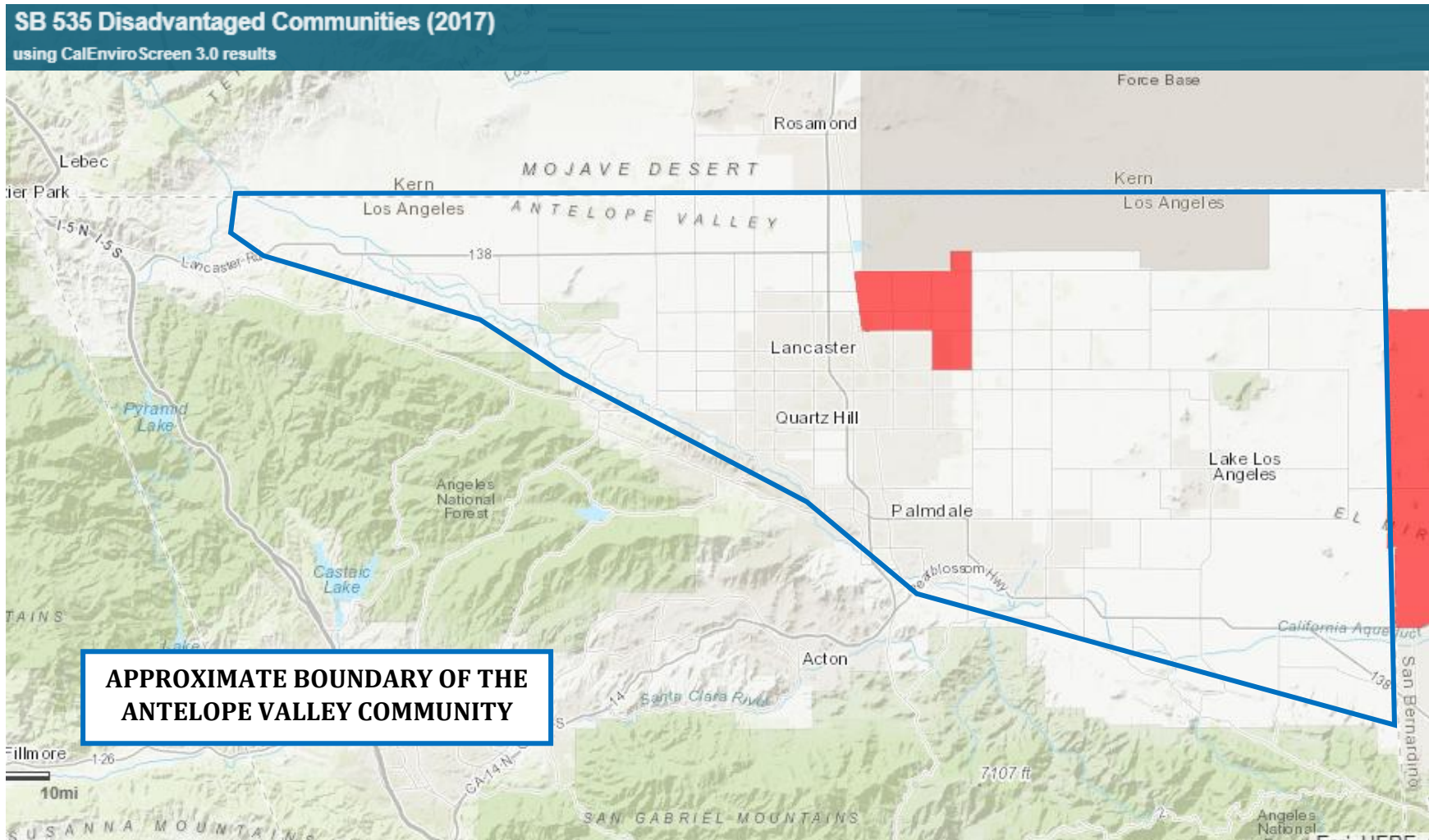
Ambient Monitoring Data: Within the Antelope Valley Community, the AVAQMD maintains and operates one ambient monitoring sampler that collects and reports PM10 and PM2.5 concentrations. The sampler is located within the City of Lancaster and is surrounded by urban development which, to some extent, shields the monitoring station from windblown dust that occurs in the greater Antelope Valley Community outside the urban core. Nonetheless, it is not uncommon for the ambient sampling equipment in Lancaster to detect PM2.5 levels exceeding the 35 µg/m<sup>3</sup> Federal 24-hour AAQS. However, there is insufficient data from this monitoring station to evaluate the data in terms of the California PM2.5 AAQS. The fact that the data collected from this monitoring station reveals high ambient particulate levels despite potential shielding provided by surrounding urban development is the primary reason that AVAQMD is proposing a broader PM2.5 and PM 10 monitoring program within the Antelope Valley Community under the CAPP program.

Health Indicator Data: The impetus for the AVAQMD's proposed PM2.5/PM10 monitoring effort under the CAPP is provided by extensive health indicator data supplied by the Los Angeles County Department of Public Health and the UCLA Center for Health Policy Research (both of which are cited herein). Data from these sources reveal that a uniformly high frequency of Valley Fever and childhood asthma occur throughout the Antelope Valley Community. This information (reconciled with wind data and other anecdotal evidence) indicates that ambient dust problems are not constrained to only certain neighborhoods, and it supports the AVAQMD's conclusion that PM2.5 and PM10 monitoring under the CAPP should not be conducted in a fragmented manner in only certain neighborhoods, rather it should be conducted across the Antelope Valley Community *as a whole*.

CalTrans traffic data: Information provided by the California Department of Transportation reveals that the peak daily vehicle trip rate along the southern boundary of the Antelope Valley Community exceeds 110,000; this rate has climbed over the last 10 years<sup>19</sup>. The AVAQMD seeks to explore whether this contributes appreciably to PM10 and PM2.5 levels.



**FIGURE 3. CALENVIROSCREEN 3.0 DATA FOR THE ANTELOPE VALLEY COMMUNITY.**

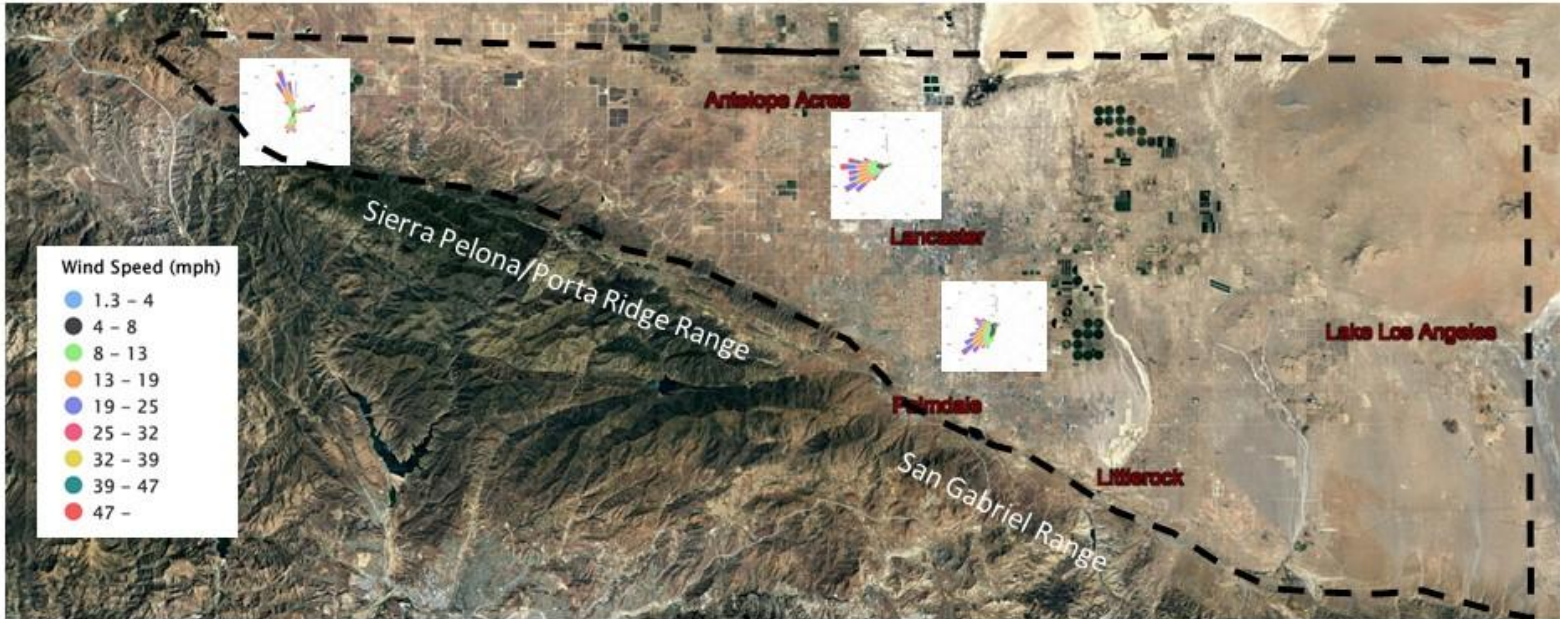


*Meteorological Data:* Several meteorological stations located within the Antelope Valley Community provide extensive historic wind data. Average windspeed and direction data from these resources for the time period between 2010 and 2018 is provided in a "windrose" format in Figure 2. These data reveal that the Antelope Valley Community experiences nearly constant winds exceeding 15 miles per hour and frequently experience significant (> 25 miles per hour) wind events. In the western portion of the Antelope Valley Community, significant wind events occur from nearly all points of the compass. In the east, high winds from the southwest and northwest predominate, though significant wind events from the east and north east are common. Rapid directional shifts during high wind events also occur in the Antelope Valley Community, as evidenced in the chart included at the bottom of figure 2 which reports windspeed and direction at Fox Airport in April of 2013. This chart shows that 25 mph easterly winds quickly shift to 25 mph westerly winds within just a few hours. Because of the high windspeeds and frenetic directional profiles within the Antelope Valley Community, the AVAQMD suspects that particulate entrained on the west side of the Antelope Valley Community can cause high ambient particulate levels on the east side and vice versa; the AVAQMD seeks to confirm this through implementation of a CAPP monitoring program.

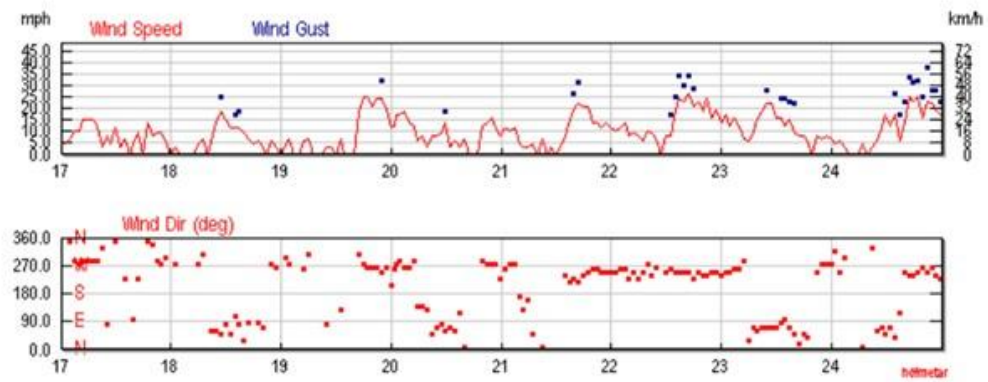
*Soil Erodability Data:* Wind erodability data for the Antelope Valley that has been compiled by the US Department of Agriculture indicate the areas within the Antelope Valley Community having soils with a high "erodability index" (established based on tons per acre per year). These data (available in map format as depicted in Figure 3) will be used by the AVAQMD to inform locational decisions for placement of PM2.5 and PM10 sampling equipment in the Antelope Valley Community.

*Additional Data:* Windblown particulate is common in the Antelope Valley Community and has been well documented for nearly a century. A 1970 soil survey of the Antelope Valley conducted by the U.S. Department of Agriculture reports "Soil blowing is a hazard in all parts of the Antelope Valley area"<sup>20</sup>. A 1990 article in the Los Angeles Times reports that development occurring in the western portion of the Antelope Valley Community continually blanketed the east side with dust for days.<sup>21</sup> In 1991, the US Department of Agriculture Soils Conservation Service launched a program to stabilize windblown particulate from thousands of acres of land in the Antelope Valley that reduced visibility at Edwards Air Force Base, scoured painted surfaces and landscaping in the area, and caused numerous traffic accidents on area roads<sup>22</sup>." A detailed study conducted by the Department of Defense in 1963 reports "The incidence of sand and dust storms is directly related to the occurrence of winds of appreciable velocity". It goes on to report that, over a 10-year period the mean number of days when visibility was less than a mile due to blown dust at Muroc Air Base (now Edwards Air Force Base) was 0.4 per month and that records collected in Palmdale from 1948 to 1953 show an average of 6 dust storms per year<sup>23</sup>.

**FIGURE 4. ANTELOPE VALLEY COMMUNITY WINDROSE DATA**

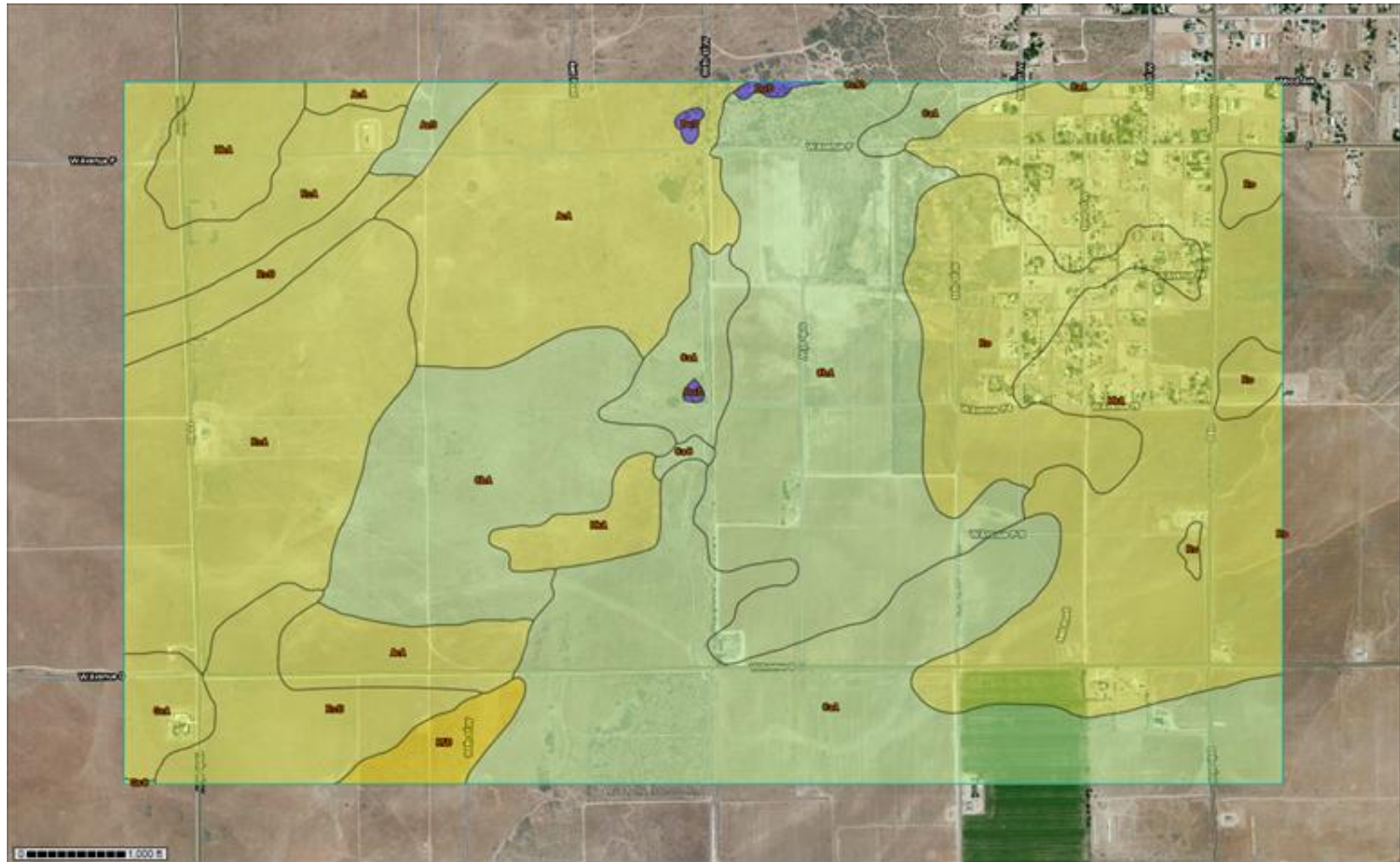


**Weather Data from the William J Fox Field Airport for April, 2013**



Data taken from [www.wunderground.com](http://www.wunderground.com)

**FIGURE 5. SOIL ERODABILITY MAP FOR A SMALL AREA WITHIN THE ANTELOPE VALLEY COMMUNITY.**



Indication of wind erodibility index (tons/acres/year): 56 (yellow), 86 (light yellow), 134 (light green), 250 (dark blue). Data was obtained from the USDA websoilsurvey database

Recent events reveal that windblown particulate exposure problems continue to exist. In April, 2013 windblown dust reduced visibility to such an extent that it caused nine different traffic collisions on the 14 freeway within the Antelope Valley. Numerous sources of these dust events are well documented; wind blowing from the east over farmland and even construction sites can generate such dust clouds that visibility is limited on neighborhoods to the west, and even cause visibility problems on portions of Air Force Plant 42. Particulate entrained by westerly winds blowing over solar farm developments and construction sites on the west side can completely block the view of the nearby Tehachapi Mountains (shown in the photograph on the cover of this submittal). The AVAQMD seeks to explore the extent to which such dust events create PM2.5 and PM10 exposure burdens within the Antelope Valley Community.

## **CRITERIA RELIED UPON TO PRIORITIZE COMMUNITIES**

The District is proposing only one project for the CAPP program, and it involves a single community (the Antelope Valley Community). Therefore, it is not necessary for the District to prioritize the communities within the region.

## **CANDIDATE COMMUNITIES WITH EXPOSURE BURDENS.**

The District has identified only the Antelope Valley Community as a single community that has high cumulative exposure burdens; the Antelope Valley Community is described above.

## **PUBLIC OUTREACH APPROACH AND SCHEDULE**

The District has already initiated public outreach on this project, and it will continue such activities throughout 2018. The District's outreach approach is founded on 1) Discussions and communications with members of local neighborhood councils who are elected by rural residences within the Antelope Valley Community; 2) Stakeholder meetings with the city officials from Lancaster and Palmdale; 3) Discussions with local dust control groups including the Antelope Valley Resource Conservation District and the Antelope Valley Dust Control Group; 4) Meetings with County health officials and local school districts. These meetings and discussions will be convened for the purpose of pinpointing specific areas within the community where notable particulate-related respiratory insults frequently occur, "mapping" where these areas overlay sensitive receptors within the Antelope Valley Community, identifying the most appropriate sampling locations and equipment, and soliciting recommendations regarding data display and inventory reporting methodologies to ensure that the data is publicly available in a format that is most useful to residents and public officials. The tentative schedule for this outreach effort is summarized in Table 1.

**TABLE 1. PUBLIC OUTREACH SCHEDULE FOR THE ANTELOPE VALLEY COMMUNITY CAPP PROGRAM.**

MAY	Make a presentation and solicit input at the regularly scheduled meeting of the Association of Rural Town Councils
	Make a presentation and solicit input at the regularly scheduled council meeting convened by the City of Lancaster
	Make a presentation and solicit input at the regularly scheduled council meeting convened by the City of Palmdale
	Convene discussions with officials from the Los Angeles County Health Department regarding neighborhood-based health statistics that pertain to ambient particulate-related health concerns.
JUNE	Convene meetings and discussions with the Antelope Valley Resource Conservation District to gather input and acquire soil erodability maps of the Antelope Valley to pinpoint likely particulate entrainment areas.
	Convene meetings and discussions with the Antelope Valley Dust Control Group to gather input and assess appropriate sampling and data collection methodologies to maximize the scope, extent, and quality of the particulate data that will be collected.
	Convene meetings and discussions with local City, County and District officials to identify appropriate and secure sampling locations within the Antelope Valley Community.
	Meet with the Antelope Acres rural council (in the west Antelope Valley)
	Meet with the Lake Los Angeles rural council (in the east Antelope Valley)
	Meet with the Littlerock rural council (located in the south Antelope Valley) Meet with other community councils that express an interest in participating,
	Provide a progress report and solicit additional input at the regularly scheduled meeting of the Association of Rural Town Councils
	Provide a progress report and solicit additional input at the regularly scheduled council meeting convened by the City of Palmdale
	Provide a progress report and solicit additional input at the regularly scheduled council meeting convened by the City of Palmdale
JULY	Convene a meeting with the Antelope Valley Resource Conservation District and the Antelope Valley Dust Control Group to finalize the proposed sampling program (including methodologies, data quality objectives, and quality assurance planning) and particulate data reporting platforms for public access.
	Convene meetings and discussions with local City, County and District officials to finalize the proposed sampling program and the particulate data reporting platforms that will be provided by AVAQMD for public access.
	Present the proposed sampling program and the particulate data reporting platforms for public access at the regularly scheduled meeting of the Association of Rural Town Councils and solicit final input regarding same.

## **THE DISTRICT'S RELATIONSHIP WITH COMMUNITY MEMBERS AND COMMUNITY-BASED ORGANIZATIONS**

The District has established meaningful relationships with the neighborhoods and localities that comprise the Antelope Valley Community and with residents and community-based organizations that have striven to address particulate concerns for decades. These groups support the AVAQMD's CAPP Proposal effort and are identified below. Many have agreed to provide letters of support (some of which are included in Attachment A). However, and due to time constraints, some letters are not yet completed. Additional letters received in future shall be provided to the Air Resources Board in a supplemental package.

### The Association of Rural Town Councils:

The Association of Rural Town Councils is an affiliation of rural town council groups from the northern portion of unincorporated Los Angeles County that work together to address issues and develop collaborative solutions to matters of concern to the Antelope Valley Community. The Association of Rural Town Councils is partnering with the AVAQMD on the CAPP monitoring program proposal.

### The Los Angeles County Department of Public Health

The Los Angeles County Department of Public Health ("DPH") strongly supports the AVAQMD's proposed CAPP effort and provided the fundamental health data and "health indicator" statistics upon which the AVAQMD's proposal is founded. The AVAQMD and the DPH will continue to collaborate on the CAPP effort to ensure a comprehensive, health-based monitoring program is developed.

### The City of Lancaster

The City of Lancaster is one of two incorporated Cities within the Antelope Valley Community under the jurisdiction of the AVAQMD. The City of Lancaster has two seats on the AVAQMD Governing Board. Currently the Vice Mayor of Lancaster serves as the Chairman of the AVAQMD Governing Board. The City of Lancaster produces more solar power per capita than any other city in the state. Lancaster also changed its building code to require that new homes include rooftop solar to demonstrate the local governments are making real efforts to address climate change. Lastly, Lancaster is home to the BYD electric truck and bus factory and has committed to have the 75-bus fleet of the Antelope Valley Transit Authority operate all electric buses by the end of 2018.

### The City of Palmdale

The City of Palmdale is one of two incorporated Cities within the Antelope Valley Community under the jurisdiction of the AVAQMD. The City of Palmdale has two seats on the AVAQMD Governing Board. Currently a Councilman from Palmdale serves as the Vice Chairman of the AVAQMD Governing Board. Palmdale is home to Kinkisharyo the #1 supplier of low-floor light rail vehicles in North America

### The Antelope Valley Resource Conservation District

Resource Conservation Districts began in the 1930's when the problem of soil erosion in the United States became so severe that President Roosevelt introduced the Standard State Conservation District Law to combat the degradation of the country's land resources.

Resource Conservation Districts are local government bodies, chartered by the state and organized and operated by local farmers, ranchers and interested citizens. The Antelope Valley Resource Conservation District is managed by 5 non-salaried directors who are land users and familiar with local resource problems.

### The Antelope Valley Dustbusters Taskforce

The Antelope Valley Dustbusters Taskforce is a locally-based, multi-agency working group that was organized and convened to formulate dust mitigation strategies. The Taskforce consists of local farmers, representatives from academia, private consulting companies and research institutes, the California Air Resources Board, the Antelope Valley AQMD, the Natural Resources Conservation Service, the Antelope Valley Resource Conservation District, the Desert Mountain Resource Conservation and Development Council, the Southern California Edison Company and many others.

### The Partners for Fugitive Dust/ Valley Fever in the A.V.

The Partners for Fugitive Dust/ Valley Fever in the A.V. is an Antelope Valley grassroots organization with a mission to decrease fugitive dust through translation of scientific research to real world application. In addition, fugitive dust work Partners has expended their efforts provide awareness for Valley Fever. In 2017 Partners sponsored the first annual AV Valley Fever Walk to share valuable information and raise funds for valley fever research.

### Save Our Rural Town:

Save Our Rural Town is a grassroots organization formed to protect rural communities and preserve the rural form within the County of Los Angeles. Among other things, Save Our Rural Town has collaborated with the AVAQMD, the City of Lancaster, and the County of Los Angeles in the implementation of site specific dust control measures on solar farm development projects within the Antelope Valley Community. Save Our Rural Town members are located throughout the Antelope Valley and beyond.

## **CONCLUSION**

The District looks forward to the opportunity to participate in the CAPP Program and through such efforts, shed more light on ambient particulate levels within the Antelope Valley Community as a necessary first step in addressing broader health concerns in the area.



## END NOTES

<sup>1</sup> Emphysema/COPD is a top cause of death in the Antelope Valley portion of Los Angeles County, claiming 58.9 lives per 100,000 which is more than double the county-wide death rate [page 24 of the Los Angeles County "Key Indicators of Health" Report published by the LA County Department of Public Health:

[http://publichealth.lacounty.gov/ha/docs/2015LACHS/KeyIndicator/PH-KIH\\_2017-sec%20UPDATED.pdf](http://publichealth.lacounty.gov/ha/docs/2015LACHS/KeyIndicator/PH-KIH_2017-sec%20UPDATED.pdf)]). According to the CDC, this morbidity rate is among the highest in the Country [see <https://www.cdc.gov/copd/data.html> ].

<sup>2</sup> According to health statistics reported by the UCLA Center for Health Policy Research [<http://askchisne.ucla.edu/ask/layouts/ne/dashboard.aspx#/> ], the incidence of childhood asthma across all zip codes in the Antelope Valley Community uniformly exceeds 15%, and can be as high as 16.5%. When reconciled with current population data, the overall incidence of childhood asthma in the Antelope Valley Community is 15.4% which is substantially higher than the Los Angeles County Average of 13.1% reported by the UCLA Health Policy Research Center. The Los Angeles County Department of Public Health reports that 72% of children with asthma that live within the Antelope Valley Community regularly miss school

[\[http://publichealth.lacounty.gov/docs/HealthNews/Child\\_Asthma\\_2014.pdf\]](http://publichealth.lacounty.gov/docs/HealthNews/Child_Asthma_2014.pdf)

<sup>3</sup> The LA County Department of Public Health reports that 591 cases of Valley Fever were occurred in the Antelope Valley Service Planning Area between 2011 and 2015 ["Valley Fever Overview – What we Know and Don't Know" Presentation by the Los Angeles County Department of Public Health to the AVAQMD in 2018]; this is 29% of the 2,032 cases that the LA County Department of Public Health reported in Los Angeles County between 2011 and 2015 (*ibid*). The California Department of Public Health reports Valley Fever incidence statistics by County, and between 2013 and 2015, the number of Valley Fever diagnoses in Los Angeles County was second only to Kern County:

[\[https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/YearlySummRptsofSelectedGenCommDisinCA2011-2015.pdf#page=38 \]](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/YearlySummRptsofSelectedGenCommDisinCA2011-2015.pdf#page=38)

<sup>4</sup> The LA County Department of Public Health estimates 853 Valley Fever cases were diagnosed in 2017 (*ibid*), Assuming 29% were in the Antelope Valley (as noted above), and reconciling this with the 396,357 population of the Antelope Valley portion in LA County [[http://publichealth.lacounty.gov/ha/docs/2015LACHS/KeyIndicator/PH-KIH\\_2017-sec%20UPDATED.pdf](http://publichealth.lacounty.gov/ha/docs/2015LACHS/KeyIndicator/PH-KIH_2017-sec%20UPDATED.pdf)] yields an estimated incidence rate of 62 cases per 100,000.

<sup>5</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3958649/>.

<sup>6</sup> The Federal Environmental Protection Agency reports "Epidemiological panel studies exploring the potential relationship between daily particle pollution levels and respiratory effects in people with COPD reported increased symptomatic response, increased use of evening medication (winter time), and small decrements in spirometric lung function in the days immediately following elevated particle pollution (PM10 and PM2.5) levels"

[\[https://www.epa.gov/particle-pollution-and-your-patients-health/health-effects-pm-patients-lung-disease#copd \]](https://www.epa.gov/particle-pollution-and-your-patients-health/health-effects-pm-patients-lung-disease#copd)

<sup>7</sup> <https://ehp.niehs.nih.gov/wp-content/uploads/124/12/EHP92.alt.pdf> .

<sup>8</sup> The Federal Environmental Protection Agency reports "In general, epidemiologic data provide substantial evidence for the association between particle pollution exposure and adverse effects in individuals with allergies and asthma, as assessed by frequency and severity of respiratory symptoms, pulmonary function changes, medication use, and ambient particle pollution levels. There is evidence that both the development of asthma and its exacerbation can be associated with particle pollution exposure" [<https://www.epa.gov/particle-pollution-and-your-patients-health/health-effects-pm-patients-lung-disease#copd> ]

<sup>9</sup> Page 7 of the California Air Resources Board titled "Assessment of California's Statewide Air Monitoring Network for the Children's Environmental Health Protection Act (SB 25)" found here: <https://www.arb.ca.gov/ch/programs/sb25/adequacyreport.pdf> . Notably, this report concludes that ambient PM10 and PM2.5 levels can be adequately predicted in areas that do not have monitors by using data from the closest established monitoring station, and it also concludes that little variations are found in "Community-to-Community" comparisons of ambient particulate levels. However, these conclusions are only applicable to the urban areas that were considered in the studies reported therein; they do not apply to areas like the Antelope Valley that experience frequent and significant dust storm episodes resulting from high wind events that entrain particulate released from area sources that are a thousand acres or more in size and which only have a single monitoring station located in the middle of a city.

<sup>10</sup> Coccidioidomycosis (Valley fever) is an infectious disease acquired by inhalation of soil-dwelling *Coccidioides* fungus spores [ [https://wwwnc.cdc.gov/eid/article/21/11/15-0129\\_article](https://wwwnc.cdc.gov/eid/article/21/11/15-0129_article) ]; these spores are common in the Antelope Valley.

<sup>11</sup> PM2.5 area designations for the National AAQS are mapped here: [https://www.arb.ca.gov/desig/adm/2015/fed\\_pm25.pdf](https://www.arb.ca.gov/desig/adm/2015/fed_pm25.pdf)

<sup>12</sup> PM2.5 area designations for the California AAQS are mapped here: [https://www.arb.ca.gov/desig/adm/2015/state\\_pm25.pdf](https://www.arb.ca.gov/desig/adm/2015/state_pm25.pdf)

<sup>13</sup> PM10 area designations for the National AAQS are mapped here: [https://www.arb.ca.gov/desig/adm/2015/fed\\_pm10.pdf](https://www.arb.ca.gov/desig/adm/2015/fed_pm10.pdf)

<sup>14</sup> PM10 area designations for the California AAQS are mapped here: [https://www.arb.ca.gov/desig/adm/2015/state\\_pm10.pdf](https://www.arb.ca.gov/desig/adm/2015/state_pm10.pdf)

<sup>15</sup> Page 8 of Los Angeles County Department of Public Health "Key Indicators of Health" Study [[http://publichealth.lacounty.gov/ha/docs/2015LACHS/KeyIndicator/PH-KIH\\_2017-sec%20UPDATED.pdf](http://publichealth.lacounty.gov/ha/docs/2015LACHS/KeyIndicator/PH-KIH_2017-sec%20UPDATED.pdf)]

<sup>16</sup> Ibid

17 Ibid

18 See <https://www.kff.org/other/state-indicator/population-above-and-below-100-fpl/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

19 See Caltrans trip count data provided here: <http://www.dot.ca.gov/trafficops/census/>

20 Page 110 of the report found here:

[https://www.nrcs.usda.gov/Internet/FSE MANUSCRIPTS/california/antelopevalleyCA1970/antelopevalleyCA1970.pdf](https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/antelopevalleyCA1970/antelopevalleyCA1970.pdf) ]

21 [http://articles.latimes.com/1990-08-24/local/me-1242\\_1\\_antelope-valley-residents](http://articles.latimes.com/1990-08-24/local/me-1242_1_antelope-valley-residents)

22 Results reported on Page 113 of the 1993 Proceedings from the "Wildland Shrub and Arid Land Restoration Symposium" convened in Las Vegas, Nevada October 19-21.

23 <http://www.dtic.mil/dtic/tr/fulltext/u2/417036.pdf>