BEFORE THE BOARD OF SUPERVISORS

of the

SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

Tuesday August 13, 2019

PRESENT: Supervisors John Peschong, Bruce Gibson, Adam Hill, Lynn Compton and Chairperson Debbie Arnold

ABSENT: None

RESOLUTION NO. 2019-233

RESOLUTION APPROVING THE WINTER CLOUD SEEDING PROGRAM FOR THE LOPEZ LAKE WATERSHED, ADOPTING THE MITIGATED NEGATIVE DECLARATION AND RELATED MITIGATION MONITORING AND REPORTING PROGRAM PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA), AND DIRECTING STAFF TO PROCEED WITH ASSOCIATED PROJECT DEVELOPMENT ACTIVITIES VIA ZONE 3 OF THE SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

The following Resolution is now offered and read:

WHEREAS, the San Luis Obispo County Master Water Report dated May 2012 identifies precipitation enhancement, also known as cloud seeding, as one option to provide a more reliable water supply for the County of San Luis Obispo (County); and

WHEREAS, the San Luis Obispo County Flood Control and Water Conservation District (District) prepared a Feasibility Study dated March 2017 that concludes that cloud seeding could enhance precipitation by as much as 9% to 17% per rain event, potentially increasing storage at the Lopez Lake Reservoir by 3,000 to 5,500 acre feet annually; and

WHEREAS, a Mitigated Negative Declaration (MND) that analyzed a winter cloud seeding program in both the Lopez Lake watershed and the Salinas Reservoir watershed was prepared and circulated for agency and public review and comment, all in accordance with the requirements of the California Environmental Quality Act of 1970 (Act), together with state and local guidelines implementing said Act, all as amended to date (collectively, CEQA); and

WHEREAS, the Board of Supervisors of the District reviewed and considered the MND and the related Mitigation Monitoring and Reporting Program (MMRP), both of which are attached hereto as Exhibit 1 and incorporated herein by this reference as if fully set forth herein, and intends to take action on the program in compliance with CEQA; and

WHEREAS, the Board of Supervisors has determined that there is no current need to pursue a winter cloud seeding program in the Salinas Reservoir watershed and thus is limiting its approval of the program described in the MND to a winter cloud seeding program for the Lopez Lake watershed (Project); and

WHEREAS, consistent with the local County CEQA Guidelines and Section 8 of the District Act which identifies all officers of the County as ex officio officers of the District and requires that they perform the same duties on behalf of the District, the County Environmental Coordinator makes environmental determinations and recommendations pursuant to CEQA, and the County Environmental Coordinator has reviewed and recommended adoption of the MND and related MMRP.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED, by the Board of Supervisors of the District, as follows:

1. That the following findings are made:

    a) The Board of Supervisors of the District has reviewed the MND and other information in the whole record and has considered the information contained therein; and

    b) The MND has been completed in compliance with CEQA; and

    c) The MND represents the independent judgment and analysis of the District as Lead Agency for the Project.

2. That the MND and the related MMRP are hereby adopted; and

3. That the Project is hereby approved, and staff is hereby directed to proceed with associated Project development activities, including but not limited to, working with potential Project partners and developing an operations plan; and

4. That staff shall return to the Board of Supervisors of the District to seek approval of the operations plan and authorization and direction to comply with all federal and state noticing and reporting requirements before commencement of any cloud seeding operation.

Upon motion of Supervisor Gibson, seconded by Supervisor Compton, and on the following roll call vote, to wit:

AYES: Supervisors Gibson, Compton, Peschong, Hill and Chairperson Arnold

NOES: None

ABSENT: None

ABSTAINING: None

the foregoing Resolution is hereby adopted on the 13th day of August, 2019.

Debbie Arnold
Chairperson of the Board of Supervisors

ATTEST:

WADE HORTON
Ex-Officio Clerk of the Board of Supervisors

By: T'Ana Christiansen
Deputy Clerk

(SEAL)

APPROVED AS TO FORM AND LEGAL EFFECT:

RITA L. NEAL
County Counsel

By: /s/ Erica Stuckey
Deputy County Counsel

Dated: July 25, 2019

STATE OF CALIFORNIA) ss.
COUNTY OF SAN LUIS OBISPO)

I, **WADE HORTON**, Ex-Officio Clerk of the Board of Supervisors thereof, do hereby certify the foregoing to be a full, true and correct copy of an order entered in the minutes of said Board of Supervisors, and now remaining of record in my office.

Witness, my hand and seal of said Board of Supervisors on August 23, 2019.

WADE HORTON,
Ex-Officio Clerk of the Board of Supervisors
By: T'Ana N. Christiansen
Deputy Clerk

EXHIBIT 1
MND and MMRP

Winter Cloud Seeding Program for Lopez Lake and Salinas Reservoir
ED17-144; 300591.03

MITIGATED NEGATIVE DECLARATION

COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PLANNING AND BUILDING
ENVIRONMENTAL & RESOURCE MANAGEMENT DIVISION

County File Number: ED17-144 (300591.03)

SCH Number: TBD

COUNTY DEPARTMENT OF PUBLIC WORKS
WINTER CLOUD SEEDING PROGRAM FOR LOPEZ LAKE AND SALINAS RESERVOIR
COUNTY OF SAN LUIS OBISPO
MITIGATED NEGATIVE DECLARATION & INITIAL STUDY

Abstract

The County of San Luis Obispo Flood Control and Water Conservation District (District) is proposing a Winter Cloud Seeding Program for Lopez Lake and Salinas Reservoir (project). The project objective is to increase precipitation in the Lopez Lake and Salinas Reservoir watersheds during winter precipitation events. The seeding program would use a combination of approximately eight ground-seeding sites and aircraft. It has been estimated that precipitation increases would be between 9% and 17% in the reservoir watersheds. The ground seeding sites are located in the inland portions of the San Luis Obispo and South County planning areas. The reservoir watersheds are located primarily in the North County and South County Planning Areas and Supervisorial Districts 3, 4, and 5. Comments regarding this document may be sent to Keith Miller, County Public Works Department, County Government Center Room 206, San Luis Obispo, California 93408.

The following persons may be contacted for additional information concerning this document:

Keith Miller, Environmental Programs Division
or
Ray Dienzo, Project Manager
County Department of Public Works
County Government Center, Room 206
San Luis Obispo, CA 93408
(805) 781-5252

This proposed Mitigated Negative Declaration has been issued by:

2·1·18
Date

Ellen Carroll
Ellen Carroll, Environmental Coordinator
County of San Luis Obispo

The project proponent, who agrees to implement the mitigation measures for the project, is:

2/6/18
Date

Mark Hutchinson, Deputy Director of Public Works
County of San Luis Obispo

Initial Study Summary – Environmental Checklist

SAN LUIS OBISPO COUNTY DEPARTMENT OF PLANNING AND BUILDING
976 OSOS STREET • ROOM 200 • SAN LUIS OBISPO • CALIFORNIA 93408 • (805) 781-5600

(ver 5.10)Using Form

Project Title & No. County Public Works – Winter Cloud Seeding Program for Lopez Lake and Salinas Reservoir ED17-144 (300591.03)

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: The proposed project could have a "Potentially Significant Impact" for at least one of the environmental factors checked below. Please refer to the attached pages for discussion on mitigation measures or project revisions to either reduce these impacts to less than significant levels or require further study.

☐ Aesthetics	☐ Geology and Soils	☐ Recreation
☒ Agricultural Resources	☐ Hazards/Hazardous Materials	☐ Transportation/Circulation
☐ Air Quality	☐ Noise	☐ Wastewater
☒ Biological Resources	☐ Population/Housing	☐ Water /Hydrology
☒ Cultural Resources	☐ Public Services/Utilities	☐ Land Use

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation, the Environmental Coordinator finds that:

☐ The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Keith Miller — 2-6-18

Prepared by (Print) — Signature — Date

Karen Nall — for — Ellen Carroll, Environmental Coordinator

Reviewed by (Print) — Signature — (for) — Environmental Coordinator — Date

Project Environmental Analysis

The County's environmental review process incorporates all of the requirements for completing the Initial Study as required by the California Environmental Quality Act (CEQA) and the CEQA Guidelines. The Initial Study includes staff's on-site inspection of the project site and surroundings and a detailed review of the information in the file for the project. In addition, available background information is reviewed for each project. Relevant information regarding soil types and characteristics, geologic information, significant vegetation and/or wildlife resources, water availability, wastewater disposal services, existing land uses and surrounding land use categories and other information relevant to the environmental review process are evaluated for each project. Exhibit A includes the references used, as well as the agencies or groups that were contacted as a part of the Initial Study. The County Planning Department uses the checklist to summarize the results of the research accomplished during the initial environmental review of the project.

Persons, agencies or organizations interested in obtaining more information regarding the environmental review process for a project should contact the County of San Luis Obispo Planning Department, 976 Osos Street, Rm. 200, San Luis Obispo, CA, 93408-2040 or call (805) 781-5600.

A. PROJECT

DESCRIPTION: The County of San Luis Obispo Flood Control and Water Conservation District (District) is proposing a Winter Cloud Seeding Program for Lopez Lake and Salinas Reservoir (project). The project objective is to increase precipitation in the Lopez Lake and Salinas Reservoir watersheds during winter precipitation events. The seeding program would use a combination of approximately eight ground-seeding sites and aircraft. It has been estimated that precipitation increases would be between 9% and 17% in the reservoir watersheds. The ground seeding sites are located in the inland portions of the San Luis Obispo and South County planning areas and would primarily use existing roads and disturbed sites. Modification of the site could result in the disturbance of up to 0.06 acre. The reservoir watersheds are located primarily in the North County and South County Planning Areas and Supervisorial Districts 3, 4, and 5.

Background

The following description of cloud seeding (i.e. precipitation enhancement) is from the 2013 California Water Plan:

> *"...artificially stimulates clouds to produce more rainfall or snowfall than they would produce naturally. Cloud seeding injects substances into the clouds that enable snowflakes and raindrops to form more easily....Winter orographic cloud seeding (cloud seeding where wind blows over a mountain range, thereby causing clouds and rain or snow by lifting the air) has been practiced in California since the early 1950s. Most of the projects are along the central and southern Sierra Nevada, with some in the Coast Ranges. The projects generally use silver iodide as the active seeding agent, supplemented by dry ice if aerial seeding is done."*

This generally describes the District's proposed project. More specifically, the District is proposing a project that is consistent with the program implemented by Santa Barbara County since 1981 for the Twitchell Reservoir and Lake Cachuma watersheds. The project would include cloud seeding using approximately eight ground seeding sites and cloud seeding aircraft. A complete description of the project can be found in the Feasibility/Design Study for a Winter Cloud Seeding Program in the Lake Lopez and Salinas Reservoir Drainages, California (Feasibility Study; NAWC; 2017).

Cloud Seeding Aircraft

Seeding by aircraft involves the use of a small plane with two burn-in-place flare racks mounted on the trailing edge of each wing. The flares used are the same as those utilized at ground seeding sites. Planes could takeoff and land from any local airport. A picture of a seeding aircraft is shown in Figure 1.

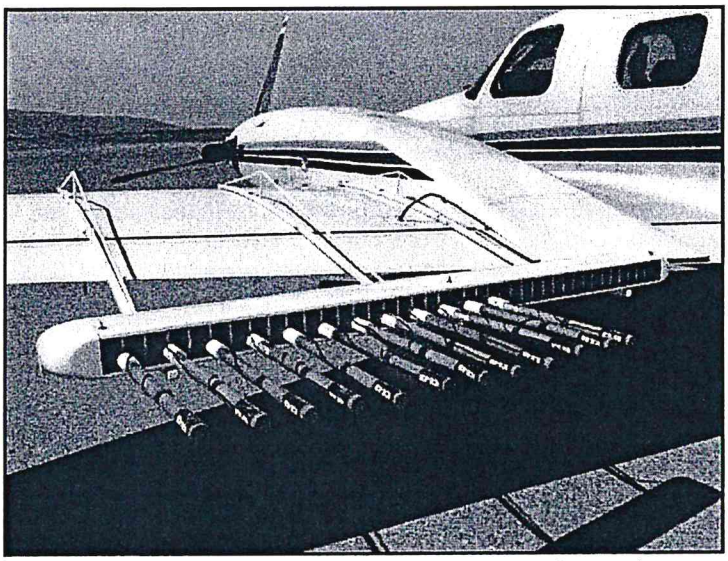


Figure 1. Typical cloud seeding aircraft with mounted flare rack.

Ground Seeding Sites

The project would include approximately eight ground seeding sites, located strategically on ridgelines generally west and south of the target watersheds (refer to the Vicinity Map). The ground disturbance at each site would be limited, but vegetation would be maintained in an approximately 10-foot radius (300 square feet; <0.01 acre) around the flare masts. Specific site selection criteria would include, but may not be limited to:

- Coverage: The site would be located to maximize coverage of the target watershed.
- Access: Sites with existing access roads would be chosen to the extent feasible.
- Visibility: Because they are located on ridgelines, each site will be considered the potential visibility from public roads and open spaces would be considered.
- Topographic Constraints: Sites that require minimal earthwork/grading will be utilized.
- Biological Constraints: Sites requiring significant vegetation removal or special-status species present will not be used to the extent feasible.
- Cultural Resources Constraints: Sites with cultural resources will be avoided.

Each ground seeding site would include:

1. Two flare masts
2. Spark arrestors
3. Communication control box
4. Solar panel/charging system
5. Cellular phone antenna

A typical ground-seeding site is shown in Figure 3

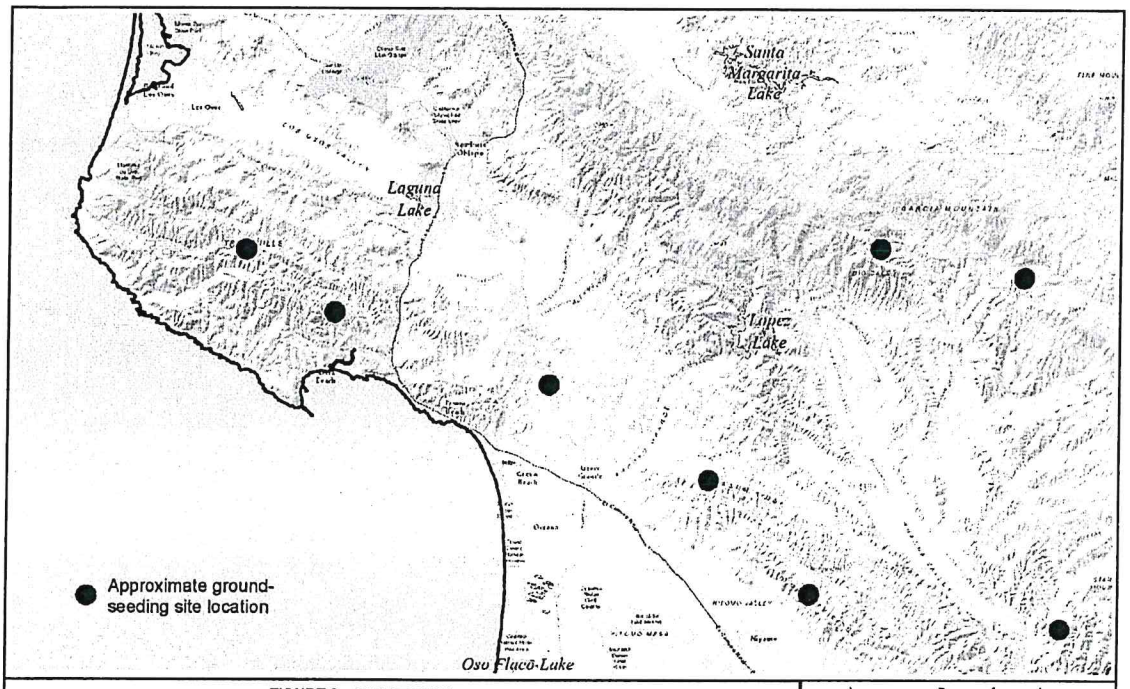


FIGURE 2 - VICINITY MAP

Winter Cloud Seeding Program for Lopez Lake and Salinas Reservoir

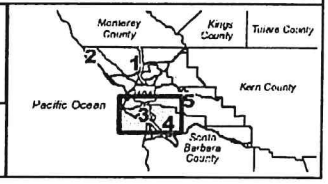
COUNTY OF SAN LUIS OBISPO - DEPARTMENT OF PUBLIC WORKS

1: 235,592

0 2 4 Miles

Created by: Department of Public Works

Printed: 9/19/2017



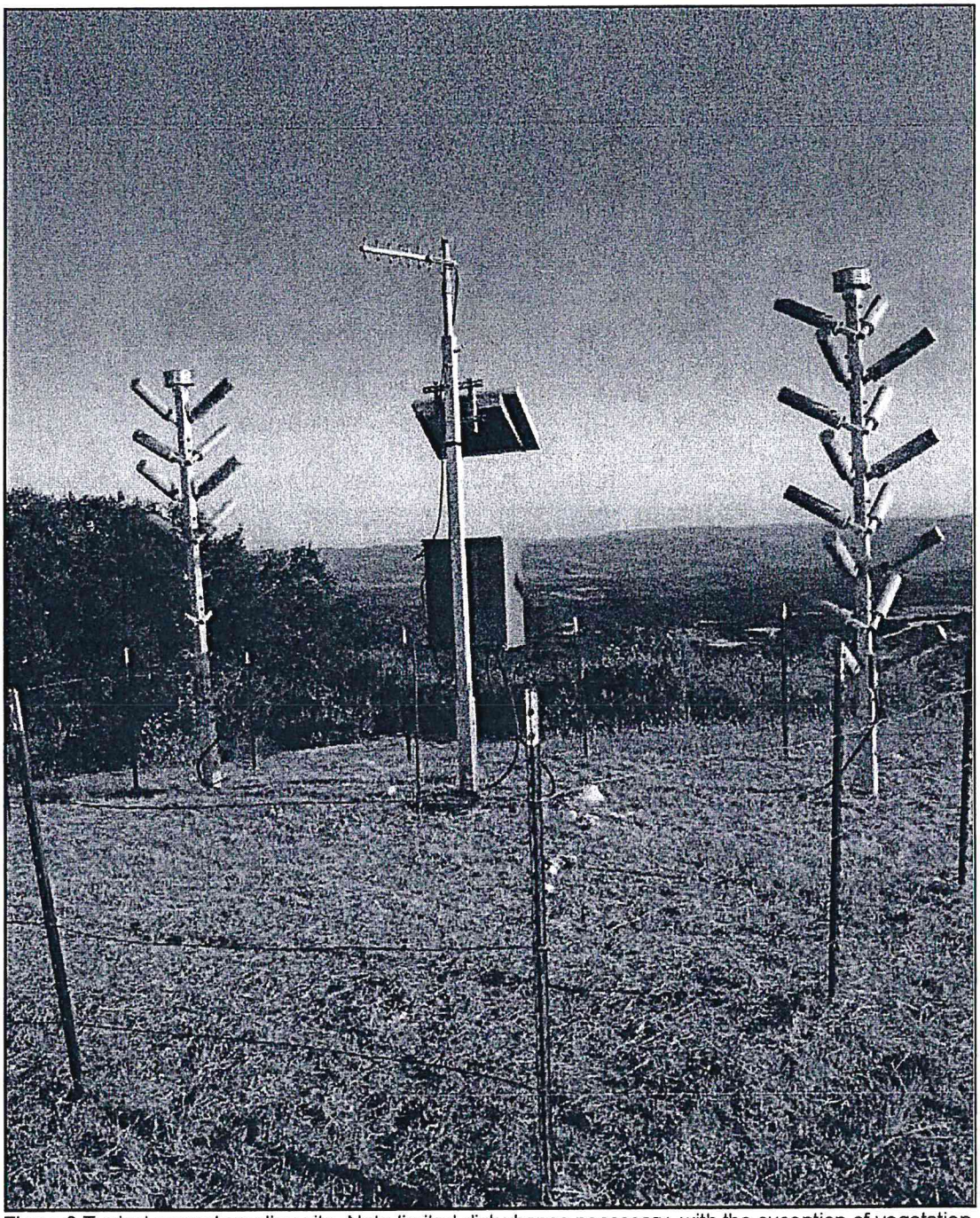


Figure 3 Typical ground seeding site. Note limited disturbance necessary, with the exception of vegetation maintenance.

Operations/Seeding Criteria
Criteria used to determine when seeding would be most productive will need to be refined, using weather data from multiple sources and computer modelling, and may need to be adapted over time; however, generalized seeding criteria has been proposed. These criteria include (refer to Table 5-4 in the Feasibility Study):

- Cloud bases are below the mountain barrier crest
- Winds at approximately 4,000 feet above mean sea level are equal to or less than 50 knots
- No restrictive atmospheric layers that restrict the movement of silver iodide exist
- Temperatures at the mountain barrier crest are 23 degrees Fahrenheit or colder
- Temperatures at 10,000 feet above mean sea level are warmer than -13 degrees Fahrenheit
- Cloud top temperatures are warmer than -13 degrees Fahrenheit

In addition, the operations criteria will include suspension criteria. Suspension criteria specifies under what conditions seeding would be suspended or not initiated. Suspension criteria is a necessary component of the program so that precipitation enhancement isn't implemented at times when, for example, the National Weather Service has issued a severe weather, precipitation, flood warning or flash flood warning. Cloud seeding would also be suspended if reservoirs are already filled to capacity; if creeks or other tributaries within the watershed are near flood stage or if watersheds have been severely affected by fire. A program manager would be overseeing this program and would also have the authority to suspend cloud seeding for any unforeseen conditions that may arise.

Expected Precipitation Increases
The Feasibility Study concludes that due to similarities between the District's proposed program and Santa Barbara County's existing program, the increases in precipitation expected may be similar as well. In Santa Barbara County, it has been estimated that precipitation increases may be between 9% and 17%. At a 9% increase in precipitation, the proposed program could result in an increase of approximately 6000 acre feet per year (AFY) total (approximately 3,000 AFY in each reservoir). At a 17% increase, the total increased inflows into the reservoirs would be approximately 11,400 AFY.
The 2013 California Water Plan notes that cloud seeding programs have been shown to increase precipitation from between 2% and 15%, which is generally consistent with the Feasibility Study conclusions.

ASSESSOR PARCEL NUMBER(S): Not applicable

Latitude and Longitude: Not applicable.

SUPERVISORIAL DISTRICT # 3, 4, and 5

B. EXISTING SETTING

PLAN AREA: San Luis Obispo and South County **SUB**: Multiple **COMM:** Rural

LAND USE CATEGORY: Variable and including Agriculture, Open Space, Recreation, and Rural Lands

COMB. DESIGNATION: Variable, and including Flood Hazard, Renewable Energy, Geologic Study Area

PARCEL SIZE: Variable

TOPOGRAPHY: Flat to steeply sloping

VEGETATION: Variable

EXISTING USES: Variable, including agriculture, recreation, open space, and scattered residences.

SURROUNDING LAND USE CATEGORIES AND USES:

North: Primarily agriculture and open space	*East:* Primarily agriculture and open space
South: Primarily agriculture and open space	*West:* Primarily agriculture and open space

C. ENVIRONMENTAL ANALYSIS

During the Initial Study process, at least one issue was identified as having a potentially significant environmental effects (see following Initial Study). Those potentially significant items associated with the proposed uses can be minimized to less than significant levels.

COUNTY OF SAN LUIS OBISPO
INITIAL STUDY CHECKLIST

1. AESTHETICS *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Create an aesthetically incompatible site open to public view?	☐	☐	☒	☐
b) Introduce a use within a scenic view open to public view?	☐	☐	☒	☐
c) Change the visual character of an area?	☐	☐	☒	☐
d) Create glare or night lighting, which may affect surrounding areas?	☐	☐	☒	☐
e) Impact unique geological or physical features?	☐	☐	☒	☐
f) Other: _____	☐	☐	☐	☐

Setting. The only component of the project that would have a potential affect to aesthetic resources are the ground-seeding sites. The conceptual ground seeding sites are located in the southern and western portions of the county. To be most effective, the ground seeding sites are located at topographic high points in rural areas on private property. The conceptual ground-seeding sites are not proposed within any parcels identified in the County's "Sensitive Resource Area - Visual Areas" or "Highway Corridor Standards" combining designation. Land uses in the ground-seeding sites include primarily open space, with scattered residential uses, and agriculture. The number of viewers on rural roads that may be in proximity to a ground seeding site is very low.

Impact. The project sites are small with respect to the landscapes in which they are located. In general the eight seeding sites would be approximately 300 square feet each, including the area where vegetation would be managed to reduce the potential for wildland fire. Seeding sites would be located along existing agricultural roads to the maximum extent feasible to avoid grading new access points. The equipment at each site is generally less than 15 feet tall. No night-lighting is required. Due to the remote locations and small size of each site, topographic changes and existing vegetation would screen each site from any potential public view points.

Mitigation/Conclusion. No impacts have been identified, and no mitigation measures are needed at this time. In the unlikely event that a ground-seeding site will require extensive grading or would be highly visible from a public road or open space, the District may need to perform additional study.

2. AGRICULTURAL RESOURCES *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Convert prime agricultural land, per NRCS soil classification, to non-agricultural use?	☐	☐	☒	☐
b) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use?	☐	☐	☒	☐
c) Impair agricultural use of other property or result in conversion to other uses?	☐	☒	☐	☐
d) Conflict with existing zoning for agricultural use, or Williamson Act program?	☐	☐	☒	☐
e) Other: _____	☐	☐	☐	☐

Setting. The ground-seeding sites would be located at topographic high points, on large rural parcels. Based on the conceptual locations, the ground-seeding sites are not located on prime agricultural land or in areas with intensive agricultural activities occurring. The watersheds targeted by the project include grazing and scattered high-intensity row crops. Agriculturalists within the project area rely on a combination of rainfall, groundwater, and streamflow for their irrigation needs. Referrals were sent to the County Agriculture Commissioner's Office. They requested that the analysis consider the potential benefits and impacts to agricultural resources.

Impact. Based on the small size of the ground seeding sites and their proposed location outside of the prime agricultural land/high intensity agriculture, no impacts to agricultural resources from construction and operation of the ground-seeding sites would result from the project.

Increased precipitation may have a beneficial effect on agricultural production as it may result in incremental increases in surface and groundwater. However, heavy rains at inopportune times could negatively impact some crops. The Feasibility Study prepared for the project indicates that the seeding period would generally occur from November 15 to April 15 of each year, which falls within the typical rainy season. If not timed properly, precipitation events, intensified by cloud seeding, could potentially damage crops at harvest time or other vulnerable periods. The severity of the impact would vary based on the time of the year, the crop, and the intensity of the rainfall. Since the increase in total rainfall and intensity due to a seeding event cannot be quantitated with precision, it is difficult to identify a specific level of impact that could result, or determine if the impact outweighs the benefits of increased precipitation in general.

Mitigation/Conclusion. The projects would not impact prime soils, lands under Williamson Act contracts, or convert agricultural land uses to another use. To address the potential for impacts to local crops, a mitigation measure has been included that requires the District to develop the seeding criteria in coordination with local agricultural organizations to minimize disturbances during harvest periods, to the extent feasible. This measure, which reflects existing language in the Feasibility Study, would reduce potential impacts to a less than significant level. No further measures are required.

3. AIR QUALITY *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Violate any state or federal ambient air quality standard, or exceed air quality emission thresholds as established by County Air Pollution Control District?	☐	☐	☒	☐
b) Expose any sensitive receptor to substantial air pollutant concentrations?	☐	☐	☒	☐
c) Create or subject individuals to objectionable odors?	☐	☐	☒	☐
d) Be inconsistent with the District's Clean Air Plan?	☐	☐	☒	☐
e) Result in a cumulatively considerable net increase of any criteria pollutant either considered in non-attainment under applicable state or federal ambient air quality standards that are due to increased energy use or traffic generation, or intensified land use change?	☐	☐	☒	☐
GREENHOUSE GASES				
f) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*	☐	☐	☒	☐
g) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐
h) Other: _____	☐	☐	☐	☐

Setting. The Air Pollution Control District (APCD) has developed their CEQA Air Quality Handbook (2012) to evaluate project specific impacts and help determine if air quality mitigation measures are needed, or if potentially significant impacts could result. Project impacts are generally considered either short-term (i.e. constriction) or long-term (i.e. operational). Some projects have both, while others, have either one or the other. To evaluate long-term emissions, cumulative effects, and establish countywide programs to reach acceptable air quality levels, the APCD prepared a Clean Air Plan. Project referrals for this project were sent to the SLO County APCD. The APCD responded that they have no comments on the project.

Greenhouse Gas (GHG) emissions are said to result in an increase in the earth's average surface temperature. This is commonly referred to as global warming. The rise in global temperature is associated with long-term changes in precipitation, temperature, wind patterns, and other elements of the earth's climate system. This is also known as climate change. These changes are now thought to be broadly attributed to GHG emissions, particularly those emissions that result from the human production and use of fossil fuels. In March 2012, the San Luis Obispo County Air Pollution Control District (APCD) approved thresholds for GHG emission impacts, and these thresholds have been incorporated the APCD's CEQA Air Quality Handbook.

Under CEQA, an individual project's GHG emissions will generally not result in direct significant impacts. This is because the climate change issue is global in nature. However, an individual project could be found to contribute to a potentially significant cumulative impact. Projects that have GHG emissions above the noted thresholds may be considered cumulatively considerable and require mitigation.

The projects are within or adjacent to areas with known naturally-occurring asbestos (NOA). No known areas of hydrocarbon contamination exist within the project areas. The projects would not include the demolition of buildings or structures. No known sources of asbestos containing building materials or lead-based paint exist within the project areas.

Impact. The ground-based seeding sites are small and limited grading would be required for each. The sites are generally solar powered and no staff is onsite. Given the small size and nature of the ground-based seeding sites, construction or operational emissions would be less than significant. Cloud-seeding using small aircraft would be used intermittently as well. Occasional flights using small propeller based aircraft flying from local airports would not result in significant emissions. The SLOAPCD reviewed the project and did not have any comments.

Mitigation/Conclusion. No impacts would result from the project and no mitigation measures are required.

4. BIOLOGICAL RESOURCES *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Result in a loss of unique or special status species or their habitats?*	☐	☒	☐	☐
b) Reduce the extent, diversity or quality of native or other important vegetation?	☐	☒	☐	☐
c) Impact wetland or riparian habitat?	☐	☐	☒	☐
d) Interfere with the movement of resident or migratory fish or wildlife species, or factors, which could hinder the normal activities of wildlife?	☐	☒	☐	☐
e) Conflict with any regional plans or policies to protect sensitive species, or regulations of the California Department of Fish & Wildlife or U.S. Fish & Wildlife Service?	☐	☐	☒	☐
f) Other: _____	☐	☐	☐	☐

* Species – as defined in Section15380 of the CEQA Guidelines, which includes all plant and wildlife species that fall under the category of rare, threatened or endangered, as described in this section.

Setting.

The biological resources setting section is based on a desktop review of the conceptual ground-based seeding sites and includes a generalized description of the Salinas and Lopez Lake watersheds. The eight, preliminary ground-based seeding sites are described in the table below. The environmental setting discussion is based on a review of readily available aerial photography and California Natural Diversity Database records.

Site	Conceptual Location	Environmental Setting/Constraints
1	Private dirt road approximately ¾ mile west of where Prefumo Canyon Road and See Canyon Road merge.	Steeply sloping topography with oak woodland present. Pecho manzanita and Hoover's bent grass (CNPS CRPR 1.2B) has been observed in the vicinity. No wetlands or other hydrologic features apparent.
2	Private dirt road approximately 1 mile west of See Canyon Road, north of Avila Beach.	Steeply sloping topography with oak woodland and chaparral present. Santa Margarita manzanita (CNPS CRPR 1.2B) has been observed in the vicinity. No wetlands or other hydrologic features apparent.
3	Off Ormonde Road in rural Arroyo Grande.	Scattered rural residential development. Oak woodland, chaparral vegetation communities. Area is known for occurrences of state and federally endangered Pismo clarkia.
4	Private dirt road approximately 1 mile south of Huasna Road and Tar Spring Creek.	Steeply sloping topography with oak woodland and chaparral present. No CNDDB records within 1 mile. No wetlands or other hydrologic features apparent.
5	Private dirt road half way between Upper Los Berros Road and Dana Foothill Road, rural Nipomo.	Steeply sloping topography with oak woodland and chaparral present. No CNDDB records within 1 mile. No wetlands or other hydrologic features apparent.
6	Private dirt road on ridgeline approximately 1 mile east of Alamo Creek Road and 1.5 miles north of Highway 166.	Access road is poorly maintained. Steeply sloping topography with oak woodland, scrub, chaparral present. No CNDDB records within 1 mile. No wetlands or other hydrologic features apparent.
7	In Los Padres National Forest, approximately 2 miles southeast of Hi Mountain	No apparent access to this location. California condor and La Panza mariposa lily (CRPR 1.2) CNDDB records exist in the vicinity. No wetlands or other hydrologic features apparent, but access road not defined.
8	In Los Padres National Forest, approximately 4 miles east of Hi Mountain Road and 5 miles south of Pozo Road, south of Garcia Mountain.	No apparent access to this location. CNDDB records for the two-striped garter snake, La Panza mariposa lily, and Palmer's mariposa lily (CRPR 1.2) exist in the vicinity. No wetlands or other hydrologic features apparent, but access road not defined.

The Salinas Reservoir Watershed

The Salinas Reservoir watershed is approximately 112 square miles and encompasses the upper Salinas River drainage area, including Salinas River tributaries such as Pozo Creek, Toro Creek, and Salsipuedes Creek. The watershed directly east of the reservoir includes primarily open space, cattle grazing, scattered residences, and scattered intensified cropland such as vineyards. Vegetation communities vary widely throughout the watershed from oak woodland and savannah to chaparral, sagebrush scrub, riparian, and grasslands. The easternmost portions of the watershed include portions of the La Panza Range in the mostly undeveloped Los Padres National Forest, with chaparral the dominant vegetation community.

The Lopez Lake Watershed

The Lopez Lake watershed is approximately 60 square miles and encompasses the upper Aroyo Grande Creek drainage area, which can be broken into four sub areas – Lopez Canyon, Whittenberg, Arroyo Grande, and Vasquez. The majority of the watershed is located within the Los Padres National Forest. Dominant vegetation communities include, but are not limited to oak woodland, foothill pine forest, riparian, chaparral and sagebrush scrub, for example; however, the western portions of the watershed are in primarily private ownership, with agricultural uses and scattered residences present. Vegetation communities in this area are more likely to also include native and nonnative annual grasslands.

Impact. Each of the ground-based seeding sites would require approximately 300 square feet to

construct, including the removal of flammable vegetation in the immediate areas surrounding the sites. To reduce costs and minimize the grading required for each site, the District would utilize existing access roads and disturbed areas to the extent feasible. Based on the initial, conceptual locations proposed, some ground-based seeding sites would require the construction of access roads through native vegetation on relatively steep slopes. This vegetation could include oak trees or special-status plants. In addition, special-status wildlife, such as nesting birds, could be impacted during construction. Specifically, Site 3 is located close to Ormonde Road, within an area where populations of Pismo clarkia exist. This species could be impacted by construction of Site 3.

Impacts to biological resources at the watershed level would potentially be beneficial as the project would increase rainfall, benefiting plants, wetland habitats, and creek flows to some extent. It is not expected that the project would result in quantifiable benefits to biological resources, but it is possible that a 10 percent increase in rainfall, if achieved, could incrementally increase the health and vigor of wetland and riparian habitats, for example.

The impacts of silver iodide in the environment have been considered to a significant extent over the last 30 years. Studies have considered the direct effect of its use and the potential for silver iodide to "bio-accumulate" which can be described as a process whereby the concentration of chemical contaminants increases in animals as they move higher up the food chain. For example, water contaminated by mercury may affect fish, which in turn are consumed by birds or humans. The 2013 California Water Plan summarized the potential toxic effects of silver as follows (page 11-10):

> *The potential for eventual toxic effects of silver has not been shown to be a problem. Silver and silver compounds have a rather low order of toxicity. According to the USBR* [United States Bureau of Reclamation], *the small amounts used in cloud seeding do not compare to industry emissions of 100 times as much into the atmosphere in many parts of the country or individual exposure from tooth fillings. Watershed concentrations would be extremely low because only small amounts of seeding agent are used. Accumulations in soil, vegetation, and surface runoff have not been large enough to measure above natural background levels. A 2004 study done for Snowy Hydro Limited (Williams and Denholm 2009) in Australia has confirmed the earlier findings described above.*
>
> *Some silver accumulation testing by PG&E on the Mokelumne River and Lake Almanor watersheds was presented at the 2007 annual meeting of the Weather Modification Association. Both watersheds have been seeded for more than 50 years. Sampling at Upper Blue Lake and Salt Springs Reservoir showed very low to undetectable concentrations in water and sediment. Similar results were found at Lake Almanor upon testing water, sediment, and fish samples during the 2000-2003 period. Amounts were far below any toxic levels, and there was little to suggest bioaccumulation. Therefore, continued operations should not result in any significant chronic effect on sensitive aquatic organisms.*

Mitigation/Conclusion.
Direct impacts to biological resources would potentially result from construction of the ground-based seeding sites. Vegetation removal and some grading would be necessary to prepare each site. This would impact vegetation, including potentially oak trees and special-status botanical resources, such as Pismo Clarkia. In two cases, the preliminary sites are located at some distance from the nearest road, making substantial grading more likely.

To address these potential impacts, mitigation measures that require ground-based sites be collocated with other facilities and/or utilize previously disturbed sites with existing access, to the extent feasible. In addition, appropriately timed biological resources surveys shall be conducted at each site to confirm the absence of special-status plant and animal species prior to final site selection and construction. If it is determined that any plant or animal species listed under the State or Federal Endangered Species Acts would be impacted, an alternate site will be identified. In the unlikely event that oak trees need to

be impacted and/or removed to facilitate construction of a ground-based site, replacement trees shall be planted and maintained according to applicable County Planning and Building Department standards. Based on the timing of construction, pre-construction surveys for nesting bird species will be conducted within one week prior to construction. Grading and erosion control measures will be implemented onsite to avoid offsite impacts to native vegetation.

Based on the preliminary ground seeding sites, no jurisdictional features such as wetlands or riparian habitats would be disturbed. No permits from the California Department of Fish and Wildlife, the Regional Water Quality Control Board, or the US Army Corps of Engineers would be required. Use permits from the US Forest Service would be required for two sites, based on the preliminary locations.

These measures, which are included in Exhibit B in their entirety, and processes will ensure that all potential project-related impacts are avoided, reduced, or mitigated to a less than significant level. No additional measures are required; however, based on the specific final locations of the ground-based sites, subsequent environmental, review may be required.

5. CULTURAL RESOURCES *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Disturb archaeological resources?	☐	☒	☐	☐
b) Disturb historical resources?	☐	☐	☒	☐
c) Disturb paleontological resources?	☐	☐	☒	☐
d) Cause a substantial adverse change to a Tribal Cultural Resource?	☐	☐	☒	☐
e) Other: _____	☐	☐	☐	☐

Setting. The projects are in areas historically occupied by the Obispeño Chumash. The eight ground-based sites are located on ridgelines above relatively steep slopes, and away from water resources. A review of the County's cultural resources database indicates that few formal cultural resources reports have been previously prepared in the project vicinities, and no known resources have been identified within the project areas.

Impact. The projects are in areas that would generally not be considered culturally sensitive due to their distance from water sources and prominent peaks. In addition, the disturbance necessary to develop each site is approximately 300 square feet, including necessary vegetation management.

Per AB52, tribal consultation was performed. Seven local tribal contacts were notified of the project, including representatives from the Chumash and Salinan tribes. No tribal cultural resources were identified. Due to the limited disturbance required for each site, impacts to paleontological resources are not expected.

Mitigation/Conclusion. Impacts to cultural resources are not expected, however, to confirm that cultural resources are not impacted a cultural resources survey of each ground-seeding site will be conducted prior to construction. If resources are present, a new site will be selected. In the event of inadvertent discovery of cultural resources, standard mitigation measures that requires notification if cultural materials are unexpectedly unearthed during construction have been included. These measures would reduce potential impacts to a less than significant level. No additional measures are required.

6. GEOLOGY AND SOILS *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Result in exposure to or production of unstable earth conditions, such as landslides, earthquakes, liquefaction, ground failure, land subsidence or other similar hazards?	☐	☐	☒	☐
b) Be within a California Geological Survey "Alquist-Priolo" Earthquake Fault Zone", or other known fault zones?*	☐	☐	☐	☒
c) Result in soil erosion, topographic changes, loss of topsoil or unstable soil conditions from project-related improvements, such as vegetation removal, grading, excavation, or fill?	☐	☐	☒	☐
d) Include structures located on expansive soils?	☐	☐	☒	☐
e) Be inconsistent with the goals and policies of the County's Safety Element relating to Geologic and Seismic Hazards?	☐	☐	☒	☐
f) Preclude the future extraction of valuable mineral resources?	☐	☐	☐	☒
g) Other: _____	☐	☐	☐	☐

* Per Division of Mines and Geology Special Publication #42

Setting. The following relates to the project's geologic aspects or conditions:

Topography: Nearly level to steeply sloping

Within County's Geologic Study Area?: Yes – Site 7.

Landslide Risk Potential: Low to High

Liquefaction Potential: Low to Moderate

Nearby potentially active faults?: Yes Distance? Variable

Area known to contain serpentine or ultramafic rock or soils?: No

Shrink/Swell potential of soil: Variable

Other notable geologic features? No

The ground-based sites would be approximately 300 square feet, including the area required for vegetation maintenance. Selected sites would be collocated with other facilities or on previously disturbed areas to the extent feasible. It is anticipated that grading would be limited to vegetation removal and creating a small, relatively flat surface, if necessary. No substantial cut and fills or material

import/export would be required (refer to Figure 3). No structures other than the flare masts and fencing would be constructed onsite.

Impact. The projects would be located in seismically active areas near steep slopes, but the projects do not include structures or significant earthwork. Compliance with standard engineering and building practices would reduce any potential impacts to a less than significant level.

Mitigation/Conclusion. Potential impacts would be less than significant based on compliance with existing regulations and standard best management practices. There is no indication that additional measures are required.

7. HAZARDS & HAZARDOUS MATERIALS - *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼-mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on, or adjacent to, a site which is included on a list of hazardous material/waste sites compiled pursuant to Gov't Code 65962.5 ("Cortese List"), and result in an adverse public health condition?	☐	☐	☒	☐
e) Impair implementation or physically interfere with an adopted emergency response or evacuation plan?	☐	☐	☒	☐
f) If within the Airport Review designation, or near a private airstrip, result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
g) Increase fire hazard risk or expose people or structures to high wildland fire hazard conditions?	☐	☐	☒	☐
h) Be within a 'very high' fire hazard severity zone?	☐	☐	☒	☐

7. HAZARDS & HAZARDOUS MATERIALS - *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
i) Be within an area classified as a 'state responsibility' area as defined by CalFire?	☐	☐	☒	☐
j) Other: _____	☐	☐	☐	☐

Setting. The project sites are not located within ¼ mile of any hazardous materials sites included in the California Department of Toxic Substances Control Envirostor Database. Based on the County's fire response time map and the rural locations of the ground-based sites, it would generally take 15 minutes or more to respond to a fire or other emergency situation at the ground-seeding site. The project will require the handling and use of flares that contain silver iodide. Ground-based sites are generally located on private property and/or in rural areas, and will be fenced to discourage access.

Impact. The proposed projects are not found on the 'Cortese List' (which is a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5). The project does not present a significant fire safety risk. The project is not expected to conflict with any regional emergency response or evacuation plan. The County Environmental Health Division and Cal Fire reviewed the project and do not have any concerns.

Potential hazards associated with handling the flares are addressed by standard hazardous material and Uniform Fire Code regulations. In regard to the accumulation of silver iodide in the environment, it has been suggested that the potential is small because seeding occurs during storm events when there is updraft and dispersion in the atmosphere. Additional information regarding silver iodide in the environment is included in the Biological Resources section.

Mitigation/Conclusion. No impacts have been identified and no mitigation measures are required.

8. NOISE *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Expose people to noise levels that exceed the County Noise Element thresholds?	☐	☐	☒	☐
b) Generate permanent increases in the ambient noise levels in the project vicinity?	☐	☐	☒	☐
c) Cause a temporary or periodic increase in ambient noise in the project vicinity?	☐	☐	☒	☐
d) Expose people to severe noise or vibration?	☐	☐	☐	☒

8. NOISE *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
e) If located within the Airport Review designation or adjacent to a private airstrip, expose people residing or working in the project area to severe noise levels?	☐	☐	☒	☐
f) Other: _____	☐	☐	☐	☐

Setting/Conclusion. The project involves the use of single-engine aircraft using existing airports and up to eight ground-based seeding sites located in rural areas. Very little noise would be generated by the project, and the project components are not located near any sensitive receptors. No impacts would result and no mitigation measures are required.

9. POPULATION/HOUSING *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Induce substantial growth in an area either directly (e.g., construct new homes or businesses) or indirectly (e.g., extension of major infrastructure)?	☐	☐	☒	☐
b) Displace existing housing or people, requiring construction of replacement housing elsewhere?	☐	☐	☒	☐
c) Create the need for substantial new housing in the area?	☐	☐	☒	☐
d) Other: _____	☐	☐	☐	☐

Setting/Conclusion. The project includes the operation of remotely controlled ground-based seeding sites and small aircraft periodically. The project will not result in a need for a significant amount of new housing, and will not displace existing housing. No impacts have been identified and no mitigation measures are necessary.

10. PUBLIC SERVICES/UTILITIES *Will the project have an effect upon, or result in the need for new or altered public services in any of the following areas:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Fire protection?	☐	☐	☒	☐
b) Police protection (e.g., Sheriff, CHP)?	☐	☐	☒	☐

10. PUBLIC SERVICES/UTILITIES *Will the project have an effect upon, or result in the need for new or altered public services in any of the following areas:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
c) Schools?	☐	☐	☒	☐
d) Roads?	☐	☐	☒	☐
e) Solid Wastes?	☐	☐	☒	☐
f) Other public facilities?	☐	☐	☒	☐
g) Other: _____	☐	☐	☐	☐

Setting. The project area is served by the following public services/facilities:

Police: County Sheriff Location: Variable

Fire: US Forest Service and Cal Fire Hazard Severity: Variable Response Time: 15 minutes or more.

School District: Not Applicable

Impact. No significant project-specific impacts to utilities or public services are expected. No significant impacts to public services/utilities are expected to occur from the projects.

Mitigation/Conclusion. No impacts have been identified, and therefore no mitigation measures are required.

11. RECREATION *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Increase the use or demand for parks or other recreation opportunities?	☐	☐	☒	☐
b) Affect the access to trails, parks or other recreation opportunities?	☐	☐	☒	☐
c) Other _____	☐	☐	☐	☐

Setting/Conclusion. The proposed project will not create a significant need for additional park, Natural Area, and/or recreational resources. No impacts have been identified and therefore no mitigation measures are needed.

12. TRANSPORTATION/CIRCULATION *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Increase vehicle trips to local or areawide circulation system?	☐	☐	☒	☐

12. TRANSPORTATION/CIRCULATION *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
b) Reduce existing "Level of Service" on public roadway(s)?	☐	☐	☒	☐
c) Create unsafe conditions on public roadways (e.g., limited access, design features, sight distance, slow vehicles)?	☐	☐	☒	☐
d) Provide for adequate emergency access?	☐	☐	☒	☐
e) Conflict with an established measure of effectiveness for the performance of the circulation system considering all modes of transportation (e.g. LOS, mass transit, etc.)?	☐	☐	☒	☐
f) Conflict with an applicable congestion management program?	☐	☐	☒	☐
g) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐
h) Result in a change in air traffic patterns that may result in substantial safety risks?	☐	☐	☒	☐
i) Other: _____	☐	☐	☐	☐

Setting/Conclusion. The project involves the use of small aircraft using existing airports and the remote operation of up to eight ground-based seeding sites located in rural areas. The project would generate periodic trips to construct the project and maintain ground-seeding sites. No significant traffic impacts were identified, and no mitigation measures are required.

13. WASTEWATER *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Violate waste discharge requirements or Central Coast Basin Plan criteria for wastewater systems?	☐	☐	☒	☐
b) Change the quality of surface or ground water (e.g., nitrogen-loading, day-lighting)?	☐	☐	☒	☐
c) Adversely affect community wastewater service provider?	☐	☐	☐	☒
d) Other: _____	☐	☐	☐	☐

Setting/Conclusion. No individual or community wastewater systems will be affected by the projects. No significant impacts to wastewater are expected to occur from the projects. If necessary, a portable chemical toilet will be on site for use by construction crews during construction of the ground-based sites. No impacts have been identified and no mitigation measures are needed.

14. WATER & HYDROLOGY ***Will the project:***	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
QUALITY				
a) Violate any water quality standards?	☐	☐	☒	☐
b) Discharge into surface waters or otherwise alter surface water quality (e.g., turbidity, sediment, temperature, dissolved oxygen, etc.)?	☐	☐	☒	☐
c) Change the quality of groundwater (e.g., saltwater intrusion, nitrogen-loading, etc.)?	☐	☐	☒	☐
d) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff?	☐	☐	☒	☐
e) Change rates of soil absorption, or amount or direction of surface runoff?	☐	☐	☒	☐
f) Change the drainage patterns where substantial on- or off-site sedimentation/ erosion or flooding may occur?	☐	☐	☒	☐
g) Involve activities within the 100-year flood zone?	☐	☐	☐	☒
QUANTITY				
h) Change the quantity or movement of available surface or ground water?	☐	☐	☒	☐
i) Adversely affect community water service provider?	☐	☐	☒	☐
j) Expose people to a risk of loss, injury or death involving flooding (e.g., dam failure,etc.), or inundation by seiche, tsunami or mudflow?	☐	☐	☒	☐
k) Other: _____	☐	☐	☐	☐

Setting. The topography of the watersheds above Lopez Lake and the Salinas Reservoir vary from flat to steeply sloping. The project is expected to increase rainfall by approximately 10% between November 15 and April 15. Development of the ground-based sites would require limited grading/clearing.

Impact. The increased rainfall would result in increased stormwater runoff into the reservoirs. The runoff would not change the direction or flow of surface or groundwater in the watersheds. The potential for flooding would be addressed through the development of suspension criteria, as described in the Project Description. This has been an effective approach in Santa Barbara County, for example.

A concern with cloud seeding in general is that it could result in a "rain shadow" beyond the target watershed. In other words, the assertion is that when cloud seeding increases precipitation in the target location it may be reducing, by an equivalent amount, the amount of precipitation that would have otherwise fallen "downstream" of the target area. These types of effects are referred to as "extra-area effects" in literature reviewed for this project. Given the geographic areas involved, limited number of cloud seeding operations, and numerous variable involved with weather prediction and modelling, it is not a surprise that data on extra area effects is not definitive; however, there is published research on the issue. One general argument made against this effect being significant is as follows (National Center for Atmospheric Research):

> *"If cloud seeding is successful in increasing the natural precipitation by a nominal amount, say 15 percent, the additional percentage of total atmospheric water that might be precipitated would still be quite small. Typically, about 20 percent of the total water vapor in the air condenses to form clouds as it rises over mountains. The remaining 80 percent of the moisture remains uncondensed because the temperature of the air typically does not get cold enough.*
>
> *As mentioned earlier, winter storms are typically about 30 percent efficient, so only a portion of the water vapor that condenses naturally when rising over mountains (30 percent of the 20 percent that was condensed), or 6 percent of the total moisture, ends up falling out naturally as precipitation during an average winter storm. An increase in precipitation of 15 percent translates into only an additional 0.9 percent of the total atmospheric moisture available. Therefore, about 7 percent of the total atmospheric water might be precipitated when seeding is conducted. Instrumentation presently used by the National Weather Service would have a difficult time detecting a change on the order of 1 percent, along with the confounding influences of natural variability. These calculations do not consider that this additional water, now on the ground instead of in the air, remains in the hydrologic cycle. For example, a portion of this water would return to the atmosphere on relatively short time frames through evapotranspiration."*

In 2013 the journal Atmospheric Research published a paper that evaluated the extra area effects of five different seeding experiments, including ones in Santa Barbara County. The research indicated that cloud seeding operations may have actually increased rainfall beyond the target area for a distance of approximately 100 miles beyond the target area (DeFelice, 2013). As with much of the cloud seeding literature, the paper also recommended continued study and evaluation.

Based on existing research there is no indication that potential extra area effects would result in significant impacts to water or hydrology.

Mitigation/Conclusion. No impacts have been identified and no mitigation measures are required.

15. LAND USE *Will the project:*	Inconsistent	Potentially Inconsistent	Consistent	Not Applicable
a) Be potentially inconsistent with land use, policy/regulation (e.g., general plan [County Land Use Element and Ordinance], local coastal plan, specific plan, Clean Air Plan, etc.) adopted to avoid or mitigate for environmental effects?	☐	☐	☒	☐
b) Be potentially inconsistent with any habitat or community conservation plan?	☐	☐	☒	☐
c) Be potentially inconsistent with adopted agency environmental plans or policies with jurisdiction over the project?	☐	☐	☒	☐
d) Be potentially incompatible with surrounding land uses?	☐	☐	☒	☐
e) Other: _____	☐	☐	☐	☐

Setting/Impact. Surrounding uses vary depending on the location. Referrals were sent to outside agencies to review (e.g., Cal Fire, Environmental Health, the APCD for Clean Air Plan, etc.). None of the improvement projects are within or adjacent to a Habitat Conservation Plan area. The project is consistent or compatible with the surrounding uses. The projects are limited to the road and associated work. The projects will be consistent with the surrounding land uses and will facilitate efficient and safe movement of people through the area. The projects were found to be consistent with the other reference documents (refer also to Exhibit A on reference documents used). None of the ground seeding sites are located in the Coastal Zone.

Mitigation/Conclusion. No inconsistencies were identified and therefore no additional measures above what will already be required were determined necessary.

16. MANDATORY FINDINGS OF SIGNIFICANCE *Will the project:*	Potentially Significant	Impact can & will be mitigated	Insignificant Impact	Not Applicable
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or pre-history?	☐	☒	☐	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☐	☒	☐

c) ***Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*** ☐ ☒ ☐ ☐

For further information on CEQA or the County's environmental review process, please visit the County's web site at "www.sloplanning.org" under "Environmental Information", or the California Environmental Resources Evaluation System at: http://resources.ca.gov/ceqa/ for information about the California Environmental Quality Act.

Exhibit A - Initial Study References and Agency Contacts

The County Planning Department has contacted various agencies for their comments on the proposed project. With respect to the subject application, the following have been contacted (marked with an ☒) and when a response was made, it is either attached or in the application file:

Contacted	Agency	Response
☐	County Public Works Department	**Not Applicable**
☒	County Environmental Health Services	**In file**
☒	County Agricultural Commissioner's Office	**In file**
☐	County Airport Manager	**Not Applicable**
☐	Airport Land Use Commission	**Not Applicable**
☒	Air Pollution Control District	**In file**
☐	County Sheriff's Department	**Not Applicable**
☒	Regional Water Quality Control Board	**None**
☐	CA Coastal Commission	**Not applicable**
☐	CA Department of Fish and Wildlife	**None**
☒	CA Department of Forestry (Cal Fire)	**In File**
☐	CA Department of Transportation	**Not Applicable**
☒	Other US Forest Service	**None**
☒	Other Cities of SLO, AG, Pismo, Grover Beach	**None/In file**
☐	Other _____	**None**

*** "No comment" or "No concerns"-type responses are usually not attached*

The following checked ("☒") reference materials have been used in the environmental review for the proposed project and are hereby incorporated by reference into the Initial Study. The following information is available at the County Planning and Building Department.

In addition to those standard references below, the following references were used:

California Natural Resources Agency. *California Water Plan 2013*. October 2014.

County of Santa Barbara. *Santa Barbara County and Twitchell Reservoir Cloud Seeding Program CEQA Final Mitigated Negative Declaration.* October 2013.

National Center for Atmospheric Research. Wyoming Weather Modification Pilot Project *Frequently Asked Questions*. Site visited multiple times in 2017 and 2018. https://ral.ucar.edu/projects/wyoming/faq.php

North American Weather Consultants, Inc. *Feasibility/Design Study for a Winter Cloud Seeding Program in the Lake Lopez and Salinas Reservoir Drainages, California.* March 2017.

T.P. DeFelice, J. Golden, D. Griffith, W. Woodley, D. Rosenfeld, D. Breed, M. Solak, B. Boe. *Extra Area Effects of Cloud Seeding – an updated assessment.* Atmospheric Research (135-136). 2013.

☒ Project Files

County documents

☐ Coastal Plan Policies
☐ Framework for Planning (Coastal/Inland)
☒ General Plan (Inland/Coastal), includes all maps/elements; more pertinent elements:
  ☒ Agriculture Element
  ☒ Conservation & Open Space Element
  ☐ Economic Element
  ☐ Housing Element
  ☒ Noise Element
  ☐ Parks & Recreation Element/Project List
  ☒ Safety Element
☐ Land Use Ordinance (Inland/Coastal)
☐ Building and Construction Ordinance
☐ Public Facilities Fee Ordinance
☐ Real Property Division Ordinance
☐ Affordable Housing Fund
☐ Airport Land Use Plan
☐ Energy Wise Plan
☐ San Luis Obispo Area Plan
☐ Design Plan
☐ Specific Plan
☐ Annual Resource Summary Report
☐ Circulation Study

Other documents

☒ Clean Air Plan/APCD Handbook
☒ Regional Transportation Plan
☒ Uniform Fire Code
☒ Water Quality Control Plan (Central Coast Basin – Region 3)
☒ Archaeological Resources Map
☒ Area of Critical Concerns Map
☒ Special Biological Importance Map
☒ CA Natural Species Diversity Database
☒ Fire Hazard Severity Map
☒ Flood Hazard Maps
☒ Natural Resources Conservation Service Soil Survey for SLO County
☒ GIS mapping layers (e.g., habitat, streams, contours, etc.)
☐ Other

Exhibit B - Mitigation Summary Table

Agricultural Resources

AR-1 During development of the program seeding and suspension criteria, the District shall coordinate with local agricultural organizations to ensure seeding events are timed to minimize impacts to crops in the affected areas to the extent feasible

Biological Resources

BR-1 Ground-based seeding sites shall be collocated with existing facilities and/or shall be located on previously disturbed areas and along existing access roads, to the extent feasible.

BR-2 Prior to selection of the final ground-based sites, a qualified biologist shall conduct an appropriately timed biological resources survey for special-status botanical and wildlife resources. No ground-based seeding site shall be selected that has the potential to impact any botanical or wildlife species listed as threatened, endangered, or a candidate for listing under the California or Federal Endangered Species Acts.

In the unlikely event that other special-status species exist at a site (e.g. plants listed by the California Native Plant Society), and avoidance is infeasible, a mitigation and monitoring plan for the impacted species shall be prepared. The plan shall describe the species, the impacts, and the proposed mitigation. Impacted plants shall be planted at an approximately 2:1 ratio as close to the area of impact as feasible, and maintained as necessary until maturity.

BR-3 To protect special-status avian species and those species protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Section 3503, vegetation clearing and earth disturbance should be avoided during the typical nesting season (February 15 to September 1). If avoiding construction during this season is not feasible, a qualified biologist shall survey the area within one week prior to activity beginning on site. If nesting birds are located on or near the proposed project site, they shall be avoided until they have successfully fledged. A buffer zone of 50 feet will be placed around all non-sensitive, passerine bird species, and a 250-foot buffer will be implemented for raptor species, and all activity will remain outside of that buffer until the qualified biologist, has determined that the young have fledged. Buffer reductions and/or work within non-disturbance buffer areas can be completed only with approval from relevant resource agencies.

BR-4 Install appropriate erosion control measures (i.e., silt fences, hay bales) around the proposed work area and at the downstream end of the proposed construction zone and maintain erosion control mechanisms daily.

BR-5 Check and maintain erosion control measures daily throughout the duration of work activities. Erosion control measures should be re-installed appropriately as the proposed work area changes.

BR-6 Restore all previously vegetated areas that are cleared during project activities through revegetation with appropriate indigenous native species and in compliance with applicable fire protection measures.

BR-7 Prior to project completion, all oak trees removed as a result of the development of the project at a 4:1 ratio, and in addition, shall plant at a 2:1 ratio for each tree impacted (e.g. root or branch pruning) but not removed. Replanting shall be completed as soon as it is feasible (e.g. irrigation

water is available, grading done in replant area(s)). Replant areas shall be either in native topsoil or areas where native topsoil has been reapplied. Only designated trees shall be removed. Trees scheduled for removal shall be marked. These newly planted trees shall be maintained until successfully established and impacts avoided.

Cultural Resources

CR-1 Prior to selection of the final ground-based sites, a qualified archaeologist shall conduct a pedestrian survey for of the site for cultural resources. If cultural resources are identified during the survey, an alternate site shall be selected.

CR-2 During earth moving activities, in the event archaeological resources are unearthed or discovered, construction near the find shall stop, and the Public Works project manager and the Environmental Coordinator shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may be accomplished in accordance with state and federal law.

CR-2 In the event archaeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County Coroner and Environmental Coordinator are to be notified so proper disposition may be accomplished.

Mitigation Monitoring Plan

The purpose of a Mitigation Monitoring Plan is to provide a program to examine, document and record compliance with the environmental plans and specifications pertinent to the proposed project, in order to comply with Section 21081.6 of the California Environmental Quality Act (CEQA). This plan provides the standards and methods necessary to ensure and document the implementation of the environmental mitigation measures which have been included in the project description as well as with the conditions of approval placed on project permits. Responsibility for ensuring successful implementation of the Mitigation Monitoring Plan lies with the County of San Luis Obispo, as the project proponent and Lead Agency for the project under CEQA. If the recommended mitigation measures and monitoring plan are implemented successfully, the potential significant adverse effects stemming from project construction will be reduced to a level of insignificance.

Mitigation monitoring will be carried out by the Environmental Programs Division of the County's Department of Public Works. The Environmental Programs Division provides environmental services to the Department of Public Works, including mitigation compliance and monitoring, with CEQA oversight by the County's Environmental Coordinator.

Upon approval of the CEQA document and issuance of all required permits, the Environmental Programs Division will assign internal responsibility for compliance with each mitigation measure to one or more members of the project team. Responsible parties include the Environmental Programs Division, the Project Manager (PM), the Resident Engineer (RE), and/or on-site monitors.

Mitigation measures are organized into project design, pre-construction, construction, and post construction tasks. Compliance with mitigation measures is documented in the project file through written reports, accompanied by project photos where necessary. Post construction monitoring of revegetation and other project components is documented by yearly reports, on a schedule typically determined by one or more of the project permits. Depending on the complexity of the post construction mitigation effort, tasks will be carried out by county staff or technical experts under contract to the County. Post construction monitoring is typically conducted for three to five years, depending on permit requirements and success criteria.

Where necessary, construction personnel will be required to attend a crew orientation meeting. The meeting will be conducted by the RE and will be used to acquaint the construction crews with the environmental sensitivities of the project site. The orientation meeting shall place an emphasis on the need for adherence to the mitigation measures and permit conditions as well as the need for cooperation and communication among all parties concerned (i.e., RE, Environmental Programs Division, Environmental Coordinator, construction personnel) in working together to solve problems and arrive at solutions in the field.