North Fork Ranch Frost Ponds Project

Second Revised Draft Environmental Impact Report

State Clearinghouse Number (SCH 2017061009).

Prepared for
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October 2022

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Prepared by

The Santa Barbara County Planning & Development Department
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Acronyms

AFY	Acre feet per year
CALTRANS	California Department of Transportation
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDWR	California Department of Water Resources
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNDDB	California Natural Diversity Database
CUP	Conditional Use Permit
DOSD	Division of Safety of Dams
DWR	Department of Water Resources
EIR	Environmental Impact Report
ELRP	Evaporative Loss Reduction Plan
FEMA	Federal Emergency Management Agency
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HDPE	High Density Polyethelene
HDPE	High-density Polyethylene
LUDC	Land Use Development Code
LUP	Land Use Permit
MND	Mitigated Negative Declartion
NOP	Notice of Preperation
P&D	County of Santa Barbara Planning and Development
Project	North Fork Ranch Forst Ponds Project
SGMA	Sustainable Groundwater Management Act
TBD	To Be Determined
USFWS	United States Fish and Wildlife Service

1 Executive Summary

This second revised Focused Draft Environmental Impact Report (Draft EIR or DEIR) for the North Fork Ranch Frost Ponds Project (Project) has been prepared to include additional information regarding existing groundwater conditions in the vicinity of the proposed project site. The additional groundwater condition information was obtained primarily from the Groundwater Sustainability Plan prepared for the Cuyama Valley Groundwater Basin by the Cuyama Basin Groundwater Sustainability Agency. The Groundwater Sustainability Plan was approved by the Groundwater Sustainability Agency on July 6, 2022.

The additional groundwater condition information is presented in Draft EIR Sections 2.5 (Existing Setting) and 3.9 (Frost Protection System Groundwater Use) and is shown in ~~stikeout~~ and underline format. The additional groundwater condition information presented in this second revised Focused Draft EIR updates and supplements the information included in previous versions of this Draft EIR dated October, 2021; and April, 2022. The added information does not result in the identification of any new or more severe environmental impacts than those previously identified and evaluated.

This second revised Focused Draft EIR also includes minor revisions to proposed Cultural Resources mitigation measures in Section 3.10.6, and cumulative impact analysis in Section 4.1.

The first ~~This~~ revised Focused Draft EIR ~~(Draft EIR or DEIR)~~ for the North Fork Ranch Frost Ponds Project ~~(Project) has~~ was ~~been~~ prepared to include evaluations of the Project's potential impacts to cultural and tribal cultural resources, geologic processes, and water quality. These additional environmental issue areas have been added to the EIR in response to a recent Court of Appeal determination (Farmland Protection Alliance v. County of Yolo, 71 Cal. App. 5th 300 (2021).

The August 1, 2018, Initial Study/Mitigated Negative Declaration (IS/MND) prepared for the proposed Project determined that the Project would have the potential to result in significant impacts to biological resources, cultural and tribal cultural resources, geologic processes, groundwater use, flooding, and water quality. The analysis also determined that those impacts would be reduced to a less than significant level with the implementation of mitigation measures identified by the IS/MND, and that no further analysis of those issue areas was required. Subsequently, the Santa Barbara County Board of Supervisors determined that an Environmental Impact Report (EIR) was required to evaluate the Project's potential impacts related to biological resources, flooding, and groundwater use. The Board of Supervisors did not require the EIR to evaluate the Project's impacts related to cultural and tribal cultural resources, geologic processes, and water quality.

In its review of the Yolo County project, the Court of Appeal found no basis for allowing an agency to comply with the California Environmental Quality Act (CEQA) by preparing a negative declaration to analyze some of a project's impacts and an EIR to analyze others. This DEIR has been prepared to be a "full" EIR as required by the Court of Appeal and now includes analysis of

the Project's potentially significant impacts to all environmental issue areas that may be impacted by the Project as identified by the August 1, 2018, IS/MND.

The August 1, 2018, IS/MND prepared for the Project evaluated all of the issue areas addressed in the County of Santa Barbara Initial Study Checklist. That analysis determined that the following issue areas had less than significant or no impacts on the environment, meaning no mitigation measures are required: Aesthetics/Visual Resources; Agricultural Resources; Air Quality; Air Quality- Greenhouse Gas Emissions; Energy; Fire Protection; Hazardous Materials/Risk of Upset; Historic Resources; Land Use; Noise; Public Facilities; Recreation; and Transportation/Circulation. Therefore, no further analysis of these topics is required. Additional information regarding why these environmental issue areas were determined to have less than significant or no impacts on the environment is provided in Section 4.5 of this DEIR.

The original DEIR prepared for the Project was available for public review and comment between November 18, 2021 and January 28, 2022. Public review comment submitted regarding the original DEIR are provided in Appendix A of this DEIR. Responses to all review comments received regarding the original DEIR and revised DEIR will be included in the Final EIR prepared for the Project.

1.1 Introduction

This DEIR was prepared pursuant to the CEQA (Public Resources Code §§ 21000, *et seq.*) and the CEQA Guidelines (California Code of Regulations, Title 14, §§ 15000, *et seq.*). An Environmental Impact Report (EIR) is a public informational document designed to provide decision makers and the public with an analysis of the environmental effects of a proposed project, to indicate possible ways to reduce or avoid significant effects, and to describe reasonable alternatives to a project that may reduce or avoid significant effects. An EIR must also disclose significant environmental impacts that cannot be avoided, growth-inducing impacts, effects not found to be significant, and significant cumulative impacts of all past, present, and reasonably foreseeable future projects.

The Project is proposed to provide frost protection to approximately 850 acres of grapevines located at the North Fork Ranch Vineyard in Cuyama Valley, California. The project consists of the following elements:

- Construction and operation of three water storage reservoirs (reservoirs).
- Each reservoir would occupy a total area of approximately 5 acres and take approximately one year to construct.
- The reservoirs would have a water storage capacity of approximately 44.8, 44.8, and 44.6 acre-feet, or an average capacity of approximately 44.7 acre-feet.
- Water stored in the reservoirs would be supplied by existing groundwater wells.
- Frost protection would be achieved using sustained spray irrigation when frost has the potential to damage grape vines.

1.2 Lead, Responsible, and Trustee Agencies

The State CEQA Guidelines define “lead”, “responsible”, and “trustee” agencies. The Lead Agency as defined by CEQA is the public agency which has principal responsibility for carrying out or approving a project (State CEQA Guidelines Section 15367). The Santa Barbara County Planning and Development (P&D) Department is the Lead Agency responsible for the preparation of this DEIR.

A responsible agency, as defined by CEQA, is a public agency with some discretionary authority over a project or portion of it. A responsible agency would not be designated as the Lead Agency (State CEQA Guidelines Section 15381).

A Trustee Agency is a state agency having jurisdiction by law over natural resources that are held in trust for the people of California, and which may be affected by a project (State CEQA Guidelines Section 15386). The California Department of Fish and Wildlife (CDFW) has jurisdiction over biological resources that may be impacted by the proposed project and is the trustee agency. In addition, the U.S. Fish and Wildlife Service (USFWS) has legal authority over federally listed species that may be present in the project area.

1.3 Project Background

On February 2, 2016 an application for a Minor Conditional Use Permit (CUP) was filed by Brian Tetley, Urban Planning Concepts, on behalf of Brodiaea, Inc, owner, to consider Case No. 16CUP-00000-00005 for the Project in Cuyama Valley. The applicant requested approval of a Minor CUP to allow the construction and operation of three water storage reservoirs (reservoirs) to provide frost protection to existing grapevines on the North Fork Ranch Vineyard. The project application was deemed complete for processing on February 10, 2017.

P&D staff prepared an Initial Study and determined that the appropriate level of environmental review to support application processing was a Mitigated Negative Declaration (MND). A Draft MND was released for public comment from June 7, 2017 – July 6, 2017. Several comments from members of the public and state agencies were received regarding the analysis presented in the MND and aspects of the proposed Project. Revisions were made to the MND and a Final MND was released on August 9, 2017.

The Final MND identified mitigation measures that would reduce potentially significant environmental impacts of the Project to a less than significant level, and those mitigation measures were incorporated into conditions of approval. P&D staff prepared a staff report recommending approval of the Minor CUP, which included the Final MND, policy consistency analysis, conditions of approval, and findings for approval. The Project’s public hearing chronology follows:

> **September 25, 2017**. Following a P&D staff presentation and consideration of public comments, the Santa Barbara County Zoning Administrator approved the North Fork Ranch Frost Ponds Project (16CUP-00000-00005) Minor CUP and adopted the Final MND dated August 11, 2017. The Zoning Administrator's approval was appealed on October 2, 2017.

On September 12, 2018. Following a P&D staff presentation and consideration of public comments, the Planning Commission determined that the evaluation of potential environmental impacts in the MND dated August 1, 2018, was inadequate and directed P&D staff to prepare a focused EIR. The purpose of the EIR was to evaluate three Project-specific issues: 1) water use impacts resulting from operation of the three reservoirs and associated frost protection spray irrigation system; 2) impacts to sensitive plant and wildlife species; and 3) potential flooding impacts from a structural failure of the reservoirs that could affect State Route 166. Subsequent to this directive, on September 21, 2018, the applicant appealed the Planning Commission decision to the Santa Barbara County Board of Supervisors (Board).

December 11, 2018. The Board sets a hearing on January 15, 2019 to consider the applicant's appeal. The hearing was subsequently moved to February 5, 2019.

February 5, 2019. The Board affirmed the action of the Planning Commission, and on March 5, 2019, the Board adopted CEQA findings requiring that an EIR be prepared for the proposed Project.

All background documents to support application processing, Zoning Administrator Hearing, Planning Commission directive, grounds for appeals, and the Boards' direction to prepare an EIR are included in **Appendix C: Past Proceedings** of this document.

P&D released a Notice of Preparation (NOP) requesting public and agency comments on scope and content of the DEIR. The NOP was received by the State Clearinghouse on January 10, 2020 and distributed to reviewing agencies for a 30-day public comment period. The NOP, public and agency comments, and P&D responses to NOP comments are provided in **Appendix D: Notice of Preparation, Comments and Responses**. The environmental baseline for this DEIR are the physical conditions that existed at the project site when the NOP was distributed (January 10, 2020).

The first revised DEIR ~~will be~~was circulated for a 45-day public comment period from April 15 to May 30, 2022. This second revised DEIR will also be circulated for a 45-day public comment period. After the close of the public comment period, comments regarding the original Draft EIR, ~~and~~ the first revised Draft EIR, and the second revised Draft EIR received from the public and agencies will be responded to and a Final EIR will be prepared.

1.4 Project Objectives

The Project has been proposed to achieve the following objectives:

1. Construct reservoirs to store extracted groundwater to protect select vineyard areas during frost events.
2. Protect sensitive environmental resources adjacent to and on the reservoir sites.

1.5 Scope of the Draft EIR

This Draft EIR evaluates the following potential impacts of the North Fork Ranch Frost Protection system:

1. Sensitive plant and wildlife species.
2. Flooding affecting State Route 166 in the event of a structural failure from a proposed reservoir(s). Flooding affecting State Route 166 in the event of a structural failure from a proposed reservoir(s).
3. Evaporative groundwater losses.
4. Cultural and Tribal Cultural Resources.
5. Geological Processes.
6. Water Quality.

The following sections provide a brief overview of the analysis conducted to confirm these potential impacts.

1.5.1 Sensitive Plant and Wildlife Species

This DEIR evaluates the Project's potential impacts to sensitive species (also known as special-status plant and wildlife species). The evaluation includes a description of special-status species that have the potential to occur on and near the proposed reservoir sites; the potential for the proposed Project to result in significant short- and/or long-term impacts to special status species; and identify impacts or mitigation measures not previously identified in the August 1, 2018 Final MND prepared for the Project. This additional evaluation of potential Project-related impacts focuses on changes to existing conditions at the proposed reservoir sites and includes updated 2019 spring surveys of the reservoir sites and adjacent areas.

1.5.2 Reservoir Flooding

This DEIR evaluates the Project's potential impacts to flooding risk. The evaluation includes a review of existing flood data and maps in combination with project plans. Specific focus to the configuration of the reservoirs in regard to protecting downslope properties and infrastructure. In addition, an analysis of potential wave heights and the potential for liquefaction in the event of an earthquake were considered and evaluated.

1.5.3 Groundwater Use

Potentially significant impacts from extraction and use of groundwater resources from operation of the proposed Project’s three reservoirs and frost protection system are evaluated in this DEIR. The evaluation included consideration of the disposition of water used for frost protection (deep percolation, runoff, crop water use, or evaporation). Evaporative groundwater losses were estimated for different weather-based operational scenarios. The resulting groundwater impacts were compared to County thresholds for groundwater extraction and use from the Cuyama Basin.

1.5.4 Cultural and Tribal Cultural Resources

This DEIR evaluates the Project's potential to result in significant impacts to cultural resources and tribal cultural resources. The evaluation is based on the results of a previous cultural resources survey conducted at the project site and the potential for the project to encounter previously undetected resources.

1.5.5 Geologic Processes

This DEIR evaluates the Project's potential to result in significant impacts related to geologic processes. The focus of the analysis is on potential seismic effects including ground rupture and shaking, and soils-related hazards such as liquefaction.

1.5.6 Water Quality

This DEIR evaluates the Project's potential to result in short-term construction-related, and long-term operation-related water quality impacts. The evaluation includes a review of proposed short-term erosion control and water quality protection measures, and a review of the potential for the operation of the reservoirs to result in long-term erosion and sedimentation impacts.

1.6 Structure of the Draft EIR

Chapter 1, Executive Summary, provides an overview of the Project and conclusions of the impact analyses provided in the DEIR.

Chapter 2, Project Description, provides a detailed description of the proposed Project evaluated in the DEIR.

Chapter 3, Environmental Impact Analysis, addresses each of the issue areas identified for further evaluation:

- Biological Resources.
- Reservoir Flooding.
- Frost Protection System Groundwater Use.
- Cultural and Tribal Cultural Resources.
- Geologic Processes.
- Water Quality.

DEIR Sections 3.7 through 3.12 address the environmental resource areas listed above and are organized as follows:

- **Existing Conditions.** This section describes the physical environmental conditions in the Project area as they relate to the resource being evaluated. CEQA Guidelines establish that existing conditions normally constitute the baseline physical conditions by which the Lead Agency (in this case, the County) determines whether or not an impact is significant.

- **Regulatory Framework.** This section summarizes the regulations, plans, and standards that apply to the Project and relate to the specific resource area being evaluated.
- **Thresholds of Significance.** This section identifies the thresholds of significance used to evaluate the proposed Project's impacts. Significance thresholds can be quantitative or qualitative and are based on Appendix G of the CEQA Guidelines and the County of Santa Barbara's Environmental Thresholds and Guidelines Manual (County of Santa Barbara, Published March 2021). Where a threshold of significance is no longer relevant, this is noted, and it is not discussed further.
- **Project Impacts.** The environmental analysis considers the Project's potential impacts resulting from short-term construction and long-term operation of the Project. While the criteria for determining significant impacts are unique to each issue area, the analysis applies a uniform classification of the impacts based on the following definitions:
    - **Class I: Significant impact.** Class I impacts are significant and adverse effects that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
    - **Class II: Significant impact.** A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this DEIR.
    - **Class III: Adverse, less than significant.** A Class III impact is a minor change or effect on the environmental that does not meet or exceed the criteria established to gauge significance.
    - **Class IV: Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.

In cases where there is a potential for a certain type of impact, but no such impact would occur for the proposed Project, the reasons for no occurrence of an impact are described and a designation of "no impact" is assigned.

- **Cumulative Impacts.** This subsection identifies the potential for significant effects to occur as a result of the Project in combination with other past, present of reasonably foreseeable development in the vicinity of the Project site. Where this potential exists, a determination is made as to whether or not the project's contribution to this impact would be cumulatively considerable and therefore significant.
- **Mitigation Measures.** Mitigation measures are identified for each significant Project-specific and cumulative impact that would result from the Project.
- **Residual Impacts.** This subsection identifies the level of significance for Project and cumulative impacts following the implementation of mitigation measures. Residual impacts either would be less than significant (proposed mitigation measures would reduce an impact below the established thresholds of significance) or significant (no feasible mitigation

measures have been identified that would reduce an impact below the thresholds of significance; thus, the impact would remain significant and unavoidable). This section also identifies less-than-significant (Class III) impacts that do not require mitigation.

Chapter 4, Cumulative Impacts, includes a list of pending and approved projects in the Project vicinity and evaluates whether the proposed Project could result in significant cumulative impacts for the six evaluated issue areas.

Chapter 5, Policy Consistency, expands the consistency review included in the August 1, 2018 Final MND adding new analysis for the six issue areas evaluated in this DEIR.

Chapter 6, Alternatives, presents a list of alternatives to the proposed Project and discusses the merits of each alternative and whether it was considered for further evaluation, and includes a qualitative evaluation of the selected alternatives to the proposed Project.

Chapter 7 is the list of preparers.

Chapter 8 lists references used to prepare the DEIR.

1.7 Summary of Environmental Impacts and Mitigation Measures

Table 1-1 summarizes the Project's environmental impacts and the measures identified to mitigate the Project's environmental impacts. For the six environmental issue areas addressed in this DEIR, impacts and mitigation measures from the Final MND were reviewed, impact conclusions were revised, and new measures were developed. Remaining residual impacts after the mitigation measures have been applied were also identified. Analysis and mitigation measures from the Final MND for all issues not addressed in this DEIR, is herein incorporated by reference. In addition, mitigation measures identified by the Final MND are identified on Table 1-1.

Table 1-1 Impact and Mitigation Summary

Impact	Impact Classification	Mitigation Measure	Residual Impact
Sensitive Biological Resources			
Impact BIO-1. Special Status Plant/Wildlife Species	Class II	MM BIO-01.1 San Joaquin Kit Fox Avoidance Measures. Pre-activity surveys & weekly site visits from biologist consistent with USFWS recommendation. MM BIO-01.2 USFWS Jurisdiction Advisory. CUP permit does not approve "take" of listed species. MM BIO-01.3 Biological Preconstruction Surveys MM BIO-01.4 American Badger Avoidance and Minimization Measure. Pre-activity surveys consistent with USFWS recommendation. MM BIO-01.5 Biological monitor during construction. MM BIO-01.6 Nesting Birds Preconstruction Surveys. MM BIO-01.7 Prohibition of Pesticides, Herbicides, and Rodenticides in Operation and Maintenance Plan.	Less than Significant
Impact BIO-2. Wildlife Movement	Class II	MM BIO-01.5 Biological monitor during construction. MM BIO-1.7 Prohibition of Pesticides, Herbicides, and Rodenticides in Operation and Maintenance Plan.	Less than significant
Impact BIO-3. Damage to Native Grasslands.	Class II	MM BIO-02 Prepare and Implement a Native Grasslands Avoidance and Restoration Plan.	Less than significant
Cultural and Tribal Cultural Resources			
Unanticipated discoveries of cultural resources during project construction	Class II	MM CUL-01.1 Cultural Resource Monitor. MM CUL-01.2 Stop Work at Encounter. MM CUL-01.3 Preconstruction Meeting.	Less than significant

Impact	Impact Classification	Mitigation Measure	Residual Impact
Geological Processes			
Erosion-related impacts	Class II	MM GEO-02.1 Erosion and Sediment Control Plan.	Less than significant
Water Quality			
Short-term water quality impacts	Class II	MM WQ 01.1 Equipment Storage-Construction. MM WQ 01.2 Equipment Washout-Construction.	Less than significant
Reservoir Flooding Risk			
Impact FLOOD-1 Failure of Reservoir Berms	Class II	FLOOD-01 Applicant prepared Operation and Maintenance Plan to include inspection of berms.	Less than significant
Impact FLOOD-2 Erosion in Nearby Drainages	Class II	FLOOD-02.1 Clarify the purpose and function of drainage swales on plans. FLOOD-02.2 Clarify swale lining and other details on Project Plans. FLOOD-02.3 Revise Plans to ensure proper stormflow drainage.	Less than significant
Impact FLOOD-3 Embankment Slope Stability	Class II	FLOOD-03 Applicant geotechnical engineer to approved configuration of reservoir embankments.	Less than significant
Evaporative Groundwater Loss			
Impact WAT-01 Groundwater Pumping	Class II	WAT-01 Frost Protection System Evaporative Loss Reduction Plan.	Less than significant
Impact WAT-02 Evaporative Groundwater Loss	Class II	WAT-01 Frost Protection System Evaporative Loss Reduction Plan.	Less than significant

Class I = significant impact

Class II = significant but mitigatable to less than significant

Class III = less than significant

1.8 Alternatives to the Proposed Project

Chapter 6 provides details on alternatives considered in this DEIR. In addition, Chapter 6 provides a list of alternatives considered and eliminated from analysis because they are not feasible or effective. Alternatives considered for this DEIR include:

Proposed Project, described in Chapter 2.

No Project: would consist of existing conditions at the time the State Clearinghouse confirmed receipt of the Notice of Preparation (NOP) for the EIR on January 10, 2020. No frost pond reservoirs would be constructed at the existing North Fork Ranch vineyard property.

Alternative 1: Construct Only Two Reservoirs would consist of only constructing proposed Reservoirs No. 1 and No. 2. This alternative also includes construction of additional piping to bring frost protection groundwater to areas that would have been served by Reservoir No. 3, which would not be constructed.

Alternative 2: Construct Only One Reservoir would consist of only constructing proposed Reservoir No. 2. This alternative also includes construction of additional piping to bring frost protection groundwater to areas that would have been served by Reservoirs No. 1 or No. 3, which would not be constructed.

Environmentally Superior Alternative was determined from analysis presented in Chapter 6. This analysis identifies Alternative 1 Construct Only Two Reservoirs as the environmentally superior alternative. Reducing the project by constructing only Reservoirs No. 1 and No. 2 would reduce impacts to biological resources by avoiding the impacts on native grasslands and reducing potential habitat impacts on special-status species; reduce the potential impacts of flooding and erosion by reducing the number of sites that could result in those impacts; reduce the evaporative losses from the surface of the reservoirs and during individual frost events, thereby reducing overall evaporative losses; and reduce ground disturbance area, which would reduce the potential for impacts to cultural and tribal cultural resources, erosion and sedimentation, and water quality. Alternative 1 is the alternative that is most closely aligned with the proposed Project's frost protection objectives.

1.9 Reference Materials

Reference materials used in preparing this DEIR are included in Chapter 8 and cited in each section where they are used. Reports, documents, and maps are available for public review at the County of Santa Barbara, Planning and Development Department, 624 West Foster Road, Suite C, Santa Maria, CA. Contact Mr. Travis Seawards, Deputy Director, via email: tseawards@co.santa-barbara.ca.us.

2 Project Description

2.1 Proposed Project

The Project includes construction of three frost ponds (reservoirs) that would store water for the operation of a sprinkler-based frost protection system at the North Fork Ranch Vineyards. The proposed reservoirs would serve approximately 840-acres of existing vineyards. Piping that would deliver water to the reservoirs from existing wells is already installed. Only minor pipe connections are proposed to connect the reservoirs to the vineyard's existing irrigation and frost protection systems. Reservoir No. 1 would be located on the eastern portion of the project site, adjacent to Schoolhouse Canyon Road (a private road). Reservoir No. 2 would be located in the central portion of the project site; and Reservoir No. 3 would be located on the western portion of the project site approximately 0.75 miles east of Cottonwood Canyon Road. Access to the reservoirs would be from existing roads on the property that connect back to State Highway 166. Figure 2-1 shows the location of the proposed reservoirs in relation to the Cuyama River and Highway 166.

2.2 Proposed Reservoir and Frost Protection System Details

Frost protection is generally required during the months of March and April when temperatures drop below freezing concurrent with vine budding. This frost protection period is based upon information provided by the applicant listing actual frost events in 2018 and 2019 and the corresponding frost protection required for actual varietals planted at the North Fork Vineyard. Between February and April, the proposed reservoirs would be maintained at a full capacity. A maximum of three feet of well-supplied water would be stored in the reservoirs from May 1st through January 31st to limit the amount of water storage and to avoid damage to the reservoirs' water pumps. Any water above a depth of three feet contained in the reservoirs after May 1 would be used for vineyard irrigation. Proposed project plans are provided as Appendix B and the plans for each reservoir are provided as Figures 2-3 through 2-5.

Each reservoir would have a maximum water storage capacity of 44.6 to 44.8 acre-feet and be lined with a high-density polyethylene (HDPE) plastic liner to prevent water seepage. Each reservoir would also have an emergency overflow discharge system that would prevent stored water from over-topping the reservoir. Water to be stored in the reservoirs would be supplied by existing agricultural wells located on the project parcel on the north side of State Highway 166. Water from the wells would be conveyed to the reservoirs by existing vineyard irrigation pipelines that extend beneath Highway 166 and throughout the vineyard. A six-foot high fence would be installed around the exterior perimeter of each reservoir to prevent unauthorized entry. Lifesaving ring stations and floating pool ropes would also be provided for rescue purposes.

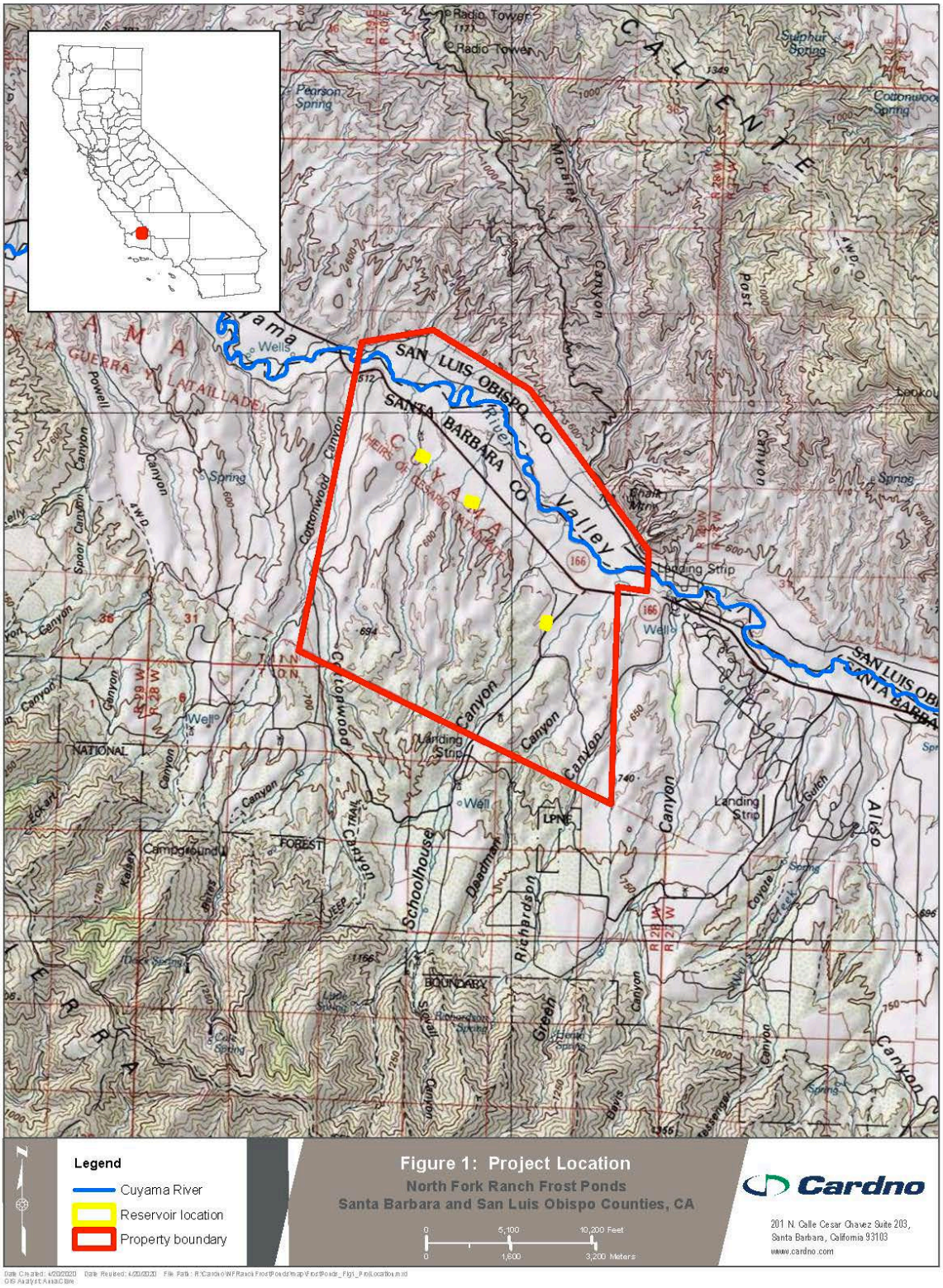


Figure 2-1 Frost Ponds Project Location

In response to comments raised by the Department of Water Resources, Division of Safety of Dams (DOSD), on the P&D Notice of Preparation for this Project (Appendix D), the applicant revised the three reservoirs plans to address DOSD comments related to the design of the reservoir's overflow pipe system design, which resulted in changes to reservoir capacity as shown on the plan set dated February 1, 2021 (referenced in Chapter 8 of this document, and included in Appendix B).

Frost protection would be achieved by sustained spray irrigation in March and April when frost has the potential to damage budding grape vines. Temperature gauges are located in the vineyard and an alarm triggers if temperatures approach freezing. The on-site ranch manager responds by turning on the sprinklers (see sprinkler emitter in inset photograph) in select areas. The vineyard has several varietals, and not all varietals bud at the same time. Only varietals that are in the budding stage are threatened by freezing temperatures. The manager may operate sections of the irrigation system only near budding varietals. A description of the operation of the proposed frost protection system is provided below.

Frost Pond System Sprinkler Emitter

1. Farm team employee monitors weather and weather forecast during the frost season.
2. Farm team employee also uses existing electronic frost monitoring stations located across the vineyard, which can be programmed to send alerts when temperature and dew point parameters have been reached.
3. During the frost season, a senior vineyard employee remains on duty to be prepared to turn on the protection system based on temperature and weather conditions, and vineyard property characteristics (e.g., how elevation and topographic conditions affect air flow across the property). They also track the condition of the vines during potential times of frost risk. The vines are not in danger of frost damage unless the vines start to come out of winter dormancy, called "budding".
4. If conditions for frost damage potential are detected, the on-duty farm team employee(s) will drive to the vineyard blocks at risk (blocks approaching freezing temperature and start of budding). If it appears that frost is beginning to form on the vines, the farm employee will turn on the frost protection system for the affected vineyard block. Protection is only turned on for blocks at risk. The frost protection system will only be activated for the coldest and at-risk blocks first.

5. The North Fork Vineyard is divided into blocks (physical sub-sections of vines). These blocks vary in size from 3.5 to 30.3-acres and the frost protection system is partitioned with valves such that individual blocks can be turned on and off. Vineyard blocks will only employ frost protection if they are no longer dormant, the indicator of which is bud emergence.

During the 2018 and 2019 seasons, the early-season grape varieties, totaling 600.07 acres, have seen first buds emerge March 15th (2018) and March 27th (2019). The mid-season grape varieties, totaling 165.24 acres, have shown first buds March 23rd (2018) and April 8th (2019). The late-season grape varieties, totaling 74.11 acres have shown first buds April 19th (2018) and April 22nd (2019). Since the employees are closely monitoring temperatures by vineyard block and based upon the anticipated budding schedule, it is not expected that the frost protection system would be activated for the entire vineyard at the same time.

Figure 2-2 shows the location of the proposed reservoirs in relation to the existing vineyard, and Figures 2-3 through 2-5 show the design of individual reservoirs.

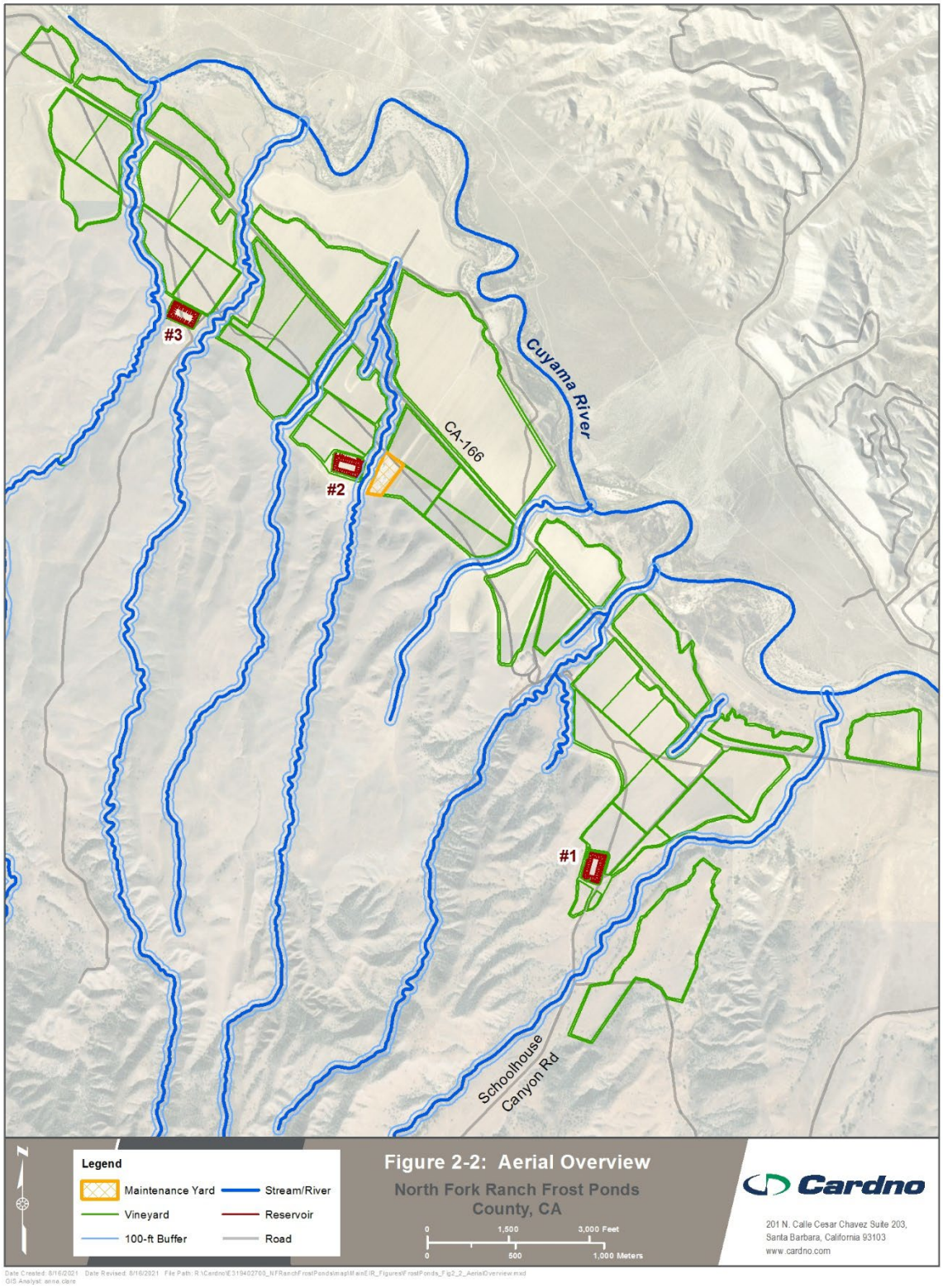


Figure 2-2 Aerial Overview

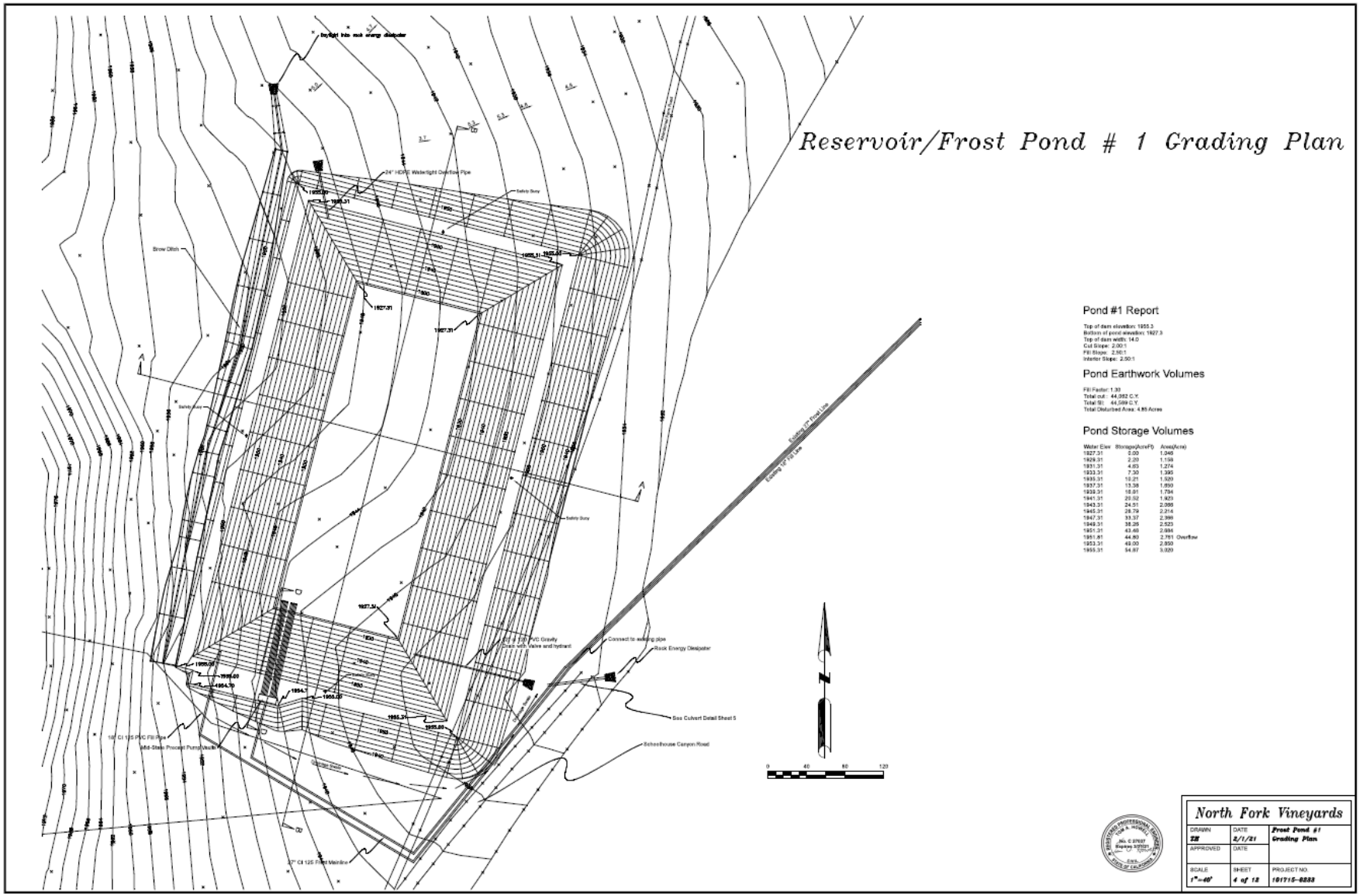


Figure 2-3 Reservoir/Frost Pond #1 Grading Plan

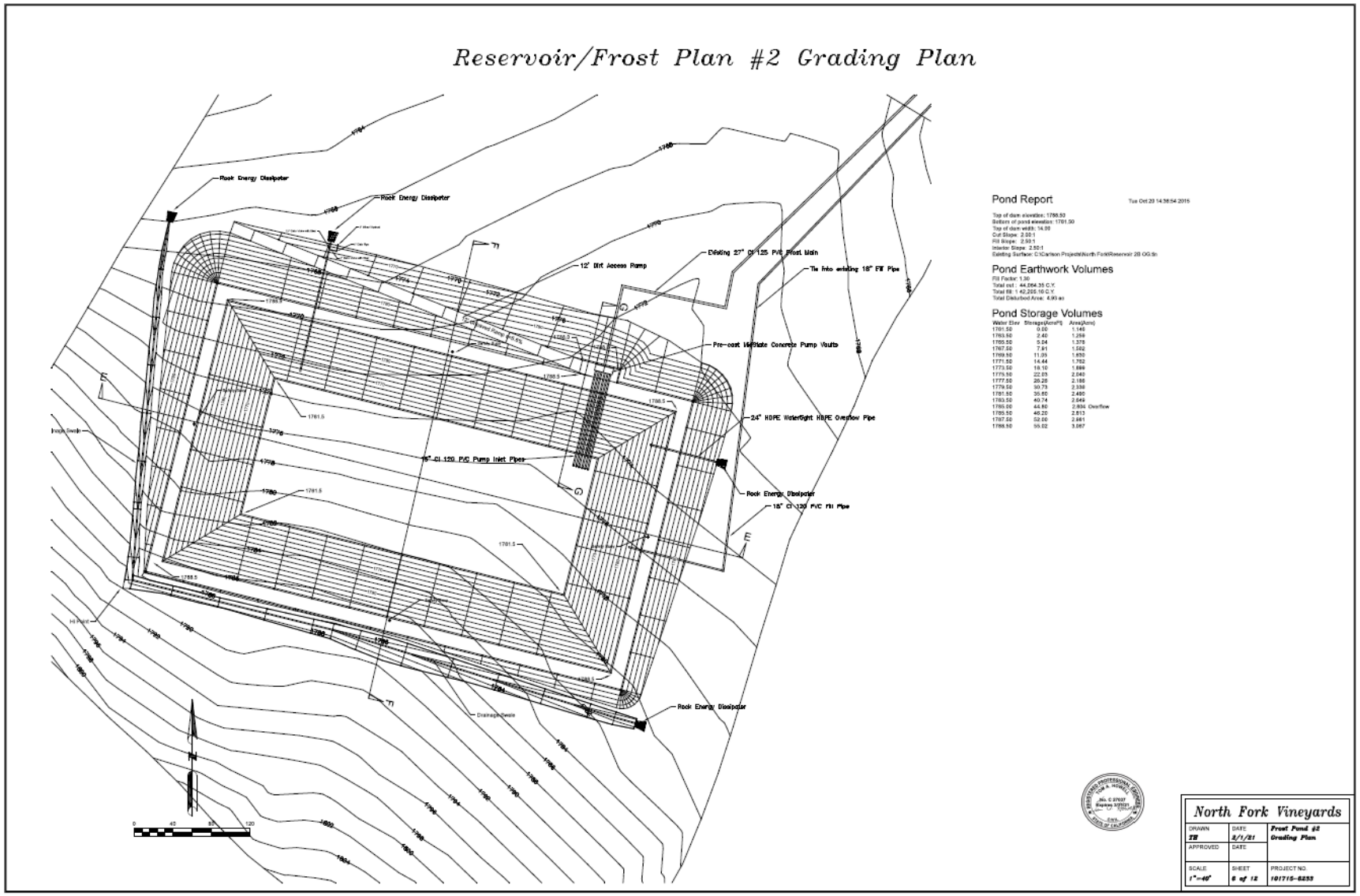


Figure 2-4 Reservoir/Frost Pond #2 Grading Plan

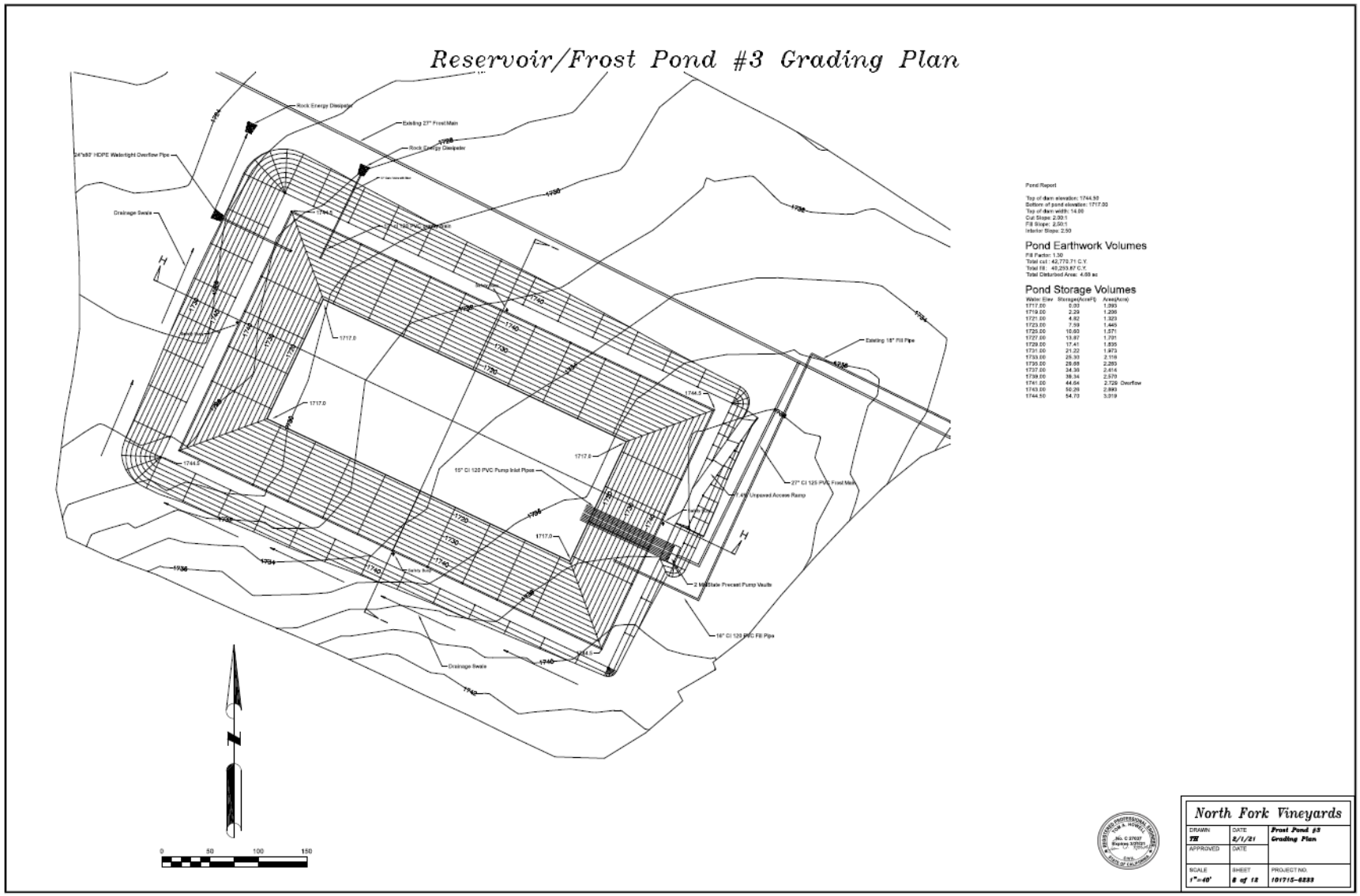


Figure 2-5 Reservoir/Frost Pond #3 Grading Plan

2.3 Surface Water Drainage

Surface water drainage from upslope areas adjacent to the reservoirs would be collected by proposed drainage swales. The collected water would be discharged and allowed to sheet flow at downslope locations adjacent to the reservoirs. Rock energy dissipaters would be installed at each discharge location to reduce potential erosion-related impacts. Stormwater discharge from Reservoir No. 1 would be conveyed beneath Schoolhouse Canyon Road by a proposed culvert beneath the road on the vineyard property.

2.4 Construction

A total of approximately 257,945 cubic yards of cut and fill grading would be required to construct the three proposed reservoirs. The reservoirs would have a maximum depth of 27-28 feet, and in total would occupy an area of approximately 15.6 acres. Proposed pipelines to convey water from the vineyard's existing irrigation system to each of the reservoirs would have a total length of approximately1,350 linear feet. Proposed pipelines to connect the reservoirs to the vineyard's existing spray irrigation system would have a total length of approximately 976 linear feet. Construction details for each of the proposed reservoirs are summarized on Table 2-1. It is estimated that the construction period for the three proposed reservoirs would be approximately one year.

Table 2-1 North Fork Ranch Frost Ponds Construction Characteristics

Reservoir	Proposed Grading			Reservoir Area		Reservoir Depth			Proposed Pipelines	
	Cut (cu. yds.)	Fill (cu. yds.)	Total (cu. yds.)	Approximate Dimensions (feet)	Acres	Top of Reservoir Elevation	Bottom of Pond Elevation	Depth (feet)	Fill Line (feet)	Drain Line (feet)
No. 1	44,062	44,589	88,651	590 x 370	5.0	1,955	1,927	28	624	517
No. 2	44,064	42,205	86,269	580 X 410	5.7	1,788	1,761	27	370	202
No. 3	42,771	40,254	83,025	590 x 360	4.9	1,744	1,717	27	356	257
TOTAL	**130,897**	**127,048 (1)**	**257,945**	**--**	**15.6**	**--**	**--**	**--**	**1,350**	**976**

(1) Due to shrinkage of fill material, no soil would be exported from the project site

2.5 Existing Setting

The 6,565-acre project parcel is located in the Cuyama Valley, approximately nine miles west of the community of New Cuyama. The project parcel is located on the south side of State Highway 166 and the proposed reservoir sites are approximately 4,000 to 5,000 feet south of the Cuyama River. The proposed reservoir sites are currently vacant open land adjacent to existing vineyards. Irrigation lines have been installed throughout the vineyards and are located near the proposed reservoir project sites. The existing irrigation lines would also be used to deliver water from the proposed reservoirs.

Slope/Topography. The proposed reservoir sites are on gentle slopes and flat areas. They slope gently towards named and unnamed ephemeral drainages on the south side of Highway 166 and the Cuyama River. All three sites are similar in size and shape, and can be accessed by existing ranch roads. Elevations in the project areas range from approximately 1,700 to 1,900 feet above mean sea level, and average annual precipitation in the New Cuyama area is approximately eight inches.

The Reservoir No. 1 project site is located on the eastern end of the project property approximately 500 feet west of Schoolhouse Canyon Road. This project site ranges in elevation from approximately 1,958 feet above sea level in the southwest corner to approximately 1,938 feet in the southeast corner, which results in a slope gradient of approximately five percent. A small drainage feature is present north of this reservoir and any seasonal surface water sheet flows across the vineyard.

The Reservoir No. 2 project site is located on the central portion of the project property. This project site ranges in elevation from approximately 1,790 feet above sea level in the southwest corner to approximately 1,766 feet in the northwest corner, which results in a slope gradient of approximately six percent. The site generally slopes to the east and is approximately 100 feet west of a small ephemeral drainage.

The Reservoir No. 3 project site is located on the western end of the project property approximately one mile east of Cottonwood Canyon Road. Small ephemeral drainages are located approximately 100 feet to west and approximately 250 feet to the east of the reservoir site. This project site ranges in elevation from approximately 1,740 feet above sea level in the southeast corner to approximately 1,726 feet in the northwest corner, which results in a slope gradient of approximately two percent. The site generally slopes to the northeast towards the adjacent drainage.

Flora/Fauna. Flora and fauna conditions at and near the proposed reservoir sites are summarized below and described in detail in several reports prepared for the proposed project. Refer to Section 3.6 Biological Resources and Appendices B and E, which include the reports and a Peer Review of the Biological Resource Assessments provided by the applicant. The biological investigation examined existing conditions at and adjacent to the three proposed reservoir sites and evaluated the potential for rare or special status species and habitats to be present or affected by reservoir construction. As such, the project study area covered by this report consists of three distinct areas totaling over 15 acres of land that could be disturbed during construction. Access to the sites would use existing ranch roads that originate from Highway 166.

The proposed reservoir sites and surrounding areas have been historically used for cattle grazing, and vegetation at and near the sites is sparse and consists predominately of non-native weeds and annual grasses. The proposed reservoir sites and areas adjacent to the sites were last disked in 2016. The drainages located near the proposed reservoirs are dry most of the year and generally flow briefly during the summer monsoon season and after winter rains. The drainages support patches of native habitat.

Prior biological resource reports were conducted when the reservoir sites had been disked. Earlier surveys noted that the reservoir sites supported a mix of non-native plants growing on sandy loam soils.

For Reservoir No. 1, plants observed during the spring and summer of 2015 included red-stemmed filaree and Russian thistle. Surveys conducted in March 2019 when the site had not been disked since 2016, showed that the site was dominated by non-native hare barley (or foxtail) and native fiddleneck with patches of native forbs including miniature lupine, goldfields, dove clover, tidy tips, and purple owl's clover with non-native red brome more dominant during an April 2019 survey.

Reservoir No. 2 had observations similar to Reservoir No. 1, and the site is dominated by non-native hare barley and fiddleneck fields. Surveys in March and April 2019, observed common monolopia, common phacelia, blue dicks, arroyo lupine, pinpoint clover, two-seeded milkvetch, and miniature lupine. No perennial grasses were noted on the site. Non-native grasses and forbs were present in abundance and included red brome, hare barley, filaree, and wild oats.

For Reservoir No. 3, the 2015 and 2016 surveys showed the area dominated by red-stemmed filaree and patches of Russian thistle. During the 2019 surveys, the northern (and flatter) portion of the site was dominated by red brome and also included other non-native grasses such as soft chess and hare barley. Herbaceous forbs consisted of red-stemmed filaree and miniature lupine. This portion of the site was characterized as red brome grassland. In the southwestern portion of the study area, primarily south of the reservoir construction footprint, the site extends up a steeper slope and this area was noted to contain a predominance of the perennial curly bluegrass co-occurring with native bunchgrass, common monolopia and stinging lupine. This area was separated from the red brome grassland and characterized as a native bunchgrass grassland and bluegrass (a species of native bunchgrass) was present at a cover greater than 10 percent. The bluegrass area south of the reservoir site extends outside the study area and covers much of the steeper hillside. This plant community is characterized as a curly bluegrass grassland and is considered a sensitive plant area under County Environmental thresholds. The area north of Reservoir 3 is characterized as ruderal comprised of a roadway and agriculture.

As part of the preparation of the 2019 report, a search of the California Natural Diversity Database (CNDDB) was performed for the area within a five-mile radius of the North Fork Ranch property limits. Based on the CNDDB results and local knowledge of the area (KMA staff experience) fourteen (14) special status plant species and sixteen (16) special status animal species were identified that are known to occur within the general region. While no special status plant communities were identified in the CNDDB within the five-mile radius, 2019 field work identified the special status curly bluegrass grasslands adjacent to proposed Reservoir No. 3.

Sensitive wildlife species that have the potential to occur in the project area include San Joaquin kit fox and American badger.

Archaeological Sites. Archaeological resources located on or near the project site are described in a report titled Phase 1 Cultural Resources Study for the North Fork Reservoir Project, Santa Barbara County, California (August 2016). The Phase 1 investigation included a survey of the proposed reservoir sites and the location of the proposed pipelines that would connect the reservoirs to existing irrigation water pipelines. The Phase 1 survey did not identify any archaeological resources within the proposed project site boundaries. However, the survey reported that pre-historic human remains were identified during the excavation of a trench for the installation of an irrigation pipeline on the north side of State Highway 166.

Soils: Reservoir sites No. 1 and No. 3 are located on Pleasanton sandy loam, and Reservoir site No. 2 is located on Panoche loam.

Water Resources and Flooding: A series of ephemeral drainages that are tributaries to the Cuyama River bisect the project property in a primarily south to north direction. The largest of these drainages are Cottonwood Creek on the western portion of the project property and Schoolhouse Canyon Creek on the eastern side. The on-site drainages are dry for most of the year and convey periodic/flash flow during monsoonal rain events and during the winter rain season. Proposed Reservoir No. 1 is located approximately 500 feet west of Schoolhouse Canyon Creek and small unnamed drainage channels are located approximately 50 feet to the east and west this reservoir. Reservoir No. 2 site is located approximately 100 feet west and approximately 1,000 feet east of small unnamed drainage channels. Reservoir No. 3 is located approximately 250 feet west and 100 feet east of small unnamed drainage channels and is approximately one mile east of Cottonwood Canyon Creek. These reservoirs are shown on Figure 2-2.

~~The proposed reservoir sites are located in the western portion of the Cuyama Valley Groundwater Basin. The 2014 Groundwater Basins Status Report (Santa Barbara County Water Agency, 2014) indicates that groundwater level measurements in the Cuyama Valley Groundwater Basin show substantial declines throughout history and over the last three years. In some areas, historical groundwater level declines exceed 400 feet. The County of Santa Barbara Environmental Thresholds and Guidelines Manual (1992) indicates that groundwater overdraft in the Cuyama Valley Groundwater Basin is 28,525 acre feet per year (AFY). The 2014 Groundwater Basins Status Report indicates that long-term overdraft within the basin is estimated to be nearly 30,000 AFY. In 2015, the Santa Barbara County Water Agency reported that under recent conditions (2000-2010) total annual net recharge for the Basin is 33,400 acre feet and net discharge (outflow from springs, subsurface flow out of the basin, and groundwater pumping) is 68,300 acre feet, resulting in a difference or "imbalance" of -34,900 acre feet per year (Santa Barbara County Water Agency, *Cuyama Groundwater Basin Balance Summary*, July 13, 2015).~~

The proposed reservoir sites are located in the Cuyama Valley Groundwater Basin. The *Groundwater Sustainability Plan* (2022) for the Cuyama Valley Groundwater Basin[1] provides

[1] Available at: https://cuyamabasin.org/resources#resubmitted-gsp

information regarding the average annual current and projected groundwater inflows and outflows in the Basin, and states that "*average annual current and projected groundwater budget has greater outflows than inflows, leading to an average annual decrease in groundwater storage (i.e. overdraft) of 25,000 acre feet. Accounting for potential uncertainties in numerical model parameters…the projected average annual overdraft could range from 23,000 to 27,000 acre feet. As with the historical conditions, the groundwater storage decreases consistently over time, despite year-to-year variability in groundwater inflows"* (Page 2-135).

As stated above, it is estimated that overdraft conditions in the Cuyama Valley Groundwater Basin are approximately 25,000 acre feet per year. This estimated level of overdraft is slightly lower than the overdraft conditions reported by the County of Santa Barbara *Environmental Thresholds and Guidelines Manual* (1992), which estimated an annual overdraft condition of 28,525 acre feet per year.

The proposed reservoirs would be located in a portion of the Cuyama Valley Groundwater Basin that is described by the Cuyama Valley *Groundwater Sustainability Plan* as the "Northwestern Threshold Region." The Plan states that this region "*has undergone changes in land use from small production agricultural and grazing to irrigated crops over the last four years. Recent historical data and hydrographs in this portion of the Basin indicate that this portion is likely currently in a full condition."*

The *Santa Barbara County 2022 Groundwater Basins Summary Report*[2] provides the following description of groundwater conditions in the Northwestern Threshold Region: *"The Northwestern Threshold Region has historically been characterized by rangeland with limited development. In 2015, a new vineyard was developed within the eastern portion of this sub-basin on both sides of the Cuyama River. A limited data set of shallow wells indicates that water levels have historically remained fairly stable throughout this region, and remain stable in the western portion of this region. However, deep wells within the eastern portion of this region have experienced continued declines, with water levels dropping 40 feet on average since pumping began in 2016. It should be noted however, that although water levels continue to decline in this area, stable and static water level measurements are difficult to obtain as a result of agricultural pumping throughout the year."*

Sustainable Groundwater Management Act. Designated groundwater basins are required to comply with the Sustainable Groundwater Management Act (SGMA) and designate a Groundwater Sustainability Agency (GSA). In response to SGMA, the Cuyama Basin GSA was established in 2017. Since the Cuyama Basin is in overdraft, submittal of the Cuyama Basin GSA Sustainability Plan (Plan) was required prior to January 31, 2020 and this was finalized in December 2019 by the GSA. Based on review comments from the California Department of Water Resources, a Final Plan was prepared and adopted by the GSA on July 6, 2022. The revised Groundwater Sustainability Plan is currently being reviewed by the California Department of Water Resources.

The Plan discusses how geologic conditions and land use conditions vary across the basin causing variations in groundwater conditions across the basin. To effectively manage this variance, the

[2] Available at: https://content.civicplus.com/api/assets/6a9d3032-73c2-44fe-aebc-08ed600bcbbe

GSA Board of Directors created threshold regions to establish appropriate criteria for each of the regions. The proposed Project is located in the Northwestern Region where monitoring has indicated hydrologic conditions are stable, with some declines in the areas where new agriculture is established. The Plan calls for additional levels of monitoring to determine if there are impacts to long-term groundwater levels and sustainability. According to the Santa Barbara County Water Agency, no new thresholds for groundwater extraction by individual projects have been accepted or proposed by the Cuyama Basin GSA (Matt Young, 2020). Therefore, the County's threshold of 31 AFY remains the applicable threshold for assessing impacts from non-agricultural water use.

In 2021, several Cuyama Valley farms filed a Notice of Commencement of Groundwater Adjudication of the Cuyama Valley Groundwater Basin in Los Angeles County Superior Court.– In ground water basins where a lawsuit is brought to adjudicate, the rights to use groundwater are determined by the court. The court will determine who the water rights owners are, how much groundwater those rights owners can extract, and how the groundwater area will be managed.

2.6 Site Information

The application involves Assessor Parcel Number 147-020-045, a 6,565-acre parcel that is zoned AG-II-100.

Site Information	
Comprehensive Plan Designation	Agricultural Commercial (AC).
Zoning District, Ordinance	Land Use and Development Code, AG-II-100, Agriculture, 1 unit per 100 acres.
Site Size	The project property is 6,565 acres. The three proposed reservoirs would occupy a combined area of 15.6-acres. Existing vineyards occupy approximately 840 acres.
Present Use and Development	The proposed reservoir sites are currently vacant. Areas adjacent to the proposed reservoir sites are planted with vineyards.
Surrounding Uses/Zoning	North: AG-II-100, open space South: AG-II-100, open space East: AG-II-100, open space West: AG-II-100, open space.
Access	State Highway 166 and existing unpaved ranch/vineyard roads.

3 Environmental Impact Analysis

3.1 Introduction

This chapter examines the environmental setting, identifies associated regulatory requirements, evaluates the potential significant environmental impacts, and identifies appropriate mitigation measures for the three environmental resource areas discussed in this revised Draft Environmental Impact Report (DEIR).

3.2 Environmental Issues Analyzed in this EIR

The scope of this DEIR is based on the project description outlined in Chapter 2 as well as comments received during the scoping process, focusing on environmental issues that potentially could result in significant impacts and information from the applicant. Chapter 3 of this DEIR analyzes impacts from the North Fork Ranch Frost Ponds Project (Project) as it relates to the environmental resources determined to be potentially significant based on the analysis of the August 1, 2018 Initial Study/Mitigated Negative Declaration prepared for the project, and as result of direction from the County of Santa Barbara Board of Supervisors on March 5, 2019, requiring P&D to prepare an EIR. Additional information about past P&D permitting for this project as well as information about the formal EIR Scoping process are included in Sections 1.2 and the Notice of Preparation (NOP) comment letters and responses included in Appendix D. The six environmental issue areas evaluated in the DEIR are: sensitive biological resources, flooding from the proposed reservoirs, evaporative groundwater loss from operation of the frost protection system, cultural and tribal cultural resources, geologic process, and water quality. The six sections are:

- Section 3.7 Biological Resources
- Section 3.8 Frost Pond Reservoir Flooding
- Section 3.9 Frost Protection System Groundwater Use
- Section 3.10 Cultural and Tribal Cultural Resources
- Section 3.11 Geologic Processes
- Section 3.12 Water Quality

3.3 Organization of Environmental Impact Analysis

Each of the six impact analysis sections (3.7 – 3.12) address the environmental resource areas listed above and contains the following information:

- **Existing Conditions.** This section describes the physical environmental conditions in the Project area as they relate to the resource being evaluated. CEQA Guidelines establish that existing conditions normally constitute the baseline physical conditions by which the lead agency (in this case, the County) determines whether or not an impact is significant. The baseline or existing conditions are

set at the issuance of the NOP. For this DEIR, the issuance of the NOP was on January 10, 2020; the project baseline is compared to conditions as of that date.

- **Regulatory Framework.** This section summarizes the regulations, plans, and standards that apply to the Project and relate to the specific resource area being evaluated.
- **Thresholds of Significance.** This section identifies the thresholds of significance used to evaluate the Project's impacts. Significance thresholds can be quantitative or qualitative and are based on Appendix G of the State CEQA Guidelines and the Santa Barbara County Environmental Thresholds and Guidelines Manual (Thresholds Manual), a published March 2021.
- **Project Impacts.** The environmental analysis considers the Project's potential impacts resulting from short-term construction and long-term operation of the Project. While the criteria for determining significant impacts are unique to each issue area, the analysis applies a uniform classification of the impacts based on the following definitions:
    - **Class I: Significant impact.** Class I impacts are significant and adverse effects that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable
    - **Class II: Significant impact.** A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this DEIR.
    - **Class III: Adverse; less than significant.** A Class III impact is a minor change or effect on the environmental that does not meet or exceed the criteria established to determine significance.
    - **Class IV**: **Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.

In cases where there is a potential for a certain type of impact, but no such impact would occur for the proposed Project, the reasons for no occurrence of an impact are described and a designation of "no impact" is assigned.

- **Cumulative Impacts.** This subsection identifies the potential for significant effects to occur as a result of the Project in combination with other past, present or reasonably foreseeable development in the vicinity of the Project site. Where this potential exists, a determination is made as to whether or not the Project's contribution to this impact would be cumulatively considerable and therefore significant.
- **Mitigation Measures.** Mitigation measures are identified for each significant Project-specific and cumulative impact that would result from the Project.
- **Residual Impacts.** This subsection identifies the level of significance for the Project and cumulative impacts following the implementation of mitigation measures. Residual impacts either would be less than significant (proposed mitigation measures would reduce an impact below the established thresholds of significance) or significant (no feasible mitigation measures have been identified that

would reduce an impact below the thresholds of significance; thus, the impact would remain significant and unavoidable). This section also identifies less-than-significant (Class III) impacts that do not require mitigation.

3.4 Resource Areas Previously Determined to have less than Significant Impacts

The Initial Study/Mitigation Negative Declaration (IS/MND) prepared for the Project, dated August 1, 2018, evaluated all of the issue areas addressed in the County of Santa Barbara Initial Study Checklist. The IS/MND analysis determined that the following issue areas had less than significant or no impacts on the environment, meaning no mitigation measures are required: Aesthetics/Visual Resources; Agricultural Resources; Air Quality; Air Quality- Greenhouse Gas Emissions; Energy; Fire Protection; Hazardous Materials/Risk of Upset; Historic Resources; Land Use; Noise; Public Facilities; Recreation; and Transportation/Circulation. Therefore, no further analysis of these topics is required and only the topics listed above in Section 3.2 will be analyzed in this DEIR. Additional information regarding why certain environmental issue areas were determined to have less than significant or no impacts on the environment is provided in Section 4.5 of this DEIR.

3.5 Resource Areas Determined to have less than Significant Impacts After Implementation of Mitigation Measures

The August 1, 2018 Final MND also determined that the following issue areas had potentially significant, but mitigatable impacts, meaning mitigation measures are required: Biological Resources; Cultural Resources; Geologic Processes, and Water Resources/Flooding. Cultural Resources, Geologic Processes, and Water Resources/Flooding mitigation measures identified by the August 1, 2018 Final MND are listed in the Executive Summary Table 1-1, and evaluations of those issue areas are included in this DEIR.

3.6 Resource Area Analysis

Resource areas analyzed in this DEIR include presence of sensitive biological resources, flooding associated with operation of the frost pond reservoirs, frost protection system groundwater use, cultural and tribal cultural resources, geologic processes, and water quality. The evaluation of the proposed Project's impacts associated with these six areas includes a discussion of existing site conditions, regulatory framework, environmental thresholds of significance, potential impacts that would occur from implementation of the proposed Project, cumulative impacts of the proposed Project when combined with other projects in the area, proposed mitigation measures, and identification of residual impacts after implementation of proposed mitigation measures.

3.7 Biological Resources

Biological resources include plants and animals (common and special-status) and the habitats they rely on. This section describes biological resources at and near the Project site. Sources of information used in this analysis include the following:

- NOP comment letter from USFWS, March 5, 2020; (DEIR Appendix D).

- NOP comment letter from CDFW, February 10, 2020; (DEIR Appendix D).
- Biological reports prepared by the applicant (included as Appendix B as part of the August 1, 2018 MND, DEIR Appendix B).
    - KMA Biological Resource Assessment, North Fork Ranch Frost Ponds Project, February 24, 2016.
    - KMA Biological Resources Assessment, North Fork Ranch Frost Ponds Project, February 4, 2020.
    - KMA Memorandum, North Fork Ranch Frost Ponds Project, Supplemental Biological Resources Information, June 15, 2020.
- Cardno peer-review of the applicant's biological reports (included as DEIR Appendix E).
- The California Natural Diversity Database (CNDDB), which contains records of special-status species and habitats.
- E-mail from Ray Shady to Brian Tetley, May 12, 2020, North Fork Ranch Frost Ponds Questions and Project (Included as part of Appendix B).
- North Fork Vineyards Frost Ponds Design Plans, prepared by Tom. A. Howell, June 13, 2017 and revised plans dated June 17, 2020 and February 1, 2021.
- North Fork Ranch Frost Ponds Final Mitigated Negative Declaration (MND), August 1, 2018 (DEIR Appendix C).

3.7.1 Existing Conditions/Baseline Setting

Two biological resource assessments were prepared for the proposed Project and are included in Appendices B.11 (KMA 2016) and B.8 (KMA 2020). The following description is updated from the August 1, 2018 MND with information from these biological resource assessments, Cardno staff technical memorandum and peer review (Appendix E.1), and Cardno input on impacts.

Plants. The proposed reservoir sites have historically been used for grazing, and in 2016 were disked in preparation for planting grape vines in adjacent areas. Botanical surveys on the project property were conducted in April, May, June, August, and September 2015 to search for special status plants and characterize the on-site habitat types. Additional surveys were conducted in the winter and spring 2016 over large areas of the property, including the proposed reservoir sites. In general, the reservoir sites lacked plant species diversity and did not support any native plants. Plants observed at the project sites in the spring and summer of 2015 consisted of a mix of non-native weeds including red-stemmed filaree (*Erodium cicutarium)* and Russian thistle (*Salsola tragus*), and sparse non-native grasses (KMA 2016).

Two additional botanical surveys were conducted in March and April 2019, covering the three proposed reservoirs with an approximate 100-foot survey area around each site (KMA 2020). No disking of the reservoir sites occurred (after May 1, 2016) before the surveys were conducted. Details of plants observed during the 2019 surveys is included in the following description of each of the three reservoirs and in Appendix B.08. These survey results reflect the existence of additional plant species because the

sites have been undisturbed, since the disking that occurred prior to the surveys conducted in spring 2016.

Frost Pond Reservoir No. 1: Vegetation in March 2019 was dominated by non-native hare barley (*Hordeum murinum* ssp. *leporinum*) and native fiddleneck (*Amsinckia intermedia*) with patches of native miniature lupine (*Lupinus bicolor*), goldfields (*Lasthenia gracilis*), dove clover (*Trifolium albopurpureum*), tidy tips (*Layia platyglossa*), and purple owl's clover (*Castilleja exserta*). By April, the non-native red brome (*Bromus madritensis* ssp. *rubens*) was more dominant than the hare barley. Based on the present plant species, the plant community was determined to be *Amsinckia* (*intermedia, menziesii*) Herbaceous Association of the Fiddleneck-Phacelia Fields Alliance (Figure 3-1). This is not a sensitive natural community (G4, S4 rankings[1]). According to Holland (1986), the plant community descriptions were "Non-native grassland" with patches of "Wildflower Fields" where native forbs occur. The roadway surrounding the reservoir was classified as ruderal, while the survey area on the north side of the reservoir was composed of agriculture (vineyards). An ephemeral drainage crosses the northwest corner of the survey area with a California juniper (*Juniperus californicus*) at the edge of the survey area.

[1] G4 S4 indicates that the community has a global level 4 ranking which means that it is apparently secure on a global and state level.

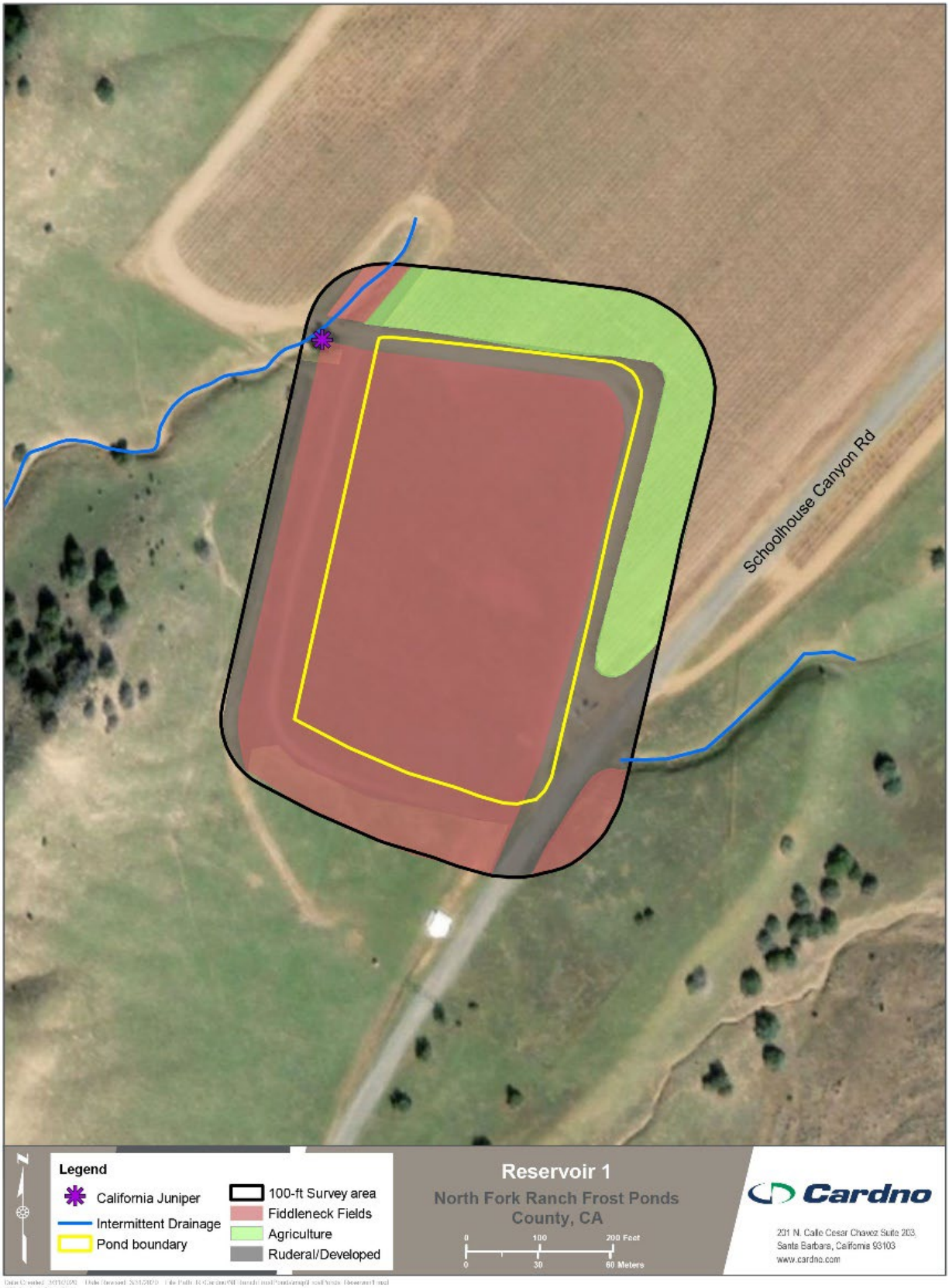


Figure 3-1 Frost Pond Reservoir No. 1

Frost Pond Reservoir No. 2: This site was dominated by the native fiddleneck in 2019. Other native species present included common monolopia (*Monolopia lanceolata*), common phacelia (*Phacelia distans*), blue dicks (*Dichelostemma capitatum*), arroyo lupine (*Lupinus succulentus*), pinpoint clover (*Trifolium gracilentum*), two-seeded milkvetch (*Astragalus didymocarpus* var. *didymocarpus*), and miniature lupine. Abundant non-native species included red brome, hare barley, red-stemmed filaree, and wild oats (*Avena barbata*). The plant community descriptions are similar to Reservoir No. 1 with the surrounding roadway being classified as ruderal and agriculture on the north and west sides of the reservoir in the construction area (Figure 3-2).

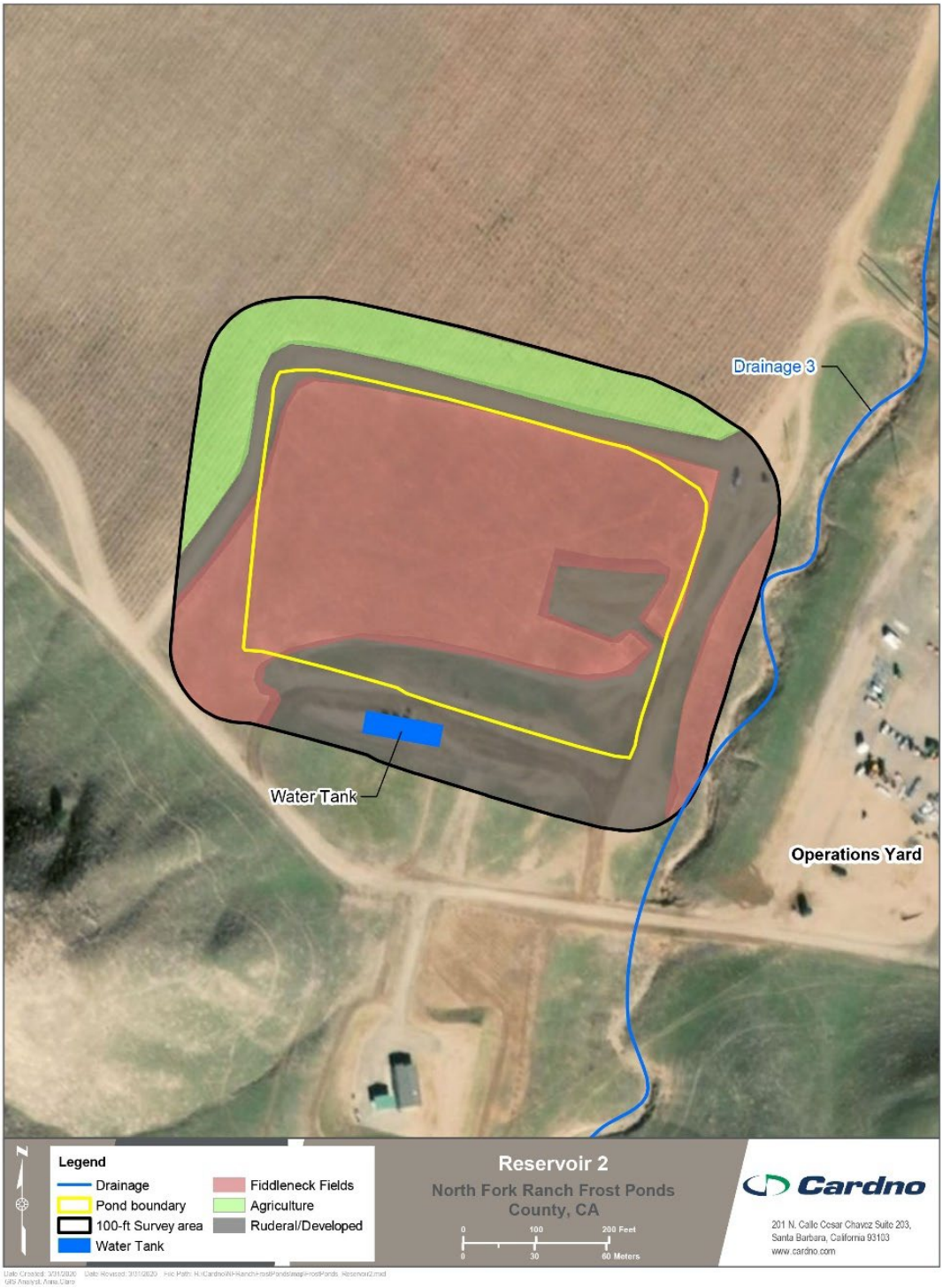


Figure 3-2 Frost Pond Reservoir No. 2

Frost Pond Reservoir No. 3: In the northern, flatter, portion of the site, the non-native red brome was dominant with other non-native grasses such as soft chess (*Bromus hordeaceus*) and hare barley. The native miniature lupine and non-native red-stemmed filaree were also present. This plant community description is classified as a *Bromus rubens* Semi-Natural Alliance. In the Holland classification, this is non-native grassland, and it is not a sensitive community. The southwestern portion of the site, mostly

outside the reservoir footprint, has native bunchgrass grassland (with greater than 10 percent cover) present on a steeper slope. Dominant species were curly bluegrass (*Poa secunda*), common monolopia, and stinging lupine (*Lupinus hirsutissimus*). This community is recognized as a sensitive species under the County Thresholds. The roadway on the north side of the reservoir site, within the project area is classified as Ruderal, and adjacent to the north is classified as Agriculture (Figure 3-3). The amount of native grassland within Reservoir No. 3 boundary is 0.01 acre and 0.42 acre within the construction area.

A search of the CNDDB in 2019 identified 14 recorded special status plant species within a five-mile radius of the proposed reservoir sites. KMA 2020, Appendix G, Table 1 (included in DEIR Appendix B.3) lists the special status plants identified by the CNDDB. Based on the habitat requirements of the identified plants, existing conditions at the Project site, and the results of seasonally timed surveys in 2019, it was determined that none of the identified sensitive plants are likely to be located on or near the proposed reservoir sites.

Wildlife. Wildlife observed at the proposed reservoir sites during the 2015, 2016, and 2019 site visits and surveys included coyote (*Canis latrans*) tracks and scat, gopher burrows, Heerman's kangaroo rat (*Dipodomys heermanni*) burrows, and very little bird activity with only a large flock of American Crows (*Corvus brachyrhynchos*), several Red-tailed Hawks (*Buteo jamaicensis*), and Turkey Vultures (*Cathartes aura*). The 2019 CNDDB search identified 16 known occurrences of sensitive wildlife species within five miles of the proposed reservoir sites. KMA 2020, Appendix A, Table 1 (included as DEIR Appendix A.8) lists the special status wildlife species identified by the CNDDB. The potential for sensitive animal species to occur on or near the proposed reservoir sites is summarized below.

Northern California legless lizard (*Anniella pulchra*), a CDFW species of special concern, suitable habitat is present in woodland and scrub areas outside the study area, and given the 2016 disking and other agricultural activities on the study area, it was deemed that this species had a low potential to occur. While the sand soils in this area are potentially suitable, they have been observed occurring in grasslands with little to no shrub/tree cover. The closest reported occurrence is more than 2-miles from proposed Reservoir No. 3 confirming that this species has a low potential to occur.

Figure 3-3 Plant Community Mapping for Reservoir 3

California glossy snake (*Arizona elegans occidentalis*), a CDFW species of special concern, has shown proximity to larger undeveloped open space areas which increases the potential that it could occur on site regardless of the fact that agricultural activities have altered the small mammal prey habitat in the three reservoir study areas.

Giant kangaroo rat (*Dipodomys ingens*), state and federally listed as endangered, occurrences in the area are now identified as "possibly extirpated" by the CNDDB, and surveys of the proposed reservoir sites did not locate any burrow complexes characteristic of the giant kangaroo rat. Therefore, the species is likely no longer present in the general area.

Blunt-nosed leopard lizard (*Gambelia sila*; [BNLL]), state and federally listed as endangered, was not identified by the CNDDB as occurring within five miles of the Project site. BNLL has a known occurrence at a site just over five miles east of the eastern Project parcel border, as well as other occurrences in the Project region. Prior to disking the proposed project sites in 2015 and 2016, 18 protocol-level surveys for BNLL were conducted in areas identified as the highest quality potential habitat within the eastern portion of the Project property. Those surveys did not detect presence of BNLL. Additional non-protocol condition surveys were also conducted at proposed reservoir sites No. 2 and No. 3. Overall, the surveys determined that BNLL were unlikely to occur on or near the proposed reservoir sites.

American badger (*Taxidea taxus*) is a CDFW species of special concern. Highly mobile species such as the American badger could dig under the deer fencing surrounding the vineyard and potentially move through the ranch and three reservoir areas in search of food or suitable denning habitat. No recent observations of badger were identified on or adjacent to the proposed project sites, nor were any significant small mammal colonies present that could provide a prey base to draw badgers onto the three reservoir sites (KMA 2020). The species is known to occur in the larger Cuyama Valley region, and therefore, potential exists for this species to occur on the ranch and the three reservoir sites during foraging and movement activities.

San Joaquin kit fox (*Vulpes macrotis mutica*; [SJKF]), state listed as threatened and federally listed as endangered, has historical records within range of the Project site. The last recorded occurrences of SJKF in the immediate area are from 1975, and ongoing agricultural operations in the greater Cuyama Valley and on the Project site would likely have restricted movement opportunities for this species in the project area. In addition, the existing exclusionary deer fencing surrounding the North Fork Ranch vineyard may also deter SJKF from entering the Project area. While the Cuyama River and other more gently sloped open space areas could be used by the SJKF, no den sites or sign of SJKF were observed in the three reservoirs study areas during the 2015, 2016, and 2019 surveys. Still, given the extensive open space in the area that is generally connected to the core population on the Carrizo Plain, it is assumed that a SJKF, if present in the region, could move through the Project area during foraging and/or migration activities. However, the lack of a well-developed prey base and limited suitable denning habitat within the project areas indicate a very low potential for this species to occur.

California red-legged frog (*Rana draytonii*; [CRLF]), federally listed as threatened and a CDFW species of special concern, has designated critical habitat located beyond the five-mile CNDDB search radius conducted for the Proposed project. The ephemeral drainages on the Project property do not provide suitable aquatic habitat for CRLF. The closest recorded location for CRLF is approximately 7 miles away, and no suitable habitat for this species is present between the recorded location and the Project site. The proposed reservoir sites currently do not have any surface water to attract this species and even

once the reservoirs store groundwater, it is still unlikely that CRLF could move more than 1.7-miles during a rainy season and reach the Project area. Therefore, it is considered highly unlikely that any CRLF are located on or near the proposed project sites.

Special-status bird species, including raptors, such as Long-eared Owl (*Asio otus*) and Prairie Falcon (*Falco mexicanus*), would be expected to forage over or around the proposed project area and could occur on a seasonal basis. However, due to the lack of trees, encroachment of agriculture, regular cycle of ground disturbance, and no suitable prey base, nesting habitat is not present at the Project site. Therefore, these species would only be transient visitors during foraging in the Project area.

Other special-status animal species known to occur in the project area include: Tricolored Blackbird (*Agelaius tricolor*), Nelson's antelope squirrel (*Ammospermophilus nelson*), crotch bumble bee (*Bombus crotchii*), western pond turtle (*Actinemys marmorata*), Kern primrose sphinx moth (*Euproserpinus euterpe*), San Joaquin whipsnake (*Coluber flagellum ruddocki*), Tulare grasshopper mouse (*Onychomys torridus tularensis*), and coast horned lizard (*Phrynosoma coronatum*). The 2020 KMA biological resources assessment concluded that these species are not expected to occur at the Project site, or are unlikely to be found at the reservoir sites due to the absence of suitable habitat, such as perennial water, suitable vegetation, and/or prey base.

3.7.2 Regulatory Framework

3.7.2.1 Federal

Clean Water Act (CWA)

The primary goals of the CWA (33 United States Code [USC] §§ 1251–1376) are to restore and maintain the chemical, physical, and biological integrity of the nation's waters and to make all surface waters fishable and swimmable. The CWA forms the basic national framework for the management of water quality and the control of pollution discharges. The CWA provides the legal framework for several water quality regulations, including the National Pollutant Discharge Elimination System (NPDES), effluent limitations, water quality standards, pretreatment standards, anti-degradation policy, nonpoint-source discharge programs, and wetlands protection. The EPA has delegated responsibility for administration of portions of the CWA to state and regional agencies.

Migratory Bird Treaty Act

The MBTA (16 USC §§ 703–711) protects migratory birds by prohibiting private parties from intentionally taking, selling, or conducting other activities that would harm migratory birds, their eggs, or nests, unless authorized by a special permit. *Taking* is defined as "pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting."

Endangered Species Act of 1973

The Endangered Species Act ([ESA] 16 USC § 1531, *et seq*.) and implementing regulations (50 Code of Federal Regulations [CFR] §§ 17.1, *et seq*.) include requirements for the protection and management of federally listed threatened or endangered plants and animals and their designated critical habitats. An "endangered" species is one that is "in danger of extinction" throughout all or a significant portion of its range. A "threatened" species is one that is "likely to become endangered" within the foreseeable

future. The ESA prohibits "take" of threatened or endangered species except under certain circumstances and only with authorization from the U.S. Fish and Wildlife Service (USFWS). "

3.7.2.2 State

California Endangered Species Act

The California Endangered Species Act ([CESA] Fish and Game Code §§ 2050 through 2098) and implementing regulations (California Code of Regulations [CCR] Title 14, §§ 783 through 783.8 and §§ 786.0 through 786.8) include requirements for protecting and managing plant and animal species listed as endangered or threatened or designated as candidates for such listing. CESA emphasizes early consultation to avoid potential impacts on rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats.

California Fish and Game Code §1600

Streambed alteration agreements are required for projects that can alter the channel, bed, or bank of any stream, river, or lake. This includes the associated riparian zone.

California Fish and Game Code §§ 3503, 3503.5, 3505, 3800, and 3801.6

These California Fish and Game Code sections protect all native birds, birds of prey, and all non-game birds, including eggs and nests, that are not already listed as fully protected and that occur naturally within the state.

Native Plant Protection Act (California Fish and Game Code §§ 1900 - 1913, § 2062 and § 2067)

The CDFW also manages the California Native Plant Protection Act (NPPA), which designates and protects species eligible for state listing. Eligible species include those identified on California Native Plant Society (CNPS) Rare Plant Ranks (CRPRs) 1A, 1B, and 2 meet the definitions of Sections 1901, Chapter 10 (NPPA) or Sections 2062 and 2067 (CESA) of the California Fish and Game Code. CRPR 3 and 4 species, though not meeting the criteria for listing by CDFW, may be considered during project review by the agencies.

California Environmental Quality Act

There are several CEQA sections that apply to the protection of sensitive biological resources.

<u>CEQA Section 15380</u>

Species of special concern, as designated by the State, should be included in an analysis of project impacts.

<u>CEQA §15064(d)</u>

This section provides additional guidance on the evaluation of the significance of potential impacts to biological resources; which states:

> *"In evaluating the significance of the environmental effect of a project, the lead agency shall consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project."*

CEQA Section 15065(a)

This section states that a lead agency shall find that a project may have a significant effect on the environment if it has the potential to:

"… • 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;

• Substantially reduce the number or restrict the range of an endangered, rare or threatened species; …"

3.7.2.3 County

Requirements for the protection of biological resources in the non-coastal unincorporated area of Santa Barbara County are included in the Comprehensive Plan Conservation Element, Environmental Resource Management Element (ERME), Land Use Element, and the County Thresholds and Guidelines Manual. These documents identify sensitive habitats and species, and provide measures to direct project design and policies to protect biological resources.

3.7.3 Thresholds of Significance

The criteria for determining significant impacts on biological resources were developed in accordance with Section 15065(a) and Appendix G of the State CEQA Guidelines and the County Thresholds (updated 2020).

CEQA Guidelines, Appendix G.

According to Appendix G of the CEQA Guidelines, a significant impact related to biological resources would occur if the project would:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Santa Barbara County CEQA Thresholds.

To determine the significance of biological impacts under the CEQA, biological considerations in the CEQA checklist are divided into two categories as follows and each of these items is considered:

Flora:

a. Result in a loss or disturbance to a unique, rare or threatened plant community.

b. Result in a reduction in the numbers or restriction in the range of any unique, rare or threatened species of plants.

c. Result in a reduction in the extent, diversity, or quality of native vegetation (including brush removal for fire prevention and flood control improvements).

d. Result in an impact on non-native vegetation whether naturalized or horticultural of habitat value.

e. Result in the loss of native specimen trees.

f. Result in the introduction of herbicides, pesticides, animal life, human habitation, non-native plants or other factors that would change or hamper the existing habitat.

Fauna:

g. A reduction in the numbers, a restriction in the range, or an impact to the critical habitat of any unique, rare, threatened or endangered species of animals.

h. A reduction in the diversity or numbers of animals onsite (including mammals, birds, reptiles, amphibians, fish or invertebrates).

i. A deterioration of existing fish or wildlife habitat (for foraging, breeding, roosting, nesting, etc.).

j. Introduction of barriers to movement of any resident or migratory fish or wildlife species.

k. Introduction of any factors (light, fencing, noise, human presence and/or domestic animals) which could hinder the normal activities of wildlife.

The Thresholds Manual has specific definitions for Native Grasslands significance requirements as follows.

1. A native grassland is defined as an area where native grassland species comprise 10 percent or more of the total relative cover.

2. Removal or severe disturbance to a patch or patches of native grasses less than one-quarter acre, which is clearly isolated and is not a part of a significant native grassland or an integral component of a larger ecosystem, is usually considered not significant.

Past proceedings have satisfactorily evaluated thresholds for c-f, h, i, and k. Therefore, no additional analysis of these topics is required. Items a, b and g are addressed in Impact Bio-1 Special Status Plant/Animal Species, and Item j is addressed in Impact Bio-2 Wildlife Movement. However, native grasslands meet the County threshold for size and cover were observed in proximity to Reservoir 3.

Native grasslands are considered a unique, rare, or threatened plant community and is discussed in section Impact Bio-3.

3.7.4 Impact Discussion

This DEIR updates the impact analysis from the August 2018 Final MND with refined project description information provided by the applicant, updated biological resource information from the 2019 KMA biological resources field surveys (KMA 2020), information presented in the NOP comment letters (Appendix D for NOP comment letters and responses), technical peer review of KMA surveys and reports conducted by Cardno (Appendix E.1), and from Cardno's extensive experience conducting biological resource impact assessments for other projects with similar resources. Some of the refined information from the applicant that affects potential use of the project site by sensitive wildlife species is related to existing and required future fencing. The existing North Fork Ranch Vineyard is presently enclosed with exclusionary fencing to prohibit deer from entering the vineyard. This wire mesh fencing is 6-inch hinge knot and 6 feet tall with two strands of barbed wire on top for a total height of 8-feet tall. This fencing was installed between May 2016 and June 2017. Once completed, each of the three reservoirs will also be individually enclosed with the same exclusionary/safety fencing. Refer to Attachment D.1 Biological Resources Technical Memorandum for additional biological resources information.

Impact Bio-1 Special-Status Plant/Animal Species

Special-Status Plants

The proposed reservoir sites have been extensively disturbed by historic grazing operations, recent disking (May 2016) in preparation of planting vineyards in adjacent areas, ongoing vineyard operations, and human presence. Vegetation coverage at the reservoir sites is sparse, and consists of a mix of native and non-native herbaceous species and grasses. The biological resources assessments, KMA 2020 and KMA 2016, prepared for the proposed Project determined that it is unlikely for any of the special-status plant species identified by the CNDDB review to occur at or near the proposed Project site. This is due primarily to the disturbed character of the Project site and general absence of suitable habitat. In addition, no special-status plant species were observed at the Project site during seasonally appropriate surveys conducted in 2015 and 2019.

The frost pond reservoir sites would permanently convert the existing vegetation to open water (when reservoirs are full) and routinely disturb vegetation in the area around each reservoir to accommodate ongoing operations and maintenance. The area of existing vegetation lost at each reservoir site would be 5.0 acres at Reservoir No. 1, 5.7 acres at Reservoir No. 2, and 4.9 acres at Reservoir No. 3. The area that would be disturbed within a 100-foot construction area for each reservoir would be 9.82-acres (Reservoir No. 1), 10.56-acres (Reservoir No. 2), and 9.61-acres (Reservoir No. 3). Therefore, the project would have **less than significant** impacts related to special-status plant species.

Special-Status Animals

The biological resources assessments, KMA 2020 and KMA 2016, prepared for the proposed Project determined that it is unlikely that most of the sensitive wildlife species identified by the CNDDB search exist at or near the proposed Project site. This is due primarily to the disturbed character of the reservoir sites, absence of suitable habitat, active vineyard operations, and regular human presence.

However, the assessments concluded that while unlikely, there is a potential for San Joaquin kit fox (SJKF) and American badger to move through the proposed reservoir sites while in search of food or suitable denning habitat. The existing exclusionary deer fencing may also make it more difficult for SJKF or badger to transit the site. Therefore, Project-related construction activities would have the potential to result in significant impacts to SJKF and American badger.

Mitigation Measures (MM) are proposed in the unlikely event that one or more individual SJKF are present at the proposed Project site that could be disturbed by construction activities. The potential for impacts would be reduced to a less than significant level by implementing USFWS (2011) Standardized Recommendations for Protection of the Endangered SJKF Prior to or During Ground Disturbance avoidance measures during construction (MM BIO-01.1 and 01.2,). These avoidance measures require surveys to identify potential SJKF habitat in proposed disturbance areas, and if necessary, surveys for additional pre-construction/pre-activity operations will be included. These recommendations also require that USFWS must be contacted if surveys detect an active SJKF den. If an inactive den is observed, specified measures to preclude the use of the den are to be implemented. Implementation of proposed survey and avoidance measures would be sufficient to ensure that impacts on SJKF are reduced to a less than significant level. Proposed MM BIO-01.4 also provides requirements to reduce potential for impacts on American badger to a less than significant level. In general, this measure requires pre-construction surveys to identify active dens, includes specified measures to avoid active dens, and to discourage the use of inactive dens located in project-related disturbance areas.

Project development could directly impact special status wildlife including the Northern California legless lizard and the California glossy snake if they are present and injured or killed by construction equipment. The three reservoir sites were disked during site preparation activities and all fossorial species were likely removed at that time. However, the locations of the reservoir sites are in proximity to unaltered open space and there is low to moderate potential that these species have recolonized the area, primarily within the grassland or the fiddleneck fields. Direct impact to these species would be significant because injury or mortality could contribute to further decline of the species. Implementation of MM BIO-01.3 and MM BIO-01.5 would reduce the impact to less than significant because they would minimize the potential for injury or mortality. MM BIO-01.3 and MM BIO-01.5 require preconstruction surveys to clear areas of special-status reptiles before the start of construction, provide workers training for awareness of these species, and monitoring construction to allow species to be relocated if found in the project area.

In addition, if nesting birds were disturbed and nests containing eggs or chicks were abandoned, the impact would be significant because it would conflict with the Migratory Bird Treaty Act (MBTA). Mitigation Measure BIO-01.6, requires pre-construction bird surveys performed by a qualified biologist following the USFWS recommendations and the requirements of MBTA and Fish and Game Code for the protection of nesting birds. MM BIO-01.6 requires pre-construction surveys to identify locations of nesting birds that could be disturbed during Project construction. If it is determined that nesting birds will be impacted during construction, specified setbacks will be required to ensure that Project personnel and construction activities avoid disturbing these birds.

There is a potential for a significant impact to wildlife species during construction of the reservoirs if special-status wildlife species are present and injured or killed by construction equipment. MM BIO-

01.5 reduces that impact to less than significant by requiring that a qualified biologist be present during grubbing, grading, and earth-moving activities during construction of the three reservoirs. These mitigation measures would further reduce the potential for impacts to sensitive, common, and low-mobility wildlife species that may also be present at the Project site by identifying species located in Project areas, allowing for implementation of appropriate impact avoidance and/or minimization measures. Use of pesticides and rodenticides could impact native populations if special-status wildlife consume poison or if animals that consume the poison are then later predated by special-status wildlife, which could be a significant impact if it resulted in population effects. Mitigation Measure BIO-01.7 prohibits the use of rodenticides during construction or operation of the proposed Project, which further reduces potential impacts to onsite wildlife species. Therefore, with implementation of MM BIO-01.1 through 1.6, the Project would have **less than significant** impacts related to special-status animal species.

Impact Bio-2 Wildlife Movement

The existing fencing around the vineyard areas provides a barrier to animal movement and likely funnels animals attempting to cross the property to the small ephemeral drainage channels. The proposed reservoirs would be at least 50 feet from the top of bank of these channels. Therefore, the Project would not interfere with the potential use of the channels by wildlife. No lighting would be provided at the project sites, and safety fencing that would be installed around the reservoirs would not interfere with wildlife migration through the Project area, more than existing fencing around the vineyard. The required security exclusionary fencing to be installed around the three reservoirs would also substantially reduce the potential for animals to become trapped in the reservoirs. Operation of the reservoirs would not cause a substantial increase in noise, lighting, or other conditions that would result in significant long-term habitat quality impacts on areas at or near the Project sites. Therefore, **no significant impacts** on wildlife movement would occur and no mitigation is required.

Wildlife human interactions may increase in the short term during the construction period, and overall have a slight long-term increase as a result of operation and maintenance of the reservoirs. The proposed Project sites have been extensively disturbed and the construction and maintenance of the reservoirs would be conducted in an area where wildlife are already exposed to human activity. The potential for impacts from wildlife human interactions would be reduced to **less than significant** with implementation of proposed mitigation measures including MM BIO-1.7 that prohibits the use of rodenticide and MM BIO-1.5 that requires a biological monitor during construction.

Impact Bio-3 Native Grasslands and Native Grassland Buffer

Although the CNDDB search did not identify any sensitive plant communities in the Project area, the 2019 KMA field survey found native grassland on the south side of Reservoir No. 3, as shown on Figure 3 -3. It appears that the native grassland extends southward, outside of the survey area, and is part of a larger polygon of native grassland. Construction of Reservoir No. 3 would result in impact on native grasslands in three ways: (1) permanent removal within the Project footprint, (2) disturbance or removal adjacent to the Project footprint during construction activities, and (3) loss of buffer habitat between native grasslands and developed areas.

Construction of Reservoir No. 3 would result in the permanent removal of 0.01 acre of native curly bluegrass grassland within the reservoir footprint. This area would be permanently converted to

ruderal/developed habitat and would not recover on site. Because the native grassland that would be removed is part of a larger, contiguous grassland, the direct removal of the native grassland would be a significant impact. Implementation of MM BIO-02 would reduce this impact to less than significant because it would offset the permanent removal with restored grasslands on site.

In addition to direct removal within the Project footprint, Project construction will likely result in ground disturbance in an area adjacent to the Project footprint. If the construction disturbance area were 100-feet wide, construction could result in loss or disturbance of up to 0.42 acre of native grassland habitat. However, the actual disturbance area would depend on the final designated construction area. Within the construction disturbance area, native grasslands could be impacted in a number of ways including by trampling, repeated driving of vehicles that compact the soil, and introduction of trash. The loss or disturbance of up to 0.42 acre of native grassland would be a significant impact, for the same reasons stated above. Implementation of MM BIO-02 would reduce the impact to less than significant because it would reduce the construction-related disturbance to the native grassland with exclusionary fencing and offset the construction-related disturbance with restored grasslands on site.

Finally, construction of Reservoir No. 3 would result in the loss of buffer habitat that helps to maintain the integrity of the native grassland over the long-term. Loss of the buffer could lead to long-term impacts by increasing the likelihood of colonization by non-native invasive plant species which could degrade the habitat and reduce the density of native species. An appropriate buffer for this native grassland would be 25 feet, due to past degradation and ongoing impacts as well as landscape position as described below. Past and ongoing anthropogenic disturbance include decades of cattle grazing and the ongoing vineyard operations. In the future, the Project will not result in a substantial increase in the number of people adjacent to the native grassland and the Project would be downslope of the grassland, lessening the probability that undesirable material (e.g., sediment from erosion) would migrate from the Project site into the native grassland. Loss of the native grassland buffer would be a significant impact, for the reasons stated earlier. Implementation of MM BIO-02 would reduce the impact to less than significant because it would offset the loss of native grassland buffer with restored grasslands on site.

With implementation of MM BIO-02, direct removal of native grassland due to Project construction, disturbance of native grassland during construction activities, and loss of buffer habitat would be offset through implementation of a Native Grasslands Avoidance and Restoration Plan. Implementation of the Native Grasslands Avoidance and Restoration Plan would minimize impacts by installing a barrier to protect native grasslands that can be avoided and create additional native grasslands to offset native grassland removal, native grassland disturbance associated with construction, and loss of native grassland buffer associated with ongoing use of Reservoir No. 3. Therefore, with implementation of MM BIO-02, the project would have **less than significant** impacts to native grasslands and native grassland buffers.

Impact BIO-4 Exotic Species

Exotic plant species have potential to be introduced to the location by construction equipment, but this impact would be similar as for the existing vineyard operation and would therefore be **less than significant**.

3.7.5 Cumulative Impacts

The proposed reservoir sites have been extensively disturbed, and one of the sites (Reservoir No. 3) supports native grassland at the southern edge. The other two reservoir sites are unlikely to contain or support sensitive plant or wildlife species. Construction of Reservoir No. 3, as proposed, would result in a significant long-term impact on native grasslands, but is unlikely to affect sensitive wildlife species. Impacts on native grasslands would be reduced to less than significant with implementation of proposed mitigation measures. Although unlikely, Project-related construction activities would have the potential to result in significant short-term effects on sensitive wildlife, if individuals are present during construction. Those temporary impacts would be reduced to a less than significant level with the implementation of proposed mitigation measures. The long-term operation of the proposed reservoirs would not significantly impact biological resources located on or near the project sites.

The CEQA Guidelines § 15130 requires that an EIR discuss cumulative impacts to identify whether a proposed project's incremental effects are significant when viewed in connection with the effects of past, current, and probable future projects. Chapter 4.0 of this DEIR includes additional details regarding the cumulative impact analysis for the proposed Project. Based upon the results of this analysis, it can be determined that due to the remote location of the proposed Project in relation to other development in the Cuyama Valley, cumulatively considerable effects on biological resources and the project's contribution to biological resource impacts would be **less than significant** with the implementation of the mitigation measures described below.

3.7.6 Mitigation Measures

The following mitigation measures have been developed to reduce potential impacts from implementation of the proposed Project to less than significant levels. Prior measures included in the Final MND (August 2018) have been revised considering comments received on the NOP from USFWS and CDFW, and input from Cardno staff to ensure that impacts are mitigated to the maximum extent feasible.

MM BIO-01.1 San Joaquin Kit Fox Avoidance Measures. Project-related pre-construction / pre-activity surveys, including prior to site clearing and grubbing, shall be conducted prior to the beginning of ground disturbance and/or construction activities, or any Project activity that has the potential to affect the SJKF. Required pre-construction / pre-activity surveys and project-related construction activities shall be conducted in accordance with the requirements of the *USFWS Standardized Recommendations for Protection of The Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 2011). This comprehensive set of recommendations also includes measures to protect the SJKF as well as other wildlife species including a prohibition of firearms, secure disposal of trash and food scraps, and revegetation of areas that are temporarily disturbed. The Standardized Recommendations are provided as Attachment B1-3.

PLAN REQUIREMENTS AND TIMING: Prior to the start of any Project-related pre-construction / pre-activity, the areas that would be affected by reservoir construction and the construction of the proposed reservoir fill and drain lines shall be marked in the field and surveyed by a qualified biologist. Project-related pre-construction / pre-activity surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities. The qualified biologist shall conduct weekly site visits during site disturbance activities that proceed longer

than 14 days for the purpose of monitoring compliance with *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance* (USFWS 2011). Site disturbance activities lasting up to 14 days do not require weekly monitoring by the biologist unless observations of SJKF or their dens are made on-site or the qualified biologist recommends additional monitoring. This measure shall be printed on all grading and construction plans. The name, qualifications, scope of biological surveys and contact information for the surveying biologist must be submitted to P&D and CDFW in advance of the surveys. This measure shall be included on all land use, grading, and building plans for the construction of the reservoirs/frost protection system. A report of the results of the San Joaquin Kit fox survey shall be submitted to P&D for review and approval prior to commencement of vegetation removal or grading. **MONITORING:** The qualified biologist shall document the methods and results of site visits in weekly construction monitoring reports submitted to P&D. If incidental take of SJKF fox during project activities is determined possible based on pre-construction surveys, the applicant must consult with the USFWS and CDFW, before project activities commence. The results of this consultation may require the applicant to develop additional avoidance measures acceptable to USFWS and CDFW or to obtain a federal and/or state permit for incidental take during project activities.

MM BIO-01.2 Fish and Wildlife Jurisdiction Advisory. The project site is within the range of SJKF, a species listed as Endangered by the USFWS and Threatened by the CDFW. Based upon reports prepared by KMA dated February 24, 2016, June 24, 2016, February 4, 2019, and June 15, 2020, the probability for SJKF occurrence on the site is very low. The issuance of the permit for the frost protection system does not relieve the permit-holder of any duties, obligations, or responsibilities under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA) or any other law. The permit-holder shall contact the Ventura Office for USFWS at (805) 644-1766 and the CDFW South Coast Region Office at (858) 467-4201 and any other necessary jurisdictional agencies to ascertain the level of risk under the ESA and CESA in implementing the project herein permitted.

Indemnity for Violation of the Endangered Species Act: The applicant shall defend, indemnify and hold harmless the County or its agents, officers and employees from any and all claims, actions, proceedings, demands, damages, costs, expenses (including attorney's fees), judgments or liabilities, against the County or its agents, offices or employees brought by any entity or person for any and all actions or omissions of the applicant or his agents, employees or other independent contractors arising out of this permit alleged to be in violation of the federal or California Endangered Species Acts (16 USC Sec. 1531 et seq.; Cal. Fish and Game Code Sec. 2050 et sec.). This permit does not authorize, approve or otherwise support a "take" of any listed species as defined under the federal or California Endangered Species Acts. Applicant shall notify County immediately of any potential violation of the federal and/or California Endangered Species Act.t.

MM BIO-01.3 Wildlife Preconstruction Surveys. To reduce potential impacts to wildlife, a preconstruction survey will take place a minimum of 14 days prior to initiation of ground disturbing activities. The survey will focus on Northern California legless lizard and California glossy snake and shall be conducted by an approved biologist familiar with identification of the wildlife species in the region. The survey area for all wildlife species shall include the disturbance footprint in addition to areas within 100 feet of the disturbance footprint. The survey shall include both visual surveys and raking searches for reptiles. Any special-status wildlife species observed in the Project Area shall not be physically relocated without permission from the CDFW or the USFWS, as appropriate.

PLAN REQUIREMENTS AND TIMING: The applicant shall submit survey results for P&D review and approval prior to commencement of vegetation removal or grading. **MONITORING:** The qualified biologist shall document the survey methods and results to be submitted to P&D. The applicant shall demonstrate to P&D compliance monitoring staff (and/or County-contracted biological monitor) that any necessary project and adjacent areas are clear of reptiles and sensitive wildlife species before initiation of vegetation removal or grading.

MM BIO-01.4 American Badger Avoidance and Minimization Measures. A minimum of 14 days prior to initiation of ground disturbing activities, a survey for badger burrows shall be conducted within the disturbance footprint by an approved biologist (a biologist familiar with, including identification of the wildlife species in the region). Dens found within the survey area shall be mapped and monitored using a tracking medium, remote camera system, and/or spotlighting at night for minimum of three days to assess the presence of badgers. Inactive dens shall be collapsed by hand with a shovel to prevent badgers from re-using them during construction. Active dens located within the survey area shall be avoided during the breeding season (March 1 through June 30). A minimum buffer of 50 feet around the active den within the proposed area of disturbance shall be demarcated by construction fencing. The fencing shall be installed one foot above ground to permit movement of badgers in and out of the buffer zone. Once the biologist has determined that active dens are no longer in use, the den shall be collapsed by shovel. Prior to ground disturbing activities occurring outside of the breeding season, badgers may be discouraged from using currently active dens by partially blocking the entrance of the den with sticks, debris, and soil for three (3) to five (5) days. Access to the den would be incrementally blocked to a greater degree over this period. This would cause the badger to abandon the den and move elsewhere. After badgers have stopped using active dens within the project site, the dens would be collapsed by hand with a shovel.

The Standardized Recommendations of the USFWS for reducing potential impacts to SJKF, including a prohibition of firearms, secure disposal of trash and food scraps, and revegetation of areas that are temporarily disturbed, shall also be implemented to minimize the potential for effects on American badger.

PLAN REQUIREMENTS AND TIMING: The name, qualifications, scope of biological surveys and contact information for the surveying biologist must be submitted to P&D and CDFW in advance of the surveys. This measure shall be included on all land use, grading, and building plans for the construction of the reservoirs/frost protection system. A report of the results of the badger survey shall be submitted to P&D for review and approval prior to commencement of vegetation removal or grading. **MONITORING**. P&D will review and approve the reports. A County-approved biologist shall be present during initial ground-disturbing activity.

MM BIO-01.5 Construction Activity Biological Resources Monitor. A P&D-approved biologist shall provide environmental training to all construction workers and monitor construction activities at least periodically (e.g., twice a week) for all grading and ground-disturbing activities to ensure that practicable measures are being employed to avoid incidental disturbance of habitat and species of special concern outside the Project footprint. Work shall be stopped if necessary to protect wildlife and other biological resources, or if violations of laws or permit conditions are observed. Duties of the biological resources monitor include the responsibility to ensure all aspects of the approved biological mitigation measures are carried out per County requirements and that USFWS and/or CDFW are notified of the presence of any listed species. To the extent practical, common wildlife species entering

the construction zone shall be captured and relocated to suitable habitat. Any special-status wildlife species observed in the Project Area shall not be physically relocated without permission from the CDFW or the USFWS, as appropriate. The construction fencing must be inspected daily, and the Construction Contractor must perform any required maintenance immediately.

PLAN REQUIREMENT AND TIMING: Within 60-days prior to the start of construction activities, the applicant shall designate a P&D-approved biologist to be onsite throughout all grading activities for the three reservoirs and frost protection system. **MONITORING:** The applicant shall submit to P&D compliance monitoring staff the name and contact information for the approved biologist prior to the start of construction activities. P&D compliance monitoring staff or grading inspectors shall conduct site inspections, as appropriate during construction activities. The biologist shall provide monthly grading monitoring reports submitted to P&D documenting construction activities completed and measures used to limit impacts to biological resources consistent with MM BIO-01.1 through BIO-01.5. In addition, the biologist will notify P&D, USFWS, and/or CDFW (as appropriate) whenever listed species are encountered and will notify P&D when work stoppages are required. Such notifications shall occur within 3 days of occurrence, or sooner as required by law.

MM BIO-01.6 Nesting Birds Preconstruction Surveys. For construction activities occurring during the nesting season (generally February 1 - September 15), surveys for nesting birds covered by the California Fish and Game Code and the Migratory Bird Treaty Act shall be conducted by a qualified biologist no more than 30 days prior to vegetation removal/site grubbing and clearing. The survey area for all nesting bird and raptor species shall include the disturbance footprint plus a 300-foot buffer. If active nests (nests with eggs or chicks) are located, the qualified biologist shall establish an appropriate avoidance buffer ranging from 50 to 300 feet based on the species biology and the current and anticipated disturbance levels occurring in vicinity of the nest. The objective of the buffer shall be to reduce disturbance of nesting birds. All buffers shall be marked using high-visibility flagging or fencing acceptable to P&D, and, unless approved by the qualified biologist, no construction activities shall be allowed within the buffers until the young have fledged from the nest or the nest fails.

PLAN REQUIREMENTS AND TIMING: The applicant shall submit survey(s) and identification of buffer areas, if determined necessary (on plans and marked in field), for P&D review and approval prior to commencement of vegetation removal or grading. Any required flagging/fencing shall remain in place until applicable construction activities are complete.

MONITORING: The applicant shall demonstrate to P&D compliance monitoring staff (and/or County-contracted biological monitor) that any necessary buffer areas are protected (flagging/fencing acceptable to P&D) before initiation of grading through project completion/final sign-off.

MM BIO-01.7 Prohibition of Pesticides, Herbicides, and Rodenticides. Use of all chemical pesticides, herbicides, or rodenticides shall be prohibited on the project site. Any means of rodent control shall be using natural means (e.g. deterrents, predator attractants).

PLAN REQUIREMENTS AND TIMING: The applicant shall submit a Rodent Control Plan as part of the Operations and Maintenance Plan described in mitigation measure FLOOD-1 for County approval prior to grading permit approval. The plan shall include specific measures for rodent control and alternatives that do not include the use of pesticides, herbicides, or rodenticides. **MONITORING:** P&D staff shall

review and approve the Rodent Control Plan in consultation with other County Departments (i.e., Grading Division, Flood Control, Public Works).

MM BIO-02: Prepare and Implement a Native Grasslands Avoidance and Restoration Plan. A Native Grasslands Avoidance and Restoration Plan will be prepared and implemented by the applicant. The plan will reduce and mitigate construction-related removal of the existing native grasslands, impacts and degradation of the native grasslands, and long-term impacts to the native grassland buffer located within and adjacent to the Project site. For native grasslands within the construction footprint, adjacent construction area, and native grassland buffer area for Reservoir No. 3 the plan shall include the following elements at a minimum:

- Avoidance of impacts in the area outside the reservoir footprint and construction disturbance area:
    - Installation and maintenance of temporary exclusionary fencing prior to any Project-related pre-construction / pre-activity. Exclusionary fencing will be constructed at the edge of the construction disturbance area where native grasslands are present within 50 feet of any planned construction activities.
    - Documentation of the fencing limits including GPS data and photographic reference points taken before and after construction.
    - Confirmation of fencing location by the County-approved biologist.
    - Post-construction documentation that the areas outside the construction disturbance area were not disturbed, including photographs and GPS data.
- Restoration of native grasslands that are removed for Project construction within the Project footprint, or significantly disturbed by in the construction disturbance area; defined as within the construction zone inside the temporary fencing. The restoration description will consist of:
    - A map of native grasslands within 100 feet of the proposed Project, including the Reservoir No. 3 footprint and temporarily fenced area. The purpose of this mapping is to ensure that the extent of native grasslands removed or disturbed by construction or by loss of a buffer can be accurately determined.
    - A budget for the restoration project and establishment of a bond to cover the costs of a similar restoration project should the implemented restoration project fail.
    - Replanting native grasslands as follows:
        - At a ratio of 3:1 for each acre (or portion thereof) removed within the project footprint.
        - At a ratio of 3:1 for each acre (or portion thereof) disturbed within the construction disturbance area. All native grassland located within the required exclusionary fencing shall be mitigated by restoration at a 3:1 ratio.
        - At a ratio of 1:1 for each acre (or portion thereof) of native grassland buffer removed by the project. The native grassland buffer is defined for this Project as natural habitat within 25 feet of native grassland. The loss of native grassland buffer shall be determined by measuring the linear distance of native grassland

adjacent to the temporary fencing and multiplying by 25 to determine the total square feet of restoration that is required.

- The location of restoration site including a map. The restoration site shall be continuous with native grasslands on the same property.
- Seed collection and propagation methods, including specific information on the collection area, which must be within the same region as the restoration site.
- Planting methods, species, and density information.
- Irrigation methods, timing, and duration.
- Maintenance and monitoring requirements, including weed control methods and timing. Monitoring requirements will include quantitative measures at the conclusion of the Project to document success.
- Performance criteria which will specify:
    - Minimum density, cover and diversity, which shall be determined based on achieving results that are minimally as high as an adjacent reference area that supports native grassland, identified at the outset of the project. Density, cover, and diversity will be determined for both the mitigation site and reference area annually by qualitive measurements (e.g. transects).
    - Time since planting, which shall minimally be 5 years.
    - Time since cessation of irrigation, which shall minimally be 3 years.
    - Maximum contiguous area within the restoration site that does not contain native grasses (maximum size), which shall not exceed 1 meter.
- A description of remedial measures to be implemented if the site does not meet performance criteria. Remedial measures shall include options such as additional planting, additional weed control, additional irrigation, and extension of the monitoring period, or some combination of these measures.
- Reporting requirements consisting of annual reports documenting the progress of the restoration and a final report.

Implementation of MM BIO-02 would reduce the Project's construction impacts to native grasslands and restore native grasslands that were removed and substantively impacted, resulting in a **less than significant** impact level (Class II).

PLAN REQUIREMENTS AND TIMING: The applicant shall provide the Native Grasslands Avoidance and Restoration Plan for review and approval by P&D prior to Zoning Clearance. Prior to the start of any Project-related pre-construction/pre-activity, including site clearing and grubbing, the area of native grassland at the Reservoir No. 3 Project site, shall be temporarily fenced in accordance with approved Plan requirements with chain link or other material to satisfactory to P&D staff and signage shall be posted with the words: "No Entry, Native Grassland Protection Area." This measure and the location of this fencing shall be printed on all grading and construction plans. Implementation of the restoration component shall commence prior to usage of the reservoirs and frost protection system.

MONITORING: The qualified biologist shall document that fencing has been installed and that construction does not impact any of the native grassland through regular site visits during construction

and through documentation in monthly construction monitoring reports submitted to P&D. A final monitoring report with photographs shall be provided to P&D at completion of construction. Annual monitoring reports and a final monitoring report shall be provided to P&D at completion of the restoration project, including a statement that compares the project conditions with each performance criteria.

3.7.7 Residual Impacts

With the implementation of MM BIO-01 – MM BIO-02, residual impacts would be less than significant.

3.8 Frost Pond Reservoir Flooding

3.8.1 Existing Conditions/Baseline Setting

A series of ephemeral drainages that are tributaries to the Cuyama River bisect the project property in a primarily south to north direction. The largest of these drainages are Cottonwood Creek on the western portion of the project property and Schoolhouse Canyon Creek on the eastern side. The on-site drainages are dry for most of the year and convey periodic/flashy flow during monsoonal rain events and during the winter rain season. Proposed Reservoir No. 1 is located approximately 500 feet west of Schoolhouse Canyon Creek and small unnamed drainage channels are located approximately 50 feet to the east and west this reservoir. Reservoir No. 2 site is located approximately 100 feet west and approximately 1,000 feet east of small, unnamed drainage channels. Reservoir No. 3 is located approximately 250 feet west and 100 feet east of small unnamed drainage channels and is approximately one mile east of Cottonwood Canyon Creek. These reservoirs are shown on Figure 3-4.

Floodplains are delineated by the Federal Emergency Management Agency (FEMA) on Flood Insurance Rate Maps (FIRM) showing both the 100- and 500-year flood limits. The 100-year flood limit, also called the one-percent annual chance flood event boundary, is the standard event from which residential and commercial areas are to be protected. All three of the proposed reservoirs are outside the 100-year flood boundary as shown on Figure 3-4. Reservoir No. 2 is the closest of the three reservoirs to the 100-year flood boundary at a distance of 460 feet.

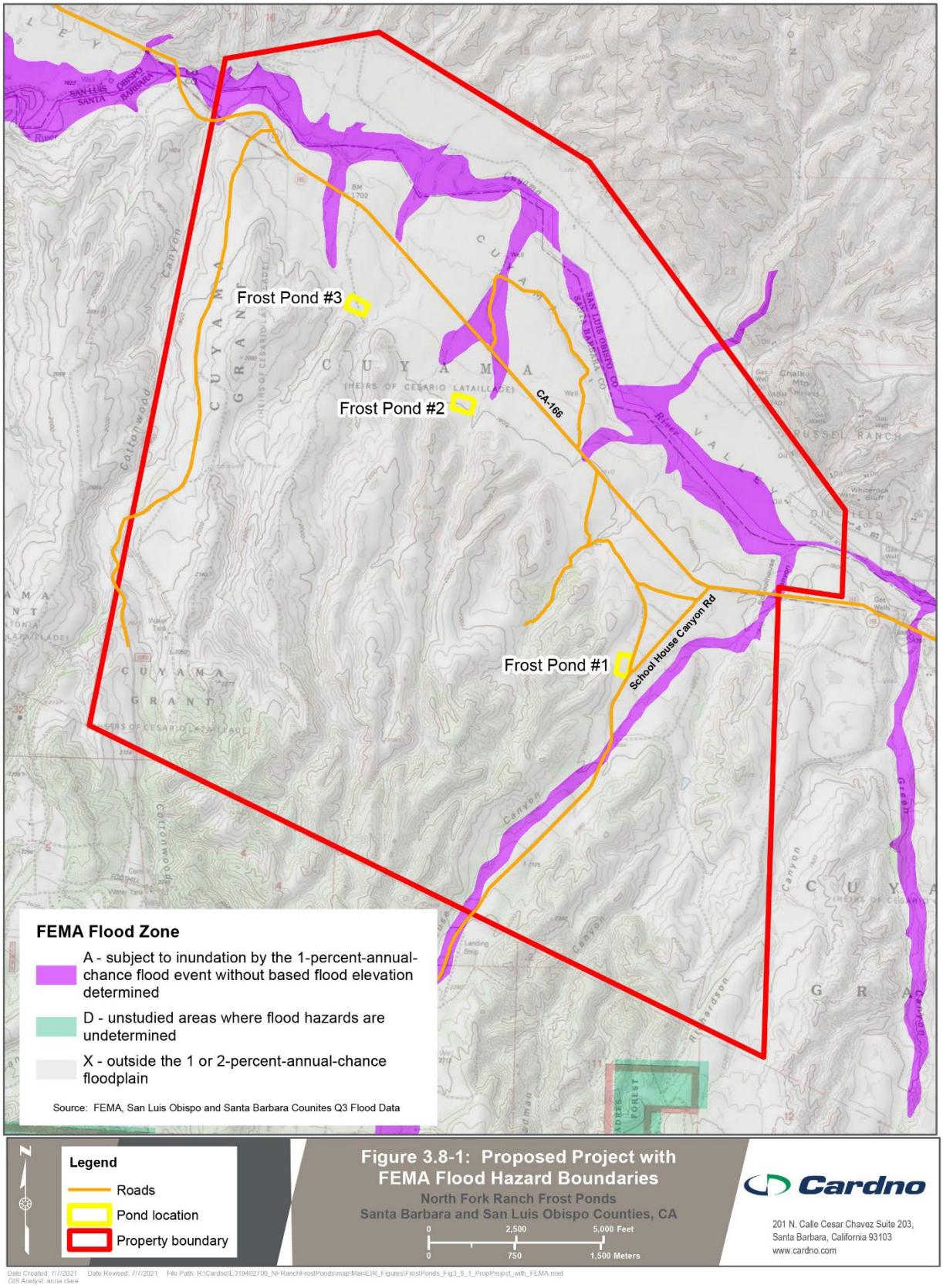


Figure 3-4 Proposed Project with FEMA Flood Hazard Boundaries

3.8.2 Regulatory Framework

3.8.2.1 Federal

Federal Emergency Management Agency (FEMA). Floodplains are delineated by FEMA on Flood Insurance Rate Maps (FIRM) showing both the 100- and 500-year flood limits. The 100-year flood limit, also called the one-percent annual chance flood event boundary, is the standard event from which residential and commercial areas are to be protected.

3.8.2.2 State

Department of Water Resources (DWR). DWR is responsible for protecting, conserving, developing, and managing much of California's water supply, including but not limited to developing/updating the California Water Plan, regulating dams, providing flood protection, assisting in emergency management, educating the public about water conservation, and managing water resources data.

DWR Division of Safety of Dams (DSOD). The applicant provided information to the DSOD in a letter dated March 5, 2020 to inquire if a jurisdictional determination was required for any of the reservoirs. Project drawings were provided with the transmittal. DSOD responded on December 21, 2020 that the reservoirs are not under DSOD jurisdiction because the dams for the ponds are less than 25 feet in height and because the capacity is less than 50 acre-feet.

California Building Standards Code. The 2016 California Code of Regulations (CCR), also known as Title 24, California Building Standards Codes, provides a minimum standard for building design through the California Building Code (CBC), based on the International Building Code (IBC), but has been modified for California conditions.

3.8.2.3 County

County of Santa Barbara Code of Ordinances. The County of Santa Barbara County Code of Ordinances includes Chapter 10, Building Regulations and Chapter 14, Grading Code. The Building Regulations are based on the CBC, with modifications specific to the County of Santa Barbara. Both of these regulations address flooding hazards and the protection of property and the public welfare from flooding impacts caused from development.

3.8.3 Thresholds of Significance

Santa Barbara County CEQA Thresholds

To determine the significance of potential flood impacts, the following County of Santa Barbara thresholds apply to flooding impacts caused from implementation of the proposed Project. The Project would result in a significant flooding impact if it would result in:

e) Alterations to the course or flow of floodwater or need for private or public flood control projects.

f) Exposure of people or property to water related hazards such as flooding (placement of project in 100-year flood plain) or accelerated runoff.

3.8.4 Impact Discussion

This DEIR updates the impact analysis from the August 2018 Final MND to include 1) a technical peer review of the project information related to reservoir flooding, including the geotechnical report (see Appendix E.2), 2) revised reservoir plans dated February 1, 2021, and 3) information presented in the NOP comments received from California Department of Transportation (CalTrans) and DWR DOSD. The comment letters expressed concern for potential downstream flooding of State Route 166 and other infrastructure should the reservoirs breach or overtop (see Appendix D). All three reservoirs are upslope of State Route 166, and CalTrans commented on the NOP that the reservoirs could fail and threaten this important transportation route. CalTrans requested coordination with the DSOD to determine the risk of failure of the reservoir berms. Follow up with DSOD indicated that impoundments as shown on the Proponent's plans do not fall within DOSD jurisdiction. Caltrans also expressed concern regarding the "structural integrity and adequacy" of the project's berms. An independent analysis was conducted by Cardno to evaluate the potential for flooding issues related to potential failure of the reservoirs. Refer to Appendix E.2 Flooding Technical Memorandum for additional information.

Each of the proposed reservoirs would impound 44.6 to 44.8 acre-feet of groundwater between February 1st and April 30th, and would impound a maximum of three feet of groundwater between May 1st and January 31st, and would include an emergency overflow system that would discharge water from the reservoir in the event that a precipitation event or mechanical malfunction results in excess water in a reservoir. A maximum of three feet of water would be stored in the reservoirs between May 1st and January 31st to prevent air from entering the pumps and to provide the minimum amount of hydraulic head necessary to operate the pumps (Tetley, August 9, 2017).

Stormwater drainage from upslope areas adjacent to the reservoirs would be collected by proposed drainage swales. Collected stormwater runoff and discharges from the reservoir's overflow control system would be discharged over rock energy dissipaters and allowed to sheet flow at downslope locations adjacent to the reservoirs. Each reservoir would be lined with a high-density polyethylene plastic liner to prevent water seepage beneath the reservoirs and into the reservoir's water impoundment berms.

Analysis for this DEIR utilized data from FEMA (FEMA 1996), publicly available topographic mapping, nearby flood magnitudes, provisions of the County's Grading Ordinance, the Project geotechnical report (GSI 2016), project design plans dated June 2017, July 2020, February 1, 2021, and DOSD guidance. The analysis found the reservoirs as configured on the project plans generally incorporate features which meet the standard of practice for protecting downstream properties and infrastructure. The Project site is outside of the FEMA mapped Zone A 100-year floodplain. The proposed reservoirs are topographically separate such that potential failure of one reservoir would not have an effect on another.

Several elements were integrated into the Project to reduce the risk of flooding as follows:

- Locating the reservoirs to avoid low-lying defined watercourse areas;
- Keying berms into the top of the embankment to ensure deflection of offsite flows from the south (consistent with the geotechnical recommendations).

- Constructing a surface drainage feature to intercept "sheet" flow and stormwater in small and poorly defined flow paths approaching from the southwest.
- Installation of a 40 millimeter HDPE liner to prevent seepage and to protect the interior slope of the ponds from erosion.

Impact FLOOD-1 Failure of Reservoir Berms

The reservoir berms could degrade over time. This can occur due to rodents burrowing in the soils around the berms, runoff, and erosion. If degradation were substantial, the berms could fail and water from the reservoirs could flow downslope in an uncontrolled manner, potentially impacting roads and other infrastructure. Roads that could be impacted include Project roads, Schoolhouse Canyon Road, and State Route 166. Disruption of these important roadways would be a significant impact. This impact could be reduced to a **less than significant** level with implementation of mitigation measure FLOOD-1 which would require an operations and maintenance plan to require regular inspections of berms and corrective actions if necessary.

Impact FLOOD-2 Erosion in Nearby Drainages

Impacts to nearby drainages could occur if the reservoirs were to breach and impounded water flowed in an uncontrolled manner into nearby drainages. The concern with respect to overtopping of the dams and related damage and failure to the pond is the adequacy of the proposed overflow pipe. The only water that enters the basins is pumped in and rainfall that falls directly into the reservoirs. The likely time for a dam overtopping would be from a powerful storm when the reservoirs are full to the elevation of the invert of the overflow pipes. The surface area at the top of the containing berms is approximately 6% more than that of the surface area with the water surface at the invert of the pipe overflow. An independent analysis was conducted by Cardno to evaluate the potential for flooding issues related to potential failure of the reservoirs. The Flooding Technical Memorandum (Refer to Appendix E.2) analyzes rainfall intensities for various recurrence intervals and durations and found that intense, short duration storms, such as a 60 minute (1-hour) 500-year storm, would only result in a 1.6-inch rise in water surface even if no outflow occurred through the overflow pipe. Such a minor rise would not compromise the integrity of the containment berms. Conversely, while a long duration storm such as a 3-day, 500-year storm event is estimated by NOAA to provide rainfall amounting to 10.8 inches, the overflow pipe system can readily keep up with flow rates delivered by such long-duration storms. Based on these calculations, the ponds are not expected to fail and impacts will be **less than significant**.

The Project plan set does not have any detail or other clarifying information regarding the "brow ditch," which is shown on the Project plans. The uncertainty associated with this feature concerning whether its intended purpose is as a drainage swale, as well as associated slope details and storm water flow could result in erosion downslope of the reservoirs, which could be significant if damage to nearby drainages occurred. This potential impact could be significant and could be reduced to **less than significant** with minor corrections to the Project plans as part of implementation of mitigation measure FLOOD-02.1.

The Geotechnical Report, Figure 3, calls for the perimeter swales to be lined with concrete or shotcrete. Other portions of the Geotechnical Report also call for drainage channels to be lined

(Sections 5.8.1, 5.8.2). However, the design plans indicate that perimeter drainage channels shall be unlined "earthen swales" ("Scope of Work" Sheet 1, Drainage Swale Detail Sheet 10). Leaving the swales unlined could result in erosion and damage to downslope features and resources. This impact would be significant and could be reduced to **less than significant** with minor corrections to the Project plans as part of implementation of mitigation measure FLOOD-02.2.

Minor concentrations of storm flows may approach the reservoirs from the southwest, resulting in erosion. This potential impact could be significant and could be reduced to **less than significant** with minor corrections to the Project plans as part of implementation of mitigation measure FLOOD-02.3.

Impact FLOOD-3 Embankment Slope Stability

Reservoirs could fail due to seismic events, hydrostatic pressures of the impounded water, wave action and potential overtopping, and erosion to the external side of the reservoirs from nearby watercourses. The plans include application of an erosion control seed mix, which will help stabilize the slopes and prevent erosion over the long term. However, the Geotechnical Report did not directly state the adequacy of the recommended reservoir configuration to withstand seismic events. If the reservoir configuration were unable to withstand a seismic event and a seismic event did occur, the berms could fail and water from the reservoirs could flow downslope in an uncontrolled manner, potentially impacting roads and other infrastructure. This impact could be reduced to a **less than significant** level with implementation of mitigation measure FLOOD-03, which would require that revised plans be prepared that have approval by a geotechnical engineer.

Analysis based on the 95 percentile wind speeds corrected to the longest fetch direction, concluded wave heights were anticipated to be less than 0.12 feet. These limited wave heights can be readily contained within the reservoir and would not lead to failure. Generally, stormwater runoff approaches the three proposed frost pond reservoirs areas as sheet flow or within poorly defined watercourses originating from steep terrain to the southwest.

3.8.5 Cumulative Impacts

As evaluated above, the proposed Project's potential impacts related to exposure of people or property to flooding hazards associated with the operation of the three reservoirs can be reduced to a less than significant level with the implementation of proposed mitigation measures. The CEQA Guidelines § 15130 requires that an EIR discuss cumulative impacts to identify whether a proposed project's incremental effects are significant when viewed in connection with the effects of past, current, and probable future projects. Chapter 4.0 of this DEIR includes additional details regarding the cumulative impact analysis for the proposed Project. Based upon the results of this analysis, it can be determined that due to the remote location of the proposed Project in relation to other development in the Cuyama Valley, cumulatively considerable effects related to downstream flooding and the Project's contribution to downstream flooding impacts would be **less than significant** with the implementation of the mitigation measures described below.

3.8.6 Mitigation Measures

The intent of these measures is to ensure that the proposed reservoirs are designed and operated to protect downstream properties and infrastructure from potential flooding and that the engineering, design, and construction plans are internally consistent.

FLOOD-01. Prepare a Maintenance and Operations Plan. The applicant shall provide a Maintenance and Operations Plan, which includes requirements for regular inspection of the reservoir embankments, liners, overflow piping, and perimeter drainage ditches and criteria for implementing any corrective actions.

PLAN REQUIREMENTS AND TIMING: The applicant shall submit the Maintenance and Operations Plan to P&D for approval prior to grading permit approval. **MONITORING:** P&D staff shall review and approve the Plan in consultation with other County Departments (i.e., Grading Division, Flood Control, Public Works),

FLOOD-02.1 Clarify the purpose and function of drainage swales on Project Plans. The applicant shall ensure that the drainage ditches proposed for the upstream and adjacent sides of the three reservoirs are clearly identified and not as a "brow ditch" as shown on the February 1, 2021 Plan set. If the Project engineer intended for this feature to be different than a drainage swale, additional notations and design details shall be added to the Final Construction Plan set.

PLAN REQUIREMENT AND TIMING: The applicant shall submit revised plans with notations listed above for P&D approval as part of Grading Plan review. **MONITORING:** P&D and Grading Division staff shall review and approve the revised plans, prior to approval of a grading permit.

FLOOD-02.2 Clarify swale lining and other details on Project Plans. The applicant shall ensure that the Santa Barbara County Building & Safety Division Grading Note #8 on Sheet 1 of the February 1, 2021 plans indicates that existing slopes that are to receive fill materials shall be keyed and benched per the geotechnical engineer's recommendation. The drainage channels which are intended to intercept surface flows and avoid impacts to the proposed fill slopes shall be armored per the Geotechnical Report.

PLAN REQUIREMENT AND TIMING: The applicant shall submit revised plans with notations listed above for P&D approval as part of Grading Plan review. **MONITORING:** P&D staff shall review and approve the revised plans, in consultation with other County Departments, if needed, for technical assistance and approve the revised plans prior to issuance of a grading permit for construction.

FLOOD-02.3 Revise Plans to ensure proper stormflow drainage. The design engineer shall revise Project Plans to ensure that storm flows approaching the reservoirs from the southwest are addressed. The design engineer shall clearly indicate the slope angle for these much deeper swales and any proposed armoring measures to ensure that stormflow drainage is controlled.

PLAN REQUIREMENT AND TIMING: The applicant shall submit revised plans with notations listed above for P&D approval as part of Grading Plan review. **MONITORING:** P&D staff shall review and approve the revised plans, in consultation with other County Departments, if needed, for technical assistance and approve the revised plans prior to issuance of a grading permit for construction.

FLOOD-03 Plan review and revise Plans by seismic engineer to ensure embankment slope stability. The applicant shall engage a geotechnical engineer to determine that the design configuration of the reservoir embankments meet seismic safety requirements and/or make minor revisions to the project plans to meet those requirements.

PLAN REQUIREMENT AND TIMING: The applicant shall submit revised plans with notations listed above for P&D approval as part of Grading Plan review. **MONITORING:** P&D and Grading Division staff shall review and approve the revised plans, prior to approval of a grading permit.

3.8.7 Residual Impacts:

With the implementation of mitigation measures FLOOD-01 to FLOOD-03, residual impacts would be less than significant.

3.9 Frost Protection System Groundwater Use

3.9.1 Existing Conditions/Baseline Setting:

The proposed reservoir sites are located in the Cuyama Valley Groundwater Basin Cuyama Basin. The only water source in the Cuyama Basin is groundwater and the basin has been identified as high priority by DWR because it is considered critically overdrafted. Historical land use in the region typically required minimal water, consisting of dryland agriculture and pasturelands. However, land use has shifted from potatoes and alfalfa in the 1940s, to grain and carrots in the 1970s, and finally to orchards and vineyards in the 1980s (Santa Barbara County Water Agency, 2020).

~~The Cuyama Basin consists of six regions and the proposed Project is located within the Northwestern Threshold Region. Other regions include the Western Threshold Region, Central Threshold Region, Eastern Threshold Region, Southeastern Threshold Region, and Badlands Threshold Region. The Northwestern Threshold Region has historically supported rangeland agriculture and has had a relatively stable groundwater in shallow wells. However, based on limited information following vineyard development in 2015, water levels in deep wells have decreased up to 35 feet. The Western Threshold Region, which is adjacent to the Northwestern Threshold Region, generally has limited water use and appears relatively stable, based on a limited set of data. The Central Threshold Region, which is also adjacent to both the Northwestern and Western Threshold Regions, has experienced a steady decline in groundwater since the late 1940's, with declines of almost 300 feet (Santa Barbara County Water Agency, 2020).~~

The project site is currently in use as a vineyard and the irrigated area is estimated to be approximately 828 acres (Appendix E). The vineyard receives water from precipitation and from irrigation, which varies based on weather conditions from year to year. However, irrigation demand is estimated at approximately 1,380 to 1,500 acre-feet per year. Irrigation water is not considered an impact of this project because it is an existing agricultural operation. However, this information was considered in the water budget that was developed to understand the difference in water use with the reservoirs and without the reservoirs.

3.9.2 Regulatory Framework

Applicable federal, state, and local regulations are summarized below.

3.9.2.1 Federal

No federal regulations have been enacted that apply to the proposed Project.

3.9.2.2 State

Department of Water Resources (DWR). DWR is responsible for protecting, conserving, developing, and managing much of California's water supply, including but not limited to developing/updating the California Water Plan, regulating dams, providing flood protection, assisting in emergency management, educating the public about water conservation, and managing water resources data.

Sustainable Groundwater Management Act (SGMA). The State passed SGMA in 2014, which was designed to manage groundwater throughout the state over the long term. SGMA defines groundwater basins throughout the state and each basin is required to establish a Groundwater Sustainability Agency (GSA) that formulates a Groundwater Sustainability Plan (GSP). The GSP provides limits and approaches to avoid undesirable results and to mitigate over draft within 20 years.

In response to SGMA, the Cuyama Basin GSA was established in 2017. As described above, the Cuyama Basin is in overdraft, meaning that more water is being extracted from the basin than is entering the basin. As a consequence, the Cuyama Basin was identified as a high priority basin by the State, which requires development of the GSA and a GSP within specific timeframes. To meet that timeframe requirement, the Cuyama Basin GSP was developed and submitted to DWR. The GSP discusses how geologic conditions and land use conditions vary across the basin causing variations in groundwater conditions across the basin. Generally, all GSPs are required to address the following items related to groundwater extractions:

- Compilation of baseline conditions of the basin, including boundaries, aquifer structure, recharge, and groundwater levels.
- Identification of historical and projected groundwater demands by customer and use.
- Creating objectives for achieving sustainability goals within 20-years of GSP implementation.
- Monitoring and management of the basin compared to the basin targets (groundwater levels, quality, and changes in basin capacity.
- Mitigating overdraft conditions.
- Requiring water-measuring devices on extraction wells to control and enforce limitations on groundwater use.
- Collecting fees for groundwater extractions.
- Exacting penalties for extraction in excess of authorized amounts of groundwater extractions.

- Confirming consistency with local government plans, programs, and policies protection groundwater resources.

The SGMA GSA/GSP process is separate from the CEQA process and is provided herein for context.

Cuyama Basin Groundwater Sustainability Plan

The Cuyama Basin GSP discusses how geologic and land use cause variations in groundwater conditions across the basin. To effectively manage this variance, the GSA Board of Directors created six threshold regions to establish appropriate criteria for each province. The six regions include the Northwestern Threshold Region, Western Threshold Region, Central Threshold Region, Eastern Threshold Region, Southeastern Threshold Region, and Badlands Threshold Region. The proposed Project is located in the Northwestern Region where monitoring has indicated hydrologic conditions are stable, with some declines in the areas where new agriculture uses with groundwater extractions are established. As a result, the GSP calls for additional levels of monitoring to determine if there are impacts to long-term groundwater levels and sustainability.

Under the requirements of SGMA, the Cuyama Basin GSA has the authority to conduct actions such as investigations, measure and limit groundwater extractions from individual wells, require registration of water wells, and impose fees for groundwater management. Consistent with their authority to limit groundwater extractions, the Cuyama Basin GSA intends to implement groundwater pumping restrictions in a portion of the Cuyama Groundwater Basin referred to as the Central Management Area, which is generally located in the vicinity of the communities of Cuyama and New Cuyama. The proposed North Fork Ranch Frost Ponds Project is located approximately eight miles west of the Central Management Area, and wells in the Project area will not be subject to the proposed Central Management Area pumping restrictions. However, based on the results of future groundwater condition monitoring, the Cuyama Basin GSA has the authority to implement groundwater pumping restrictions in other portions of the groundwater basin.

The *Cuyama Basin Groundwater Sustainability Plan–Annual Report for the 2020-2021 Water Year*[2] describes groundwater trends in the Northwestern Threshold Region as follows:

> *"Slight downward trend influenced by seasonal fluctuations. This is expected as recent changes in land use have begun to pump groundwater. Levels are still approximately 80 feet above the Measurable Objective."* (Pg 2-19)

The term "Measurable Objective" refers to a specific set of quantifiable goals for the maintenance or improvement of groundwater conditions that are included in Groundwater Sustainability Plan.

[2] Available at: https://cuyamabasin.org/assets/pdf/WY-2020-21-Cuyama_GSP_Annual_Report_Compiled.pdf

The 2020-2021 Annual Report includes monitoring well hydrographs for two wells used by the North Fork Ranch to irrigate the vineyards that would be served by the proposed reservoirs. The hydrographs for wells 841 and 845 are shown on Figure 3-5. The green line shown on the hydrographs is the groundwater depth of the Measurable Objective described above. The red line shown on the hydrographs is the Minimum Threshold, which is a numeric value for each "sustainability indicator" and is used to define when "undesirable results" occur if Minimum Thresholds are exceeded in a percentage of sites in the monitoring network. Sustainability indicators refer to any of the adverse effects caused by groundwater conditions occurring throughout the Basin that, when significant and unreasonable, cause undesirable results, including: lowering groundwater levels, reduction of groundwater storage, degraded water quality, land subsidence, and depletion of interconnected surface water.

The water levels in wells 841 and 845 shown on the hydrographs are consistent with the general trend summary for the Northwestern Threshold Region described above. The water levels show seasonal variations, however, there is an overall downward trend in the depth to groundwater. However, water levels in the wells remain above the Measurable Objective green line.

~~DWR is currently reviewing GSPs submitted by jurisdictions throughout the State and will provide their final assessment by January 31, 2022. However, an informal consultation letter with recommended corrective actions was provided to the Cuyama Basin GSA on June 3, 2021, and the Cuyama Basin GSA is meeting with DWR to discuss those issues ahead of their final determination in January 2022. The DWR consultation initiation letter to the Cuyama Basin GSA included the following recommended corrective actions: provide justification for, and effects associated with, the Sustainable Management Criteria; justify the use of groundwater levels as a proxy for depletion of interconnected surface water; further address degraded water quality; and provide explanation for how overdraft will be mitigated in the basin.~~

2022 CEQA Statute and Guidelines, Appendix G – Environmental Checklist Form, Section X Hydrology and Water Quality

To determine the significance of groundwater impacts under CEQA, the following thresholds apply to the extraction of groundwater intended for non-irrigation uses, such as frost protection caused from implementation of the proposed Project:

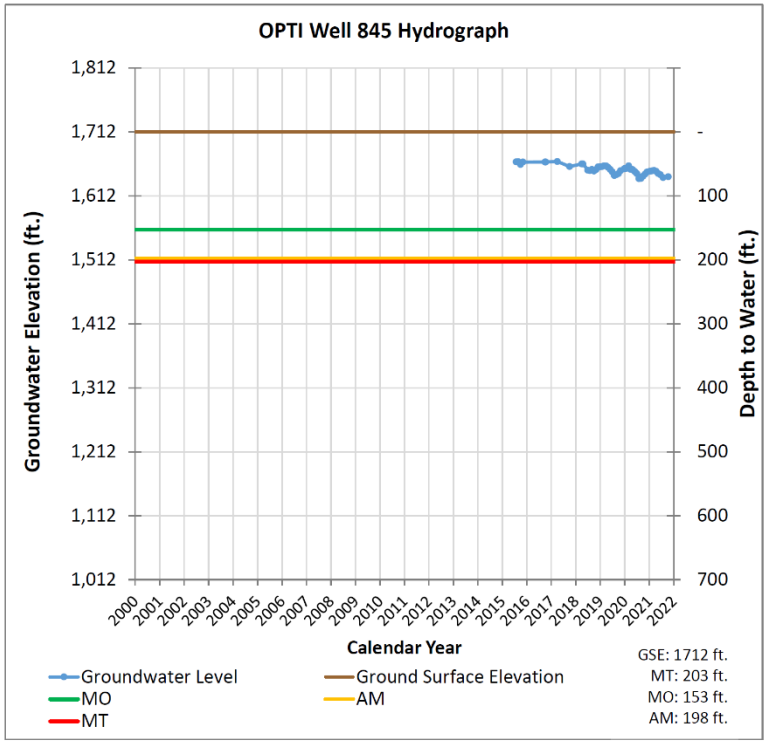
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

3.9.2.3 County

Land Use and Development Code (LUDC) Section 35.21.030: Table 2-1 indicates that agricultural operations conducted on properties with agricultural zoning are an allowed use and no land use entitlements are required for such uses. The existing North Fork Ranch vineyard operations are located on property with agricultural zoning (AG-II-100). Thus, vineyard operations and irrigation

water used do not require any County discretionary land use entitlements, and water impounded in proposed reservoirs used to support (i.e., used for crop irrigation and frost protection) the existing vineyards would not be subject to the water use threshold of significance established for the Cuyama Valley Groundwater Basin. However, due to the area (over 50,000 square feet) of each of the proposed reservoirs, the LUDC confirms that the proposed Project's three reservoirs require approval of a discretionary Minor Conditional Use Permit. All discretionary projects are required to comply with CEQA requirements and County thresholds of significance, therefore, water impounded in the reservoirs not directly or indirectly used to irrigate the existing vineyards is subject to groundwater use thresholds. Thus, any groundwater losses from the frost protection system that does not irrigate the vineyards or recharge the aquifer would require compliance with the County threshold of significance for groundwater use of 31 acre feet per year (AFY) adopted for the Cuyama Valley Groundwater Basin. Groundwater impounded in the reservoirs that would not be directly or indirectly used to irrigate of the vineyards would be groundwater lost to evaporation, either directly from a reservoir surface or due to the operation of the proposed frost protection spray irrigation system. If the amount of water that evaporates from the proposed frost protection operation throughout the year exceeds the threshold of 31 AFY, then project would result in a significant groundwater use impact.



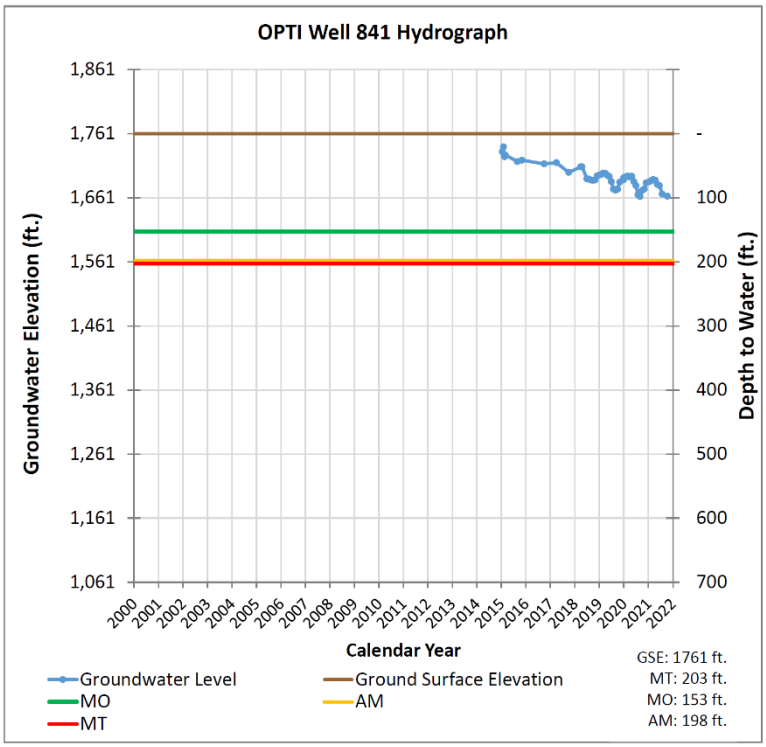


Figure 3-5 Project Site Well Hydrographs

Santa Barbara County Environmental Thresholds (County Thresholds): A project is determined to have a significant effect on groundwater resources if it would exceed established threshold values which have been adopted for each overdrafted groundwater basin. The groundwater demand threshold for the Cuyama Valley Groundwater Basin is 31 AFY. This threshold applies only to projects subject to discretionary review by P&D, which includes the proposed Project.

3.9.3 Thresholds of Significance

This DEIR section addresses the thresholds of significance related to impacts from the proposed Project's groundwater use required to operate the frost project system. Applicable 2021 CEQA Checklist and Santa Barbara County CEQA Thresholds are as follows:

CEQA Guidelines, Appendix G (2022) – Environmental Checklist Form, Hydrology and Water Quality, include:

Would the project:

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

e) Conflict with a sustainable groundwater management plan?

Santa Barbara County CEQA Thresholds (2021) include:

Would the project result in a:

h) Change the quantity of groundwater either through direct additions or withdrawals?

i) A significant increase in the existing overdraft or over-commitment of any groundwater basin?

k) Substantial reduction in the amount of water otherwise available for public water supplies.

Both sets of thresholds are similar, except that the CEQA 2022 thresholds consider whether a project would obstruct implementation of a GSP. Therefore, this section addresses two relevant potential impacts from the proposed Project, 1) groundwater pumping and 2) evaporative groundwater loss.

3.9.4 Impact Discussion

Impact WAT-01 Groundwater Pumping

The Cuyama Groundwater Basin (Basin) was identified by DWR as being in a state of critical overdraft. As described above in Section 3.9.2, the SGMA required preparation of the Cuyama GSP to address measures necessary to attain sustainable conditions in the Basin by 2040. According to the GSP groundwater levels in some portions of the Basin have been declining for many years, while other areas have experienced no significant change in groundwater levels. To effectively manage this variance, the Board of Directors created threshold regions to establish appropriate criteria for separate regions.

The proposed Project is located in the Northwestern Threshold Region where monitoring has indicated hydrologic conditions are stable under current and projected conditions, with some declines in the areas where new agriculture is established.

The Plan calls for additional levels of monitoring to determine if there are impacts to long-term groundwater levels and sustainability. Under SGMA, the GSA has the authority to regulate groundwater extraction. At this time there are no regulations established for groundwater extraction within the Project area. There is potential for basin wide pumping reductions in future years.

The GSP established two management areas, the Central and Ventucopa management areas. The Project is not located within either of these management areas and the Central area is currently overdrafted. As a result of concerns for the entire basin, the Plan will document overdraft conditions and~~, if necessary, required~~ reductions in groundwater pumping are scheduled to begin in 2023. The GSA is implementing a program to reduce groundwater pumping in the Central management area in 2023 and 2024 by 1,633 acre feet per year[3]. ~~with full implementation by 2038. As noted above, specific methods for monitoring and reporting are still being finalized but monitoring and pumping reductions are expected to begin in 2023. This will identify the exact amount of required reduction in groundwater pumping following review and reevaluation of ongoing data collection and analysis.~~

According to the Plan, it is possible that total Basin-wide groundwater pumping will be reduced by 50 to 67 percent in order to achieve basin-wide sustainability, with the major proportion or reduction required in the Central Management Area. As described in the Plan, additional ongoing efforts are underway to confirm the amount and location of pumping reductions required to achieve basin-wide sustainability.

Currently, according to the Santa Barbara County Water Agency, no new thresholds for groundwater extraction by individual projects have been accepted or proposed by the Cuyama Basin GSA (Matt Young, 2020) or updated in the Plan. Therefore, the County threshold of 31 AFY remains the applicable threshold for assessing groundwater extraction impacts from non-agricultural groundwater use. Based on Cardno's water budget accounting, the project may exceed this threshold in moderate and high frost years (see Appendix E.3 and discussion below). The GSA may limit water use in the future under their authority. The project would not impede the GSA from those actions and would not impede the Plan.

In order to address Impact WAT-01, m**itigation measure WAT-01** was developed that requires the preparation of an Evaporative Loss Reduction Plan (ELRP) designed to reduce evaporative groundwater loss impacts resulting from operation of the frost protection system. Implementation of m**itigation measure WAT-01** will ensure that the proposed Project will comply with the County's Groundwater Threshold of Significance for the Cuyama Groundwater Basin of 31 AFY. Therefore, with implementation of mitigation measures, the project would have **less than significant** impacts related to groundwater pumping.

Impact WAT-02 Evaporative Water Loss

[3] Source: https://cuyamabasin.org/assets/pdf/2022-08-25-CBGSA-public-workshop-slides.pdf

Cardno conducted an independent analysis (see Appendix E.3) of evaporative loss from the reservoirs. This analysis relied on a number of information sources including:

- North Fork Vineyards Frost Protection Reservoirs No.1, No. 2 and No. 3 – Analysis of Reservoir Evaporative Losses (Monsoon Consultants, August 10, 2017). This report was prepared by the applicant's consultant and considered the number of months of the year that the reservoirs would be full, the months of the year that the reservoirs would contain a minimum of three feet of water, annual precipitation, and evaporative losses. They concluded that the average evaporative loss would be approximately 26.2828 AFY. This report was limited to evaporative loss from the surface of the reservoir.
- Information from public sources including precipitation gauge data, recorded recent frost data, recorded temperature data, soils data, crop coefficients to calculated evapotranspiration, and rainfall.
- Meteorological and system operational information from the applicant, including information from weather stations, information on frost events, information on vineyard budbreak, which influences the need for frost protection; design plans for the project, and sprinkler design map.
- Guidelines for calculating crop water requirements.

The purpose of this effort was to determine groundwater use from the Project. As part of this undertaking, a peer review of the applicant's consultant's analysis was conducted and considered the following elements:

- Frost protection period. The applicant's consultant analyzed this period as February through April, but Cardno reduced this start in March, due to the timing of bud protection (i.e. frost protection would not be needed in February because the vines are not budding yet and therefore do not require frost protection).
- Time to empty reservoirs. The applicant's consultant assumed that reservoirs could be instantaneously emptied on May 1. Cardno adjusted that assumption to occur over a 2 to 3-week period, ending in mid-May.
- Average Lake Factor. The applicant's consultant used and average lake factor, which is used to calculate evaporative loss from water bodies, of 1.25. Cardno used an average lake factor of 1.05 which is more reflective of evaporation measured at a nearby gauge.
- Rainfall. The applicant's consultant used an annual rainfall amount of 7.84 inches, but lower rainfall amounts occurred during the selected years (see discussion below), between 3.57 and 6.84 inches.

Irrigation water used by vineyards, which are on agriculturally-zoned property, is considered an allowed use and no land use entitlements are required. Therefore, irrigation water used directly or indirectly for the vineyard was excluded from the analysis, in terms of County Thresholds.

Cardno's independent analysis developed a water budget which compared two scenarios: (1) operation without the reservoirs frost protection and (2) operation with reservoirs and using them for irrigation and frost protection. The water budget is a hydrological analysis to determine water inputs and outputs, and requires consideration of a number of factors as described below.

For this analysis, three representative years of data were selected after reviewing data over the period from 2000 to 2018, and selecting years that represent the range of potential frost events and therefore the range of potential frost prevention evaporative water losses. The selection was made based on the number of frost days as compared to the long-term average. The years that were selected include 2015 (light frost protection), 2017 (average frost protection), and 2009 (heavy frost protection).

Water quantities for each day of each year were calculated, considering crop needs, effective rainfall, water in the soil profile, deep percolation, irrigation quantities, and groundwater pumping. For the "with reservoirs" scenario, additional calculations included the water level in the reservoirs, water used for frost protection, evaporation from the reservoirs, and evaporation from the soil surface following frost protection activities.

For the purposes of soil evaporation, that is the water that evaporates from the soil after frost protection water is applied, the analysis assumed that it could occur over a 48-hour period and that the amount would be the difference between evapotranspiration from reference level (i.e. in absence of from frost protection water application) and that from the crop itself.

A key consideration was the degree to which water would evaporate from spray nozzles as water is being applied by the frost protection system. A careful review of the scientific literature regarding evaporation from irrigation sprinklers, such as the ones that would be used at the project site for frost protection, provide an understanding of the conditions that would result in evaporative water loss. Specifically, the loss would be negligible because it would only occur while water is being applied for frost protection which would only occur during early morning and while temperatures are near freezing when evaporation is least likely to occur. Furthermore, this is the time of relatively high humidity, further reducing evaporative potential. Conversely, the frost protection water would fall on the soil surface where it could remain for extended periods when humidity may be lower and temperatures are likely to be higher, resulting in greater evaporation. See Section 3.1.8 in Appendix E.3 for further information.

The Cardno study found that groundwater applied through the frost protection system will either go to (1) deep percolation, (2) runoff, (3) crop water use or (4) evaporation. Deep percolation was quantified, but is not considered groundwater loss in this study, since this water recharges the aquifer. In the Cardno analysis, runoff was estimated to be negligible due to the sprinkler rates, soil types and terrain. Cardno also concluded that frost protection system groundwater used to satisfy crop requirements does not count toward the water use threshold. Groundwater lost to evaporation from sprinklers during frost protection events was determined to be negligible due to the fact the sprinkler operation occurs near freezing temperatures and during high relative humidity and therefore not counted toward the threshold. However, evaporation losses from the three reservoirs over the course of the year and evaporation from soil surface after application of groundwater following frost protection events, was quantified and counted towards the water use threshold.

Cardno's analysis included evaporation from the reservoirs and evaporation from the soil after a frost event and determined that some groundwater used for frost protection would evaporate from the soil and therefore, could not be considered irrigation water. The estimated net evaporative loss (evaporation less rainfall) from the three reservoirs combined was calculated to be 24.2 AFY 2015 – light), 21.5 AFY (2017 – normal), and 23.1 AFY (2009 - heavy). The estimated soil evaporation from frost protection system was calculated to be 10.8 AFY (2015 – light), 39.6 AFY (2017 – normal), and 249.5AFY (2009 – heavy). These losses are obviously dependent on the amount of frost protection required in a given year. Combining the two types of groundwater losses resulting from the reservoir evaporation and frost protection soil evaporation, the total losses were calculated to be 35.0 AFY (2015 – light), 61.0 AFY (2017 – normal), and 272.6 AFY (2009 – heavy) for 2015 (2 hours frost), 2017 (32 hours frost), and 2009 (101 hours frost), respectively, as identically presented in Table 8 from Appendix E.3. and Table 3-1.

Table 3-1 Groundwater Balance Results – Groundwater Losses for 'With Reservoir' Scenario (Table 8, Appendix D.3)

Groundwater Loss Types for 'With Reservoir' Scenario	Light	Normal	Heavy
	2015	2017	2009
Reservoir Evaporation Less Rainfall (AFY)	24.2	21.5	23.1
Frost Protection Soil Evaporation Loss (AFY)	10.8	39.6	249.5
Groundwater Losses using Reservoirs (AFY)	**35.0**	**61.0**	**272.6**

Cardno's independent technical analysis of groundwater use associated with the operation of the proposed frost protection system (Appendix E.3) found the annual net evaporative losses in a normal year for all three proposed reservoirs and soil evaporation to be approximately 61 AFY. In a light frost year, the total groundwater losses were calculated to be 35 AFY, and a heavy frost year was calculated at 272 AFY. Using these calculations, the net evaporative losses from the reservoirs and frost protection groundwater use exceeds the threshold of 31 AFY and the project would result in a significant groundwater use impact.

As part of preparation of this DEIR, an extensive evaluation of mitigation measures was conducted to develop a feasible mitigation plan to limit evaporative groundwater loss below the County threshold of 31 AFY. This evaluation was refined as part of the technical analysis presented in Appendix E.3. As a result, it was determined that two measures that can be applied that will effectively limit groundwater use to at or below 31 AFY. These include (1) the installation and use of reservoir covers to eliminate evaporation from the reservoir surface and (2) a requirement to limit the amount of groundwater used for frost protection to 103.1 AFY considering deep percolation, runoff, and crop groundwater use attributed to evaporative loss. Using protective covers on reservoirs will essentially eliminate the evaporative water loss from these features. With the reservoir covers, the project could use up to 103.1 AFY of water for frost protection and stay under the threshold amount of 31 AFY for groundwater use/evaporative loss. Application of this mitigation measure would require no curtailment in light frost year, an

approximate 22 percent curtailment in a moderate frost year, and an approximate 88 percent curtailment in a heavy frost year.

In order to address Impact WAT-02, m**itigation measure WAT-01** was developed that requires the preparation of an Evaporative Loss Reduction Plan (ELRP) designed to reduce evaporative groundwater loss impacts resulting from operation of the frost protection system. Implementation of m**itigation measure WAT-01** will ensure that the proposed Project will comply with the County's Groundwater Threshold of Significance for the Cuyama Groundwater Basin of 31 AFY. Therefore, with implementation of mitigation measures, the project would have **less than significant** impacts related to evaporative water loss.

3.9.5 Cumulative Impacts

As evaluated above and described in greater detail in Appendix E.3., the proposed Project would result in potentially significant impacts associated with the use of groundwater to operate the three reservoirs and the frost protection system. The CEQA Guidelines § 15130 requires that an EIR discuss cumulative impacts to identify whether a proposed project's incremental effects are significant when viewed in connection with the effects of past, current, and probable future projects. Chapter 4.0 of this DEIR includes additional details regarding the cumulative impact analysis for the proposed Project. Based on the results of this analysis, the Project will be below the 31 AFY threshold which applies to project specific and regionally cumulative impacts, cumulatively considerable effects from groundwater use and the Project's contribution to groundwater impacts would be **less than significant** with the implementation of mitigation measure WAT-01, described below.

3.9.6 Mitigation Measure

WAT—01 Frost Protection System Evaporative Loss Reduction Plan. The applicant shall submit an Evaporative Loss Reduction Plan (ELRP) designed to reduce evaporative groundwater loss impacts resulting from operation of the frost protection system to below the County's Groundwater Threshold of Significance for the Cuyama Groundwater Basin. The adopted significance threshold is 31-acre feet per year (AFY). The ELRP shall include two components: 1) Installation and use of reservoir covers to reduce evaporative loss from each of the proposed reservoirs and 2) A limitation on the amount of groundwater used for frost protection.

1. **Reservoir Covers:** Project plans shall include specifications for the installation, operation, and maintenance of covers for all three frost protection system reservoirs. The reservoir covers shall be used year around, including May 1 through January 31 when three feet of water is maintained in the reservoirs. At a minimum, the ELRP specifications shall include:
    a. Reservoir cover manufacturer specifications
    b. Installation requirements
        i. Delivery of materials to North Fork Ranch
        ii. Installation schedule
        iii. Installation procedures
    c. Operational parameters
    d. Maintenance requirements

i. Scheduled maintenance
ii. Repair and replacement requirements

2. **Frost Protection Groundwater Use Limit:** Ensure that the frost protection spray irrigation system uses no more than 103.1 AFY of groundwater. At a minimum, the ELRP shall include:
    a. Installation and operation of flow meter(s) for the frost protection pumping system
    b. Maintenance requirements
        i. Scheduled maintenance of the frost protection spray irrigation system
        ii. Repair and replacement requirements
    c. Reporting Requirements
        i. Record daily groundwater use readings for each frost protection event.
        ii. Record monthly groundwater use readings of flowmeters in February, March and April of each year the vineyard is in operation.
        iii. Prepare an annual report detailing groundwater used for frost protection and submit the report by June 1 each year the reservoirs are in operation.

PLAN REQUIREMENTS: The applicant shall submit an ELRP to P&D for review and approval. The Plan shall include all items listed above. In addition, the locations of construction, operation, reporting and maintenance components of the Plan shall be included as notes or depictions on the Project site plan. **TIMING:** The applicant shall submit the ELRP prior to Zone Clearance for the Project. The applicant shall demonstrate to P&D compliance monitoring staff that the reservoir covers and frost protection system flow meters are installed prior to Final Grading Inspection Clearance. **MONITORING:** The applicant shall submit a record of the volume of groundwater used after each frost protection event to P&D compliance monitoring staff to track that the amount of groundwater applied to the vineyard through the frost protection system. The applicant will be responsible for ensuring that the evaporative groundwater loss does not exceed 31 AFY, by ensuring that the frost protection water application is less than 103.1 AFY. **REPORTING:** By June 1 of each year that the vineyard is in operation, the applicant shall submit to P&D compliance monitoring staff a report that includes the following information:

1) Monthly quantities of frost protection groundwater used during the months of March and April. This reporting requirement shall include a summary of groundwater used during each frost event and verify that the total amount of groundwater applied to the vineyard through the frost protection system does not exceed 103.1 AFY.
2) A description of the effectiveness of the reservoir covers.
3) A summary of operational activities and maintenance conducted during the previous year and planned maintenance activities to be completed in the upcoming year.

To address the unpredictable number of frost protection events that may occur in any given year, the vineyard operator may monitor frost protection groundwater use based on a 3-year rolling average. The purpose of using a three-year period groundwater use average is to provide flexibility in the implementation of this mitigation measure, while still maintaining compliance with the 31 AFY threshold of significance adopted for the Cuyama groundwater basin. This

implementation approach allows for years with minimal or low frost protection groundwater use requirements (below 103.1 AFY) to count towards future consecutive year's demands. Under a three-year rolling average, frost protection groundwater use cannot exceed 103.1 AFY in a year unless there is a credit from the prior 2 year(s). This implementation approach may start in Year 2 of project operation, only if groundwater use in Year 1 was less than 103.1 AF.

3.9.7 Residual Impacts:

With the implementation of mitigation measure WAT-01, residual impacts to groundwater loss would be less than significant because evaporative loss would not exceed 31 AFY. This would be accomplished by elimination of the evaporative loss from the reservoir surface by way of reservoir covers and curtailment of evaporative loss from the application of frost protection water at 103.1 AFY, which correlates to an evaporative loss of 31 AFY.

3.10 Cultural and Tribal Cultural Resources

This analysis of the Project's potential impacts to cultural resources and tribal cultural resources includes information from a report titled *Mesa Vineyards, North Fork Reservoir Project, Cultural Resources Study* (Rincon Consultants, 2016). This confidential report is on file with the P&D Department and may be reviewed during normal business hours by qualified persons with prior authorization.

3.10.1 Existing Conditions/Baseline Setting

The project site is located in unincorporated Santa Barbara County in the Cuyama River Valley. The Cuyama River Valley is bounded on the north by the Caliente Range and on the south by the Sierra Madre Mountains. The project site is located at an approximate elevation of 515 meters (1,689 feet) above mean sea level in the California Coast Range geomorphic region. The nearest major water source is the Cuyama River, located approximately one to one and a half kilometers to the northeast of the project site.

The project site is located in what is generally described as the Northern Bight archaeological region, one of eight organizational divisions of the state. The Northern Bight encompasses the northern portion of the California Bight, which is marked by the curve of the coastline along central California. The Northern Bight archaeological region primarily includes the counties of Santa Barbara, Ventura, and portions of Los Angeles, extending from the coastline at Vandenberg Air Force Base inland to the Cuyama River Valley and south to the Santa Monica Mountains and the Los Angeles Basin. The prehistoric cultural chronology for the Northern Bight is generally divided into six periods: Paleo-Indian (ca.10,000 – 7,000 B.C.), Millingstone Horizon (7,000 – 5,000 B.C.), Early Period (5,000 B.C. – 2,000 B.C.), Middle Period (2,000 B.C. – A.D. 1), Middle-Late Transition Period (A.D. 1 – 1000), and Late (A.D. 1000 – Historic Contact).

The project site lies within Chumash ethnographic territory, which extends from the current City of Malibu, north beyond San Luis Obispo, and inland as far as 68 km (42 miles) and includes the northern Channel Islands. Chumash is the term used for the family of closely related Chumashan languages spoken by the populations in this region. These languages have been divided into two

broad groups—Northern Chumash (consisting only of Obispeño) and Southern Chumash (Purisimeño, Ineseño, Barbareño, Ventureño, and Island Chumash.

Chumash villages generally ranged between 30 and 200 people, with the largest settlements numbering anywhere from 500 to 800 people. They also lived in temporary special-purpose camps throughout the year to acquire seasonal resources. Each village had a formal cemetery marked by painted wooden poles. Archaeological investigations have recognized separate areas within cemeteries for elites and non-elites.

Spanish explorers first arrived in the Santa Barbara Channel region in 1542. Contact had much more of an impact starting in 1770 with the establishment of the missions, which led to population decline and culture loss. Post-European contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present).

3.10.2 Regulatory Framework

3.10.2.1 Federal

National Register. The National Register was established by the National Historic Preservation Act of 1966 to help identify and protect properties that are significant cultural resources at the national, state, and/or local levels. Four criteria have been established to determine if a resource is significant to American history, architecture, archaeology, engineering, or culture and should be listed in the National Register. These criteria include:

1. It is associated with events that have made a significant contribution to the broad patterns of our history.
2. It is associated with the lives of persons significant in our past.
3. It embodies the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
4. It yields, or may be likely to yield, information important in prehistory or history.

Districts, sites, buildings, structures, and objects of potential significance that are at least 50 years in age must meet one or more of the above criteria to be eligible for listing in the National Register. However, the National Register does not prohibit the consideration of properties less than 50 years in age whose exceptional contribution to the development of American history, architecture archeology, engineering, and culture can be clearly demonstrated under National Register Criteria.

3.10.2.2 State

California Environmental Quality Act. A *historical resource* is a resource listed, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant

A resource shall be considered historically significant if it meets any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if a project can be demonstrated to cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required. A *unique archaeological resource* as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Assembly Bill 52. Assembly Bill 52 (AB 52) established a new environmental impact category called tribal cultural resources (PRC Section 21074) and a process for consulting with Native American tribes and groups regarding those resources. The consultation process must be completed before a CEQA document can be certified. Native American tribes to be included in the process are identified through consultation with the Native American Heritage Commission (NAHC).

Tribal cultural resources are "[s]ites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe…" A tribal cultural resource must be on, or eligible for, the CRHR as described above for historical resources, or must be included in a local register of historical resources. The CEQA lead agency can determine that a tribal cultural resource is significant even if it has not been evaluated as eligible for the CRHR or is not on a local register.

Codes Governing Human Remains. The disposition of human remains is governed by Health and Safety Code Section 7050.5 and Public Resources Code Sections 5097.94 and 5097.98 and falls within the jurisdiction of the NAHC. If human remains are discovered, the County Coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American, the

coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to PRC Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

3.10.2.3 County of Santa Barbara

County of Santa Barbara Environmental Thresholds and Guidelines. Chapter 8 of the *Santa Barbara County Environmental Thresholds and Guidelines Manual* (County of Santa Barbara, Revised 2021) contains guidelines for the identification, significance evaluation, and mitigation of impacts to cultural resources, including archaeological, historic, and tribal cultural resources. In accordance with the requirements of CEQA, the Guidelines state that if a resource cannot be avoided, it must be evaluated for importance under criteria specified by CEQA.

3.10.3 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, an impact to cultural resources is considered significant if the project would:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines §15064.5;
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5;
3. Disturb any human remains, including those interred outside of dedicated cemeteries.
4. In accordance with Appendix G of the CEQA Guidelines, an impact to tribal cultural resources is considered significant if the project would:

    A. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

        g. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
        h. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1 . In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

CEQA Guidelines Section 15064.5(b) states that a substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would

be materially impaired. The significance of an historical resource is materially impaired when a project:

A. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
B. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
C. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

3.10.4 Impact Discussion

This analysis has been added to the revised DEIR because the August 1, 2018, Final MND prepared for the proposed Project (DEIR Appendix B.1) concluded that the Project would have the potential to result in significant impacts to cultural and tribal cultural resources. . The analysis included in the Final MND determined that that Project's potential impacts to cultural and tribal cultural resources would be reduced to a less than significant level with the implementation of a mitigation measures also identified by the Final MND.

The potential for the Project to result in significant impacts to cultural or tribal cultural resources was evaluated by a report titled *Mesa Vineyards, North Fork Reservoir Project, Cultural Resources Study* (Rincon Consultants, 2016). The report presents background environmental and cultural context of the project site, Native American scoping, the results of background research, and the results of a site survey conducted to detect cultural resources.

Background research conducted for the cultural resources study encompassed both the project site and a half-mile radius surrounding the site. Background research was conducted to identify previous studies in proximity to the project site and to identify and characterize any previously recorded resources in and around the Project. The background research included a review of cultural resources records at the California Historical Resources Information System (CHRIS) Central Coast Information Center (CCIC), review of the Sacred Lands File (SLF) maintained by the NAHC, and Native American scoping for information regarding any Native American cultural resources within or near the project site. The NAHC provided a list of Native American groups and individuals with whom to communicate regarding the proposed Project. Letters regarding the Project were sent to the identified contacts. No responses to the letters were received.

The cultural resources records search of the CCIC inventory did not identify any cultural resources or previously recorded sites within the project site. The records search did identify five reports from cultural resources studies that were conducted within or adjacent to the project sites. These

previous studies did not identify any cultural resources within the project site or within a 0.5-mile radius or the sites.

The field survey conducted at the proposed reservoir sites examined the ground surface for features such as artifacts, marine shell and bone, soil discoloration, soil depressions, and features indicative of the former presence of structure or buildings. The survey did not identify any archaeological resources.

Prior to the preparation of the cultural resources report for the Project, human remains were identified on the north side of Highway 166 approximately five feet below the ground surface during trench excavation for an irrigation pipeline. The irrigation pipeline was not part of the proposed Project and not located on the proposed reservoir sites. Upon discovery of the remains, the County Sheriff was notified and it was determined that the remains were not modern. Local Native Americans were contacted, who requested the remains be reburied. The remains were recovered and reburied.

As part of the AB 52 consultation process, on March 13, 2017, P&D sent a letter to Chair Julie Tumamait-Stenslie, of the Barbareño/Ventureño Band of Mission Indians. No response to the notification was received. In response to the Notice of Completion circulated the Project EIR, the Santa Ynez Band of Chumash Indians requested formal consultation regarding the Project. A consultation meeting was conducted on January 13, 2022. During the meeting the Santa Ynez Band of Chumash Indians stated that they concurred with the recommendations of the cultural resources report prepared for the Project and the report's recommendation that construction activities related to the Project be monitored by a Native American and archaeologist.

Impact CUL-1 Potential Impacts to Historical Resources, Cultural Resources, or Human Remains

The proposed reservoir sites have been previously disturbed by agricultural activities, including cattle grazing, grading for dirt access roads, and were tilled to a depth of three feet in preparation of planting vineyards adjacent to the reservoir sites. There are no structures or formal landscape features on the project sites, and background research and surveys of the sites did not identify any historical or archaeological resources. However, based on the presence of a previously discovered burial on the north side of Highway 166, the project site is considered to be sensitive for cultural resources. The potential for Project-related grading and construction operations to impact historical and cultural resources, and the potential for impacts to human remains would be **less than significant** with the implementation of MM CUL-01.1 (Cultural Resource Monitor); MM CUL-01.2 (Stop Work at Encounter); and MM CUL-01.3 (Pre-Construction Meeting). These mitigation measures were included in the Proposed Final MND (August 1, 2018) previously prepared for the Project. Potential impacts related to the unanticipated discovery of human remains would also be minimized by complying with applicable requirements of the Health and Safety Code Section 7050.5 and Public Resources Code Sections 5097.94 and 5097.98.

Impact CUL-2 Potential Impacts to Tribal Cultural Resources

No cultural resources were identified as a result of the records search, Sacred Lands File search, and pedestrian survey conducted as part of the cultural resources study prepared for the Project.

In addition, no tribal cultural resources that may be impacted by the proposed Project were identified through contact with local Native Americans.

Although no tribal cultural resources have been identified on the project site, the project area is considered to be sensitive for the unanticipated discovery of cultural resources due the previous discovery of a burial north of Highway 166. Therefore, Project-related ground disturbing activities, such as grading and surface excavation, have the potential to encounter previously undiscovered cultural resources of Native American origin that could be considered a tribal cultural resource. This potential impact would be **less than significant** with the implementation of MM CUL-01.1 (Cultural Resource Monitor); MM CUL-01.2 (Stop Work at Encounter); and MM CUL-01.3 (Pre-Construction Meeting). These mitigation measures were included in the Proposed Final MND (August 1, 2018) previously prepared for the Project. Potential impacts related to the unanticipated discovery of human remains would also be minimized by complying with applicable requirements of the Health and Safety Code Section 7050.5 and Public Resources Code Sections 5097.94 and 5097.98.

3.10.5 Cumulative Impacts

As evaluated above, the Project's potential impacts to cultural resources and tribal cultural resources resulting from the construction of the proposed reservoirs can be reduced to a less than significant level with the implementation of identified mitigation measures. CEQA Guidelines § 15130 requires that an EIR discuss cumulative impacts to identify whether a proposed project's incremental effects are significant when viewed in connection with the effects of past, current, and probable future projects. Chapter 4.0 of this DEIR includes additional details regarding the Project's cumulative cultural and tribal cultural resources impacts. Based upon the results of that analysis, it can be determined that with the implementation of the mitigation measures described below, along with existing project review requirements included in CEQA, AB 52, and the County's *Environmental Thresholds and Guidelines*, cumulative effects related to cultural and tribal cultural resources would be **less than significant**.

3.10.6 Mitigation Measures

MM CUL-01.1 Cultural Resource Monitor. The Owner/Applicant shall have all earth disturbances including scarification and placement of fill within the proposed project sites monitored by a P&D approved archaeologist and a Chumash Tribe provided monitor ~~Native American consultant~~ in compliance with the provisions of the County Archaeological Guidelines. Ground-disturbing construction work within native soils shall be monitored by a County-qualified archaeologist and a Chumash Tribe provided ~~Native American~~ monitor during construction to a depth of 10 feet below the ground surface.

PLAN REQUIREMENTS AND TIMING: Prior to the approval of a grading permit, the Owner/Applicant shall submit for P&D review and approval, a contract or Letter of Commitment between the Owner/Applicant and the archaeologist and Chumash Tribe provided monitor, consisting of a project description and scope of work, and once approved, shall execute the contract. This condition shall be printed on all building and grading plans. **MONITORING**: The Owner/Applicant shall provide P&D compliance monitoring staff with the name and contact information for the assigned onsite monitor(s) prior to grading permit issuance and pre-

construction meeting. P&D compliance monitoring staff shall confirm monitoring by archaeologist and Chumash Tribe monitor ~~Native American consultant~~ and P&D grading inspectors shall spot check field work. The P&D permit processing planner shall check plans prior to approval of all building and grading permits and P&D compliance monitoring staff~~II~~ shall spot check in the field.

MM CUL-01.2 Stop Work at Encounter . The Owner/Applicant and/or their agents, representatives or contractors shall stop or redirect work immediately in the event potential human ~~archaeological~~ remains are encountered during grading, construction, landscaping or other construction-related activity. The Owner/Applicant shall ensure an osteologist/zooarchaeologist makes a determination if they are human remains in consultation with ~~retain~~ a P&D approved archaeologist and Chumash Tribal ~~Native American~~ representative. ~~to evaluate the significance of the find in compliance with the provisions of Phase 2 investigations of the County Archaeological Guidelines and funded by the Owner/Applicant.~~ If they are determined to be human remains Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.94 and 5097.98 will be followed and funded by the Owner/Applicant. If remains are found to be significant, they shall be subject to a Phase 3 mitigation program consistent with County Archaeological Guidelines and funded by the applicant. **PLAN REQUIREMENTS:** This condition shall be printed on all building and grading plans. **MONITORING:** The P&D permit processing planner shall check plans prior to the issuance of a Zoning Clearance and P&D compliance monitoring staff shall spot check in the field.

MM CUL-01.3 Special Condition: Pre-Construction Meeting. A pre-construction meeting shall be conducted by a County-qualified archaeologist and a Chumash Tribal ~~local Native American~~ representative funded by the applicant. Meeting attendees shall include the applicant, archaeologist, local Chumash Tribal representative, construction supervisors, and heavy equipment operators to ensure that all parties understand the cultural resources monitoring program and their respective roles and responsibilities. All construction personnel who would work on the site during any phase of ground disturbance shall be required to attend the meeting. The names of all personnel who attend the meeting shall be recorded denoting that they have received the required training.

The meeting shall review the following: types of archaeological resources that may be uncovered; provide examples of common archaeological artifacts and other cultural materials to examine; describe why monitoring is required; what makes an archaeological resource significant; identify monitoring procedures; what would temporarily halt construction and for how long; describe a reasonable resource discovery scenario (i.e., feature or artifact); and describe reporting requirements and the responsibilities of the construction supervisor and crew. The meeting shall make attendees aware of prohibited activities, including vehicle use in protected areas, and educate construction workers about the inappropriateness of unauthorized collecting of artifacts that can result in impacts on cultural resources.

PLAN REQUIREMENTS AND TIMING: The pre-construction meeting requirements shall be shown on approved grading and building plans. The pre-construction meeting shall be conducted prior to the start of ground disturbing activities. **MONITORING**: The Owner/Applicant shall provide

P&D compliance monitoring staff with the names and responsibilities of persons who attended the meeting.

3.10.7 Residual Impacts

With the implementation of MM CUL-01.1, MM CUL-01.2, and MM CUL -01.3, residual impacts to cultural and tribal cultural resources would be less than significant. This would be accomplished by implementing requirements to monitor Project-related ground disturbing activities, protecting and evaluating resources that may be encountered during construction, and training construction staff to recognize resources and what actions to be implemented should a resource be encountered.

3.11 Geologic Processes

This analysis of potential how geologic processes have the potential to affect the proposed Project includes information from a report titled *Geotechnical Investigation, North Fork Vineyards, Highway 166, New Cuyama, California* (GSI Soils, Inc., 2016). A copy of this report is included as DEIR Appendix A.02.

3.11.1 Existing Conditions/Baseline Setting

The Cuyama Valley is one of the major east-west trending valleys that dominate the northeastern half of Santa Barbara County. The Cuyama Valley encompasses an area of approximately 300 square miles and is bounded by the Sierra Madre Mountains to the south and the Caliente Mountains on the north. The Cuyama River flows northwest through the center of the valley. The Cuyama Valley is at an elevation of approximately 2,000 to 2,500 feet above sea level and is an alluvium-filled basin.

The Cuyama Valley is a down-faulted block that is bordered by the South Cuyama fault zone and Ozena fault to the south, and the Whiterock fault and the Morales fault zone to the north. The proposed reservoir sites are approximately four miles north of the South Cuyama fault zone, approximately two miles south of the Whiterock fault, and approximately one mile west of the Russell fault. None of these faults are considered to be active. The San Andreas fault zone is located approximately 15 miles northeast of the Project area.

The proposed reservoir sites are located on the south side of Highway 166 in an area that is slightly sloping with elevations varying from around 1,760 to 1,950 feet above mean sea level. Slope gradients at the proposed project site have gentle slopes of approximately six (6) percent or less.

3.11.2 Regulatory Framework

3.11.2.1 Federal

Clean Water Act. The Clean Water Act (CWA) was adopted in 1972 and provides the regulatory framework for surface water quality protection. The United States Congress amended the CWA in 1987 to specifically regulate discharges to waters of the U.S. from public storm drain systems and storm water flows from industrial facilities, including construction sites, and requires such discharges be regulated through permits under the National Pollutant Discharge Elimination

System (NPDES) permit process. NPDES permitting authority is administered by the California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs). Individual projects that disturb more than one acre are required to obtain NPDES coverage under the California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) describing Best Management Practices (BMPs) the discharger would use to prevent and retain storm water runoff and to prevent soil erosion during construction. The County requires BMPs when Grading Permits and Land Use Permits are obtained.

3.11.2.2 State

California Building Code. The California Building Code (CBC), Title 24, Part 2, provides building codes and standards for the design and construction of structures in California. The 2019 CBC is based on the 2018 International Building Code with the addition of more extensive structural seismic provisions. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures. The CBC requires addressing soil-related hazards, such as treating hazardous soil conditions involving removal, proper fill selection, and compaction prior to construction. The County is responsible for enforcing the CBC.

3.11.2.3 County of Santa Barbara

County of Santa Barbara Grading Code. Chapter 14 of the County Code is the Santa Barbara County Grading Code. The County Grading Code identifies minimum standards and procedures necessary to protect and preserve life, limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, location, and maintenance of grading, drainage, erosion, and sediment control within the County. The code also addresses compliance with the NPDES Phase II stormwater regulations and sets forth local stormwater requirements for the disturbance of less than one acre of soil to avoid pollution of water courses and drainage ways with sediments or other pollutants generated on or caused by surface runoff on or across a construction site.

An Erosion and Sediment Control Plan may be required as part of a Grading Plan and permit requirements under the requirements of Chapter 14. Erosion and Sediment Control Plans are designed to minimize erosion during construction and would be implemented for the duration of the grading period and until re-graded areas have been stabilized by structures, long-term erosion control measures, or permanent landscaping. The Erosion and Sediment Control Plan must include County approved best management practices to stabilize the site, protect natural watercourses/creeks, prevent erosion, and convey storm water runoff to existing drainage systems keeping contaminants and sediments onsite.

County of Santa Barbara Building Code. Chapter 10 of the County Code is the Santa Barbara County Building Code. In certain areas of the County there are conditions and situations that require modification of California codes for buildings and related construction. The code addresses geological, topographical, and climatic conditions in the County including extreme weather conditions, firefighting resources, flammable vegetation, High Hazard Areas, extreme

wind conditions, and seismic shaking and the minimum standards to safeguard and protect life, buildings, and structures within the County.

3.11.3 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, a geologic process impact is considered significant if the project would:

1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the following.
    a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42.
    b. Strong seismic ground shaking.
    c. Seismic-related ground failure, including liquefaction.
    d. Landslides.
2. Result in substantial soil erosion or the loss of topsoil.
3. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.
6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The proposed Project does not involve use of septic tanks or alternative wastewater disposal systems. Therefore, no further analysis of Threshold 5 is required.

3.11.4 Impact Discussion

This analysis of potential geologic process impacts has been added to the DEIR because the August 1, 2018, Final MND prepared for the Project (DEIR Appendix B.1) concluded that construction of the proposed reservoirs would have the potential to result significant short-term erosion-related impacts. Those impacts, however, would be reduced to a less than significant level with the implementation of a mitigation requirements also identified by the Final MND.

This analysis of the potential for the Project to result in significant impacts related to geologic process is based on information included in the geotechnical report prepared for the Project (GSI Soils, Inc., 2016). The geotechnical report evaluated on-site subsurface soil conditions, seismic

considerations, and provided preliminary conclusions and recommendations related to the design and construction of the proposed reservoirs. In summary, the report concluded that the site is suitable for the proposed reservoirs provided that recommendations presented in the report are incorporated into the Project plans and specifications

Impact GEO-1 Potential Seismic and Soil Hazard Impacts

Ground Rupture Impacts

Several faults are known to exist in the project region, including the South Cuyama fault zone and Ozena fault to the south, the Whiterock fault and Morales fault zone to the north, and the Russell fault to the east. There are no Alquist-Priolo zoned maps on or near the project site and the nearest Alquist-Priolo fault is the San Andreas fault, approximately 15 miles to the northeast. There are no known faults located on the proposed project sites, therefore, there is a low potential for the Project to experience fault movement-related ground rupture impacts and this potential impact is considered to be **less than significant.**

Ground Shaking Impacts

The project site is located in a seismically active area and it is likely it will experience earthquake-related ground shaking sometime during the life of the proposed reservoirs. Failure of a reservoir caused by ground shaking would have the potential to result in the uncontrolled release of water impounded in the reservoir.

The geotechnical report prepared for the Project (DEIR Appendix A.02) presents seismic design parameters for use in the final design of the proposed reservoirs consistent with the requirements of the California Building Code and the specifications in American Society of Civil Engineers 7-05 (Minimum Design Loads for Buildings and Other Structures) to resist earthquake-induced ground shaking. As reported in Section 3.8.4 of this DEIR and Impact FLOOD-3 Embankment Slope Stability, potential impacts to the proposed reservoirs due to a seismic event would be reduced to a less than significant level with the implementation of mitigation measure FLOOD-03. This measure requires that final reservoir plans be prepared that have approval of a geotechnical engineer. . The final Project plans would be reviewed by Santa Barbara County Building and Safety Division prior to the approval of a grading permit to ensure the design and construction of the reservoirs complies with applicable requirements of the California Building Code, County Building Code, and the Santa Barbara County Grading Code. With the implementation of mitigation measure FLOOD-03, the potential effects of ground shaking on the proposed reservoirs would be **less than significant**.

Ground Failure Impacts

The geotechnical report prepared for the Project (Appendix A.02) states that there are varying degrees of potential soil collapse in the Cuyama area because the structure of surface soils typically have voids or weak cementing that dissolve with excess water, resulting in the compaction of the soil. Potential soil collapse impacts, however, are generally minimized by over excavation of the upper three to five feet of soils at project sites, and by controlling water sources. The proposed reservoirs would minimize the potential for excess water in project site

soils by including an impermeable liner in the interior of the reservoirs, and providing drainage systems to collect and divert runoff water from the reservoir sites.

Liquefaction is a sudden loss of soil strength due a rapid increase in water pressure caused by ground shaking during a seismic event, which causes the soil to act more like a fluid than a solid. For liquefaction to occur, the following conditions are generally required: granular soil, groundwater, and low soil density. Based on soil borings at the project site and experience with the project region, the geotechnical report prepared for the Project provided a preliminary assessment indicating that there is a low potential for liquefaction to occur at the project sites. The geotechnical report also recommended a detailed liquefaction study be conducted at the project sites. Design-specific liquefaction potential evaluations would be required to comply with the requirements of the CBC and County Building Code.

As reported in Section 3.8.4 of this DEIR and Impact FLOOD-3 Embankment Slope Stability, potential impacts to the proposed reservoirs resulting from a seismic event would be reduced to a less than significant level with the implementation of mitigation Measure FLOOD-03, which requires that final reservoir plans be prepared that have approval of a geotechnical engineer. The final Project plans would be reviewed by Santa Barbara County Building and Safety Division prior to the approval of a grading permit to ensure the design and construction of the reservoirs complies with applicable requirements of the California Building Code, County Building Code, and the Santa Barbara County Grading Code. With the implementation of mitigation measure FLOOD-03, potential ground failure effects on the proposed reservoirs caused by a seismic event would be **less than significant**.

Slope Stability Impacts

The geotechnical report prepared for the Project (Appendix A.02) states that the proposed reservoirs would be located in sloping areas that may experience shallow instability if over-saturated soil conditions are present. However, the potential for movement to influence the proposed construction would be low to negligible. Instability of the proposed 2.5:1 (h:v) graded reservoir berm slopes is also anticipated to be negligible due to the shear strength and cohesion properties of the native soils and the compaction of these materials. Therefore, the Project would have **less than significant** slope stability impacts.

Lateral Spreading

Lateral spreading is a type of landslide that may occur on gentle slopes and result in fluid-like flow movement of soil. The geotechnical report prepared for the Project (Appendix A.02) states that the potential for lateral spreading at the project site would be low due to the shallow depth to bedrock and absence of liquefiable soil zones. Therefore, the Project would have **less than significant** lateral spreading impacts.

Impact GEO-2 Potential Erosion Impacts

The topography of the proposed reservoir sites is generally level with gentle slopes. Grading to construct the proposed reservoirs would result in ground disturbance and the removal of vegetation, which has the potential to result in significant short- and long-term erosion-related impacts to nearby ephemeral drainages that drain to the Cuyama River. Methods to be used to

minimize erosion during Project construction that are included on the Project plans (Appendix B.01, Plan Sheet 11) include the use of silt fences and straw bale barriers at locations downslope from the reservoirs. The proposed erosion control measures would be installed prior to the start of the rainy season (October 15 through April 15) or anytime the probability of rain exceeds 30 percent. Proposed long-term erosion control measures include the application and maintenance of an erosion-control seed mix over disturbed areas.

Each of the proposed reservoir's stormwater drainage systems would collect water from a limited area upslope of the reservoirs, and water from the reservoir's overflow and stormwater drainage systems would be discharged over rock energy dissipaters. After discharge over the energy dissipaters, the water would sheet flow over the ground surface, which in the vicinity of proposed discharge locations has a gradient of five percent or less. Therefore, the amount of stormwater discharged from the drainage systems and the reservoir overflow systems would be limited and would not substantially alter existing drainage patterns, the course or direction of runoff water, or substantially increase or decrease the amount of water in the ephemeral drainages located adjacent to the reservoir sites. With the use of rock energy dissipaters and due to the presence of gentle slope gradients below proposed discharge locations, the proposed water discharges would not be a substantial source of erosion (turbidity) that would have the potential to adversely affect the water quality of the drainages near the reservoirs, which are tributaries to the Cuyama River.

In addition to the proposed short- and long-term erosion control measures, the Santa Barbara County Grading Ordinance contains the minimum standards and procedures necessary to minimize grading-related hazards. The Ordinance also addresses compliance with the applicable NPDES storm water regulations and sets forth local storm water requirements for projects that disturb more than one acre. The implementation of applicable Grading Ordinance requirements would minimize the potential for the project to result in erosion- and sedimentation-related impacts to downstream areas and water resources. Proposed MM GEO-02.1 identifies specific erosion control measures that implement the requirements of the County Grading Ordinance and would ensure the proposed Project's potential erosion-related impacts are reduced to a **less than significant** level.

Impact GEO-3 Potential to Affect Unique Geologic Features or Unique Paleontological Resources

The proposed reservoirs would be located in areas that are slightly sloping with elevations varying from around 1,760 to 1,950 feet above mean sea level. Slopes at the project sites have gentle gradients of approximately six (6) percent or less. There are no unique geological features located on or near the proposed project sites and the proposed reservoirs would not disturb the banks of ephemeral streams located near proposed Reservoir No. 2 or Reservoir No. 3. Therefore, the Project would have **no impact** related to the potential to affect a unique geological feature.

Soils on the project site generally consist of sands, silts, and gravels associated with flood plain deposits, alluvial fans, and stream bed deposits. The potential to encounter unique paleontological resources in these younger alluvium deposits is very low. Therefore, the Project

would have **a less than significant** impact related to the potential to affect unique paleontological resources.

3.11.5 Cumulative Impacts

As evaluated above, the proposed Project's potential geologic processes impacts related to potential short- and long-term erosion impacts can be reduced to a less than significant level with the implementation of proposed mitigation requirements identified in MM GEO-02.1, below. CEQA Guidelines § 15130 requires that an EIR discuss cumulative impacts to identify whether a proposed project's incremental effects are significant when viewed in connection with the effects of past, current, and probable future projects. Chapter 4.0 of this DEIR includes additional details regarding the cumulative impact analysis for the proposed Project. Based upon the results of this analysis, it can be determined that with the implementation of the mitigation requirements described below, along with existing project review requirements included in CEQA and the County's Grading Ordinance, cumulatively considerable effects related to erosion and sedimentation impacts, and the Project's contribution to those impacts would be **less than significant**.

3.11.6 Mitigation Measures

MM GEO-02.1 Erosion and Sediment Control Plan. Where required by the latest edition of the California Green Code and/or Chapter 14 of the Santa Barbara County Code, a Storm Water Pollution Prevention Plan (SWPPP), Storm Water Management Plan (SWMP) and/or an Erosion and Sediment Control Plan (ESCP) shall be implemented as part of the Project. Grading and erosion and sediment control plans shall be designed to minimize erosion during construction and shall be implemented for the duration of the grading period and until re-graded areas have been stabilized by structures, long-term erosion control measures or permanent landscaping. The Owner/Applicant shall submit the SWPPP, SWMP or ESCP using Best Management Practices (BMP) designed to stabilize the site, protect natural watercourses/creeks, prevent erosion, convey storm water runoff to existing drainage systems keeping contaminants and sediments onsite. The SWPPP or ESCP shall be a part of the Grading Plan submittal and will be reviewed for its technical merits by P&D. Information on Erosion Control requirements can be found on the County web site re: Grading Ordinance Chapter 14 http://sbcountyplanning.org/building/grading.cfm) refer to Erosion and Sediment Control Plan Requirements; and in the California Green Code for SWPPP (projects greater than 1 acre) and/or SWMP requirements.

PLAN REQUIREMENTS: The grading and SWPPP, SWMP and/or ESCP shall be submitted for review and approved by P&D prior Zoning Clearance. The plan shall be designed to address erosion, sediment and pollution control during all phases of development of the site until all disturbed areas are permanently stabilized. **TIMING**: The SWPPP requirements shall be implemented prior to the commencement of grading and throughout the year. The ESCP/SWMP requirements shall be implemented between November 1st and April 15th of each year, except pollution control measures shall be implemented year round.

MONITORING: P&D staff shall perform site inspections throughout the construction phase.

3.11.7 Residual Impacts

With the implementation of MM GEO-02.1, residual impacts related short- and long-term erosion impacts would be less than significant. Mitigation measure GEO-02.1 identifies applicable local (i.e., County Grading Ordinance) and State (i.e., Storm Water Pollution Prevention Plan) requirements that would ensure the Project's potential short- and long-term erosion and sedimentation impacts are reduced to a less than significant level.

3.12 WATER QUALITY

3.12.1 Existing Conditions/Baseline Setting

The proposed water reservoir sites are undeveloped and have previously been used for agriculture and cattle grazing. The sites are generally level and slope gently to the east and north towards small unnamed ephemeral drainage channels that ultimately discharge to the Cuyama River, which is approximately 4,000 feet north and northeast of the proposed reservoir sites. Vegetation at and near the reservoir sites is sparse and consists predominately of non-native weeds and annual grasses, although some native plant species are also present. Since the proposed project sites are undeveloped, they are not a substantial source of pollutants that have the potential to adversely affect water quality.

3.12.2 Regulatory Framework

3.12.2.1 Federal

Clean Water Act. The Clean Water Act (CWA) was adopted in 1972 and provides the regulatory framework for surface water quality protection. The United States Congress amended the CWA in 1987 to specifically regulate discharges to waters of the U.S. from public storm drain systems and storm water flows from industrial facilities, including construction sites, and requires such discharges be regulated through permits under the National Pollutant Discharge Elimination System (NPDES) permit process. NPDES permitting authority is administered by the California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs).

3.12.2.2 State

State General Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit). The State Water Resources Control Board (SWRCB) adopted the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) in 2009. In accordance with NPDES regulations, the state of California requires that any construction activity disturbing one acre or more of soil comply with the Construction General Permit. To obtain authorization for proposed stormwater discharges pursuant to this permit, the landowner (discharger) is required to submit a Notice of Intent (NOI), risk assessment, site map, SWPPP, annual fee, and signed certification statement to SWRCB. Dischargers are required to implement Best Management Practices (BMPs) meeting the technological standards of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate stormwater

pollution. BMPs include programs, technologies, processes, practices, and devices that control, prevent, remove, or reduce pollution. Permittees must also maintain BMPs and conduct inspection and sampling programs as required by the permit. Dischargers are also required to comply with monitoring and reporting requirements to ensure that discharges comply with the numeric action levels and numeric effluent limitations specified in the permit.

CWA Section 303(d) List of Water Quality Limited Segments. Under Section 303(d) of the CWA, states are required to identify water bodies that do not meet specified water quality standards. Once a water body has been listed as impaired, a Total Maximum Daily Load (TMDL) for the constituent of concern (pollutant) must be developed for that water body. A TMDL is an estimate of the daily load of pollutants that a water body may receive from point sources, non-point sources, and natural background conditions, without exceeding its water quality standard. TMDLs are intended to bring receiving water bodies into compliance with water quality objectives for their designated beneficial use, and hence, delisting from the 303(d) Impaired Water Bodies List.

The State Water Resources Control Board – Central Coast Region's Final California 2014 and 2016 Integrated Report (303d) list identifies the Cuyama River segment above Twitchell Reservoir as an impaired water quality segment. Pollutants of concern include boron, chloride, fecal coliform, pH, sodium, specific conductivity, and turbidity (sediment). TMDLs for these pollutants were adopted in 2005 and 2013.

3.12.2.3 County

County of Santa Barbara Grading Code. Chapter 14 of the County Code is the Santa Barbara County Grading Code. The Grading Code identifies minimum standards and procedures necessary to protect and preserve life, limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, location, and maintenance of grading, drainage, erosion, and sediment control within the County. The code also addresses compliance with the NPDES Phase II stormwater regulations and sets forth local stormwater requirements for the disturbance of less than one acre of soil to avoid pollution of water courses and drainage ways with sediments or other pollutants generated on or caused by surface runoff on or across a construction site.

An Erosion and Sediment Control Plan may be required as part of a Grading Plan and permit requirements under the requirements of Chapter 14. Erosion and Sediment Control Plans are designed to minimize erosion during construction and would be implemented for the duration of the grading period and until re-graded areas have been stabilized by structures, long-term erosion control measures, or permanent landscaping. The Erosion and Sediment Control Plan must include County approved best management practices to stabilize the site, protect natural watercourses/creeks, prevent erosion, and convey storm water runoff to existing drainage systems keeping contaminants and sediments onsite.

3.12.3 Thresholds of Significance

This section identifies the thresholds of significance used to evaluate the Project's potential water quality impacts.

Santa Barbara County CEQA Thresholds

Would the Project result in the:

j) Substantial degradation of groundwater quality including saltwater intrusion?

l) Introduction of storm water pollutants (e.g., oil, grease, pesticides, nutrients, sediments, pathogens, etc.) into groundwater or surface water?

CEQA Guidelines Appendix G

Would the Project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in substantial erosion or siltation on- or off-site.

3.12.4 Impact Discussion

This analysis of potential water quality impacts has been added to the DEIR because the August 1, 2018, Final MND prepared for the Project (DEIR Appendix B.1) determined that construction of the proposed reservoirs would have the potential to result significant short-term water quality impacts. Those impacts, however, would be reduced to a less than significant level with the implementation of mitigation requirements identified by the Final MND.

The analysis of the potential for the proposed Project to result in significant water quality impacts is based on a review of proposed Project plans. The Project plans identify methods that would be used to minimize Project-related water quality impacts, including the installation and maintenance of erosion control measures as required by state and local regulations, the installation and use of vehicle wash-out facilities, and revegetation of areas disturbed by construction operations.

Impact WQ-1 Potential Water Quality Impacts

Short-Term Impacts. Project-related grading activities would disturb a total of approximately 15 acres and have the potential to result in temporary increases in erosion and sedimentation from disturbed areas, cuts and fills, and soil stockpiles. Therefore, the proposed grading activities have the potential to result in significant impacts to the quality of stormwater runoff that enters nearby drainage channels. In addition, the short-term use of concrete and other substances (i.e., vehicle fuels and oil) at the project sites also has the potential to result in short-term water quality impacts in the event of an uncontrolled release.

To minimize the Project's potential short-term erosion and sedimentation impacts to runoff water quality, the Project proposes to implement a variety of erosion/sedimentation control Best Management Practices. These measures include the use of silt fences and straw bales, and the maintenance of proposed erosion control measures throughout the rainy season (October 15

through April 15). In addition, proposed MM GEO-02.1 identifies specific erosion control requirements that implement the SWRCB Construction General Permit and County Grading Ordinance that would stabilize the project site soils and prevent erosion, protect watercourses located near the project sites, convey storm water runoff to existing drainage channels, and keep potential contaminants on-site. With the implementation of these requirements, the proposed Project's potential erosion-related water quality impacts would be reduced to a **less than significant** level.

To minimize the Project's potential short-term water quality impacts that may result from an uncontrolled release of construction-related material and pollutants, the SWRCB Construction General Permit requires the preparation and implementation of a SWPPP. The SWPPP is required to identify "good housekeeping" BMPs to prevent and contain spills, leaks, and off-site discharge of construction debris and waste. In addition, proposed MM WQ-01.1 specifies requirements for the design and operation of a construction equipment fueling and storage area that would contain spills and facilitate proper equipment clean-up; and proposed MM WQ-01.2 specifies requirements for an area(s) to be used for the washing of concrete trucks, equipment, and other similar activities. With the implementation of these requirements, the proposed Project's potential surface water and groundwater quality impacts that could result from the release of hazardous substances would be reduced to a **less than significant** level.

Long-Term Impacts. The operation of the proposed reservoirs would not require the use of fertilizers or other substances that would have the potential to result in significant water quality impacts. In addition, proposed MM BIO-01.7 would prohibit the use of pesticides, herbicides, and rodenticides at the project sites.

Erosion from proposed reservoir water impoundment berms would have the potential to be a long-term source of erosion and sediment impacts to drainage channels adjacent to the project sites. This potential impact would be reduced to a less than significant level by the proposed application and maintenance of an erosion control seed mix on the reservoir berms, and through compliance with the County Grading Ordinance. In addition, proposed MM GEO-02.1 requires the preparation and implementation of a Stormwater Management Plan and/or Erosion and Sediment Control Plan that would minimize the potential for long-term erosion and sedimentation impacts. Therefore, potential long-term erosion water quality impacts of the Project would be reduced to a **less than significant** level.

3.12.5 Cumulative Impacts

As presented in Section 3.12.4 of this DEIR, the proposed Project would have potentially significant but mitigable short-term water quality impacts related to possible increases in erosion and sedimentation, and the potential for an uncontrolled release of hazardous materials to the environment. Those impacts would be reduced to a less than significant level with the implementation of MM GEO-02.1, MM WQ-01.1, and MM WQ-01.2. CEQA Guidelines Section 15130 requires that an EIR discuss cumulative impacts to identify whether a proposed project's incremental effects are significant when viewed in connection with the effects of past, current, and probable future projects. Chapter 4.0 of this Draft EIR includes additional details regarding the Project's cumulative water quality impacts. Based upon the results of that analysis, it can be

determined that with the implementation of the mitigation measures described below, along with the implementation of existing regulatory requirements to minimize erosion and other water quality impacts, cumulative effects related to water quality would be **less than significant**.

3.12.6 Mitigation Measures

MM WQ-01.1 Equipment Storage-Construction. The Owner/Applicant shall designate a construction equipment filling and storage area(s) to contain spills, facilitate clean-up and proper disposal and prevent contamination from discharging to the storm drains, street, drainage ditches, creeks, or wetlands. The areas shall be no larger than 50 x 50 foot unless otherwise approved by P&D and shall be located at least 100 feet from any storm drain, water body or sensitive biological resources**. PLAN REQUIREMENTS:** The Owner/Applicant shall designate the P&D approved location on all plans for zoning clearance, grading and building permits. **TIMING:** The Owner/Applicant shall install the area prior to commencement of construction.

MONITORING: P&D compliance monitoring staff shall ensure compliance prior to and throughout construction.

MM WQ-01.2 Equipment Washout-Construction. The Owner/Applicant shall designate a washout area(s) for the washing of concrete trucks, paint, equipment, or similar activities to prevent wash water from discharging to the storm drains, street, drainage ditches, creeks, or wetlands. Note that polluted water and materials shall be contained in this area and removed from the site daily. The area shall be located at least 100 feet from any storm drain, water body or sensitive biological resources. **PLAN REQUIREMENTS**: The Owner/Applicant shall designate the P&D approved location on all zoning clearance, grading and building permits. **TIMING:** The Owner/Applicant shall install the area prior to commencement of construction.

MONITORING: P&D compliance monitoring staff shall ensure compliance prior to and throughout construction.

4 Other CEQA Considerations

The CEQA Guidelines Section 15126.2 et al. requires consideration and discussion of certain mandatory topics in an EIR. Some of these topics are discussed in Chapter 3, Environmental Impact Analysis. These topics are summarized in this section, as well as discussion of other required topics, including:

4.1 Cumulative Impacts
4.2 Significant Unavoidable Environmental Impacts
4.3 Energy Conservation
4.4 Growth-Inducing Impacts, and
4.5 Effects Found Not to Be Significant.

4.1 Cumulative Impacts

CEQA Guidelines § 15130 requires EIRs to discuss cumulative impacts when the project's incremental effects are significant when viewed in connection with the effects of past, current, and probable future projects. CEQA further states that such discussion must reflect the severity of the impact and the likelihood of occurrence, but not in as great a level of detail as that necessary for the impacts of the project alone. CEQA Guidelines § 15355 defines cumulative impacts to be "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."

CEQA Guidelines § 15130(b) (1) requires that information from one of the following two sources must be included when analyzing significant cumulative impacts:

1. A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or
2. A summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency.

4.1.1 Scope and Methodology

~~At the September 12, 2018 Planning Commission hearing and the subsequent appeal hearing at the Board of Supervisors on February 5, 2019, P&D staff was directed to prepare an EIR to evaluate the Project's groundwater use, potential impacts to sensitive biological resources, and potential Highway 166 flooding impacts from operation of the three reservoirs. Thus, this~~

~~cumulative analysis only includes a discussion of cumulative impacts related to these three specific issues areas.~~

~~While, t~~The proposed Project is located in Santa Barbara County, however, it is also in proximity to San Luis Obispo, Kern, and Ventura Counties, so past, present, and probable future projects from all four counties were considered. Review of San Luis Obispo, Kern, and Ventura Counties' cumulative project lists confirmed that there are no past, current, or future discretionary projects in these counties that are near the proposed Project or have the potential to result in a cumulative impact (SLO 2021, KC 2021, & VC 2021). Additionally, the P&D cumulative project list, updated January 2021, also has no discretionary projects listed in the Cuyama Valley (SBC Cumulative Projects 2021). In order to consider impacts from development within the Cuyama Valley, this analysis also considers ~~ministerial~~ projects in Santa Barbara County related to existing, planned, and proposed cannabis operations in the Cuyama Valley that could result in related or cumulative impacts. These projects are listed in Table 4.1 and will be considered in this cumulative analysis. Figure 4-1 shows the geographic location of the proposed Project in relation to the projects listed in Table 4.1.

~~As mentioned, cannabis cultivation projects generally do not require discretionary review; however, these~~ Cannabis projects are required to comply with the Santa Barbara County Land Use Development Code (LUDC). Section 35.42.075, Cannabis Land Use Ordinance describes regulations for cannabis operations (SBC §35.42.075). The proposed cannabis operations listed in Table 4.1 are all located on land zoned AG-II-100. As noted in §35.42.075, these facilities are required to obtain a Land Use Permit (LUP). The County's LUP application process requires confirmation that there are no significant environmental impacts associated with the cultivation operations. These requirements address impacts to/from the following: archaeological and paleontological resources, site security, landscaping and screening, lighting, noise, odors, signage, transportation, waste disposal, and water efficiency. Specific to biological resources, if a proposed cannabis operation could impact native vegetation or other vegetation in an area that has been identified as having the potential of supporting special status wildlife species, nesting birds, or a Federal or State-listed special-status plant species, then the applicant must prepare and submit to P&D for review and approval a Tree Protection, Habitat Protection, and/or Wildlife Movement Plan, as applicable. These plans must demonstrate that all impacts are reduced to less than significant levels in order for permit processing to advance.

The County prepared a Programmatic EIR (PEIR) to evaluate the range of potential impacts associated with cannabis operations. The following cumulative analysis was prepared using the analysis included in ~~Section 3.8 Hydrology and Water Resources and Section 3.4 Biological Resources of~~ the Final PEIR Cannabis Land Use Ordinance and Licensing Program. This PEIR analyzed potential impacts of the Cannabis Licensing Program and identified P&D-accepted mitigation measures. Additionally, the Final PEIR also addressed potential cumulative impacts of cannabis projects (SBC PEIR 2017).

The following section includes a discussion of how the Project could potentially create a cumulative impact when combined with the pending permits listed in Table 4.1.

4.1.2 Cumulative Impact Analysis

4.1.2.1 Biological Resources

As mentioned in Section 3.7.5 of this DEIR, the proposed reservoir sites have been extensively disturbed, and one of the sites (Reservoir No. 3) supports native grassland at the southern edge. The other two sites are unlikely to contain or support sensitive plant or wildlife species. Construction of Reservoir No. 3, as proposed, would result in a significant long-term impact on native grasslands, but is unlikely to affect sensitive wildlife species. Impacts on native grasslands would be reduced to less than significant with implementation of proposed mitigation measures. Although unlikely, Project-related construction activities would have the potential to result in significant short-term effects on sensitive wildlife if individuals are present during construction. Those temporary impacts would be reduced to a less than significant level with implementation of proposed mitigation measures. The long-term operation of the proposed reservoirs would not significantly impact biological resources located on or near the Project site.

The LUDC requires that any cannabis project that involves the removal of native vegetation or any other vegetation that could negatively impact special-status plant or wildlife species must submit plans to address these impacts(SBC §35.42.075.C.8). Per the PEIR, through implementation of mitigation measures like the requirement above, there will be a less than significant cumulative impact from proposed cannabis operations (SBC PEIR 2017). Additionally, as shown in Figure 4.1 the proposed cannabis operations are dispersed throughout the Cuyama Valley with some projects over 20 miles from the proposed Project site. This wide geographic spread of the proposed cannabis projects will further minimize any potential cumulative impacts to biological resources.

Based upon the results of this analysis, it can be determined that due to the remote location of the proposed Project in relation to proposed cannabis cultivation in the Cuyama Valley, cumulatively considerable effects on biological resources and the project's contribution to biological resource impacts would be **less than significant** with the implementation of proposed **Mitigation Measures (MM) BIO-01 through BIO-02.**

4.1.2.2 Flooding

As presented in Section 3.8.3 of this DEIR, the proposed Project will have a potentially significant but mitigable impact related to exposure of people or property to flooding hazards resulting from operation of the three reservoirs. The LUDC requires that cannabis facilities submit building and drainage plans, as applicable; and cannabis projects and the proposed Project are dispersed throughout the Cuyama Valley. Flooding concerns are typically site specific, so given the small scale and the dispersed nature of the cannabis facilities in relation to the proposed Project, the potential for cumulative impacts related to flooding are less than significant (SBC PEIR 2017). Additionally, as shown in Figure 4.1 the proposed cannabis operations are located throughout the Cuyama Valley with some projects over 20 miles from the proposed Project site. This wide geographic spread of the proposed cannabis projects will further minimize any potential cumulative flooding impacts. Therefore, since the proposed Project was determined to have less than significant impacts related to flooding hazards with the implementation of **MMs FLOOD-01 through FLOOD-03**, potential flooding impacts from past, present, and future development in

the proposed Project area would not occur and cumulative impacts would be **less than significant**.

4.1.2.3 Water Use

As presented in Section 3.9.3 of this DEIR, the proposed Project is determined to have **a potentially significant but mitigable impact** on groundwater extractions. The Project's potential water use impacts can be reduced to a less than significant level with the implementation of identified mitigation measures that will reduce the Project's water use to below the County's significance threshold of 31 AFY, which is applicable to both project-specific and cumulative water use impacts.

Like the proposed Project, the cannabis projects listed in Table 4.1 are all within the Cuyama Groundwater Basin. The LUDC requires that proposed cannabis projects employ measures to maximize water use efficiency. These measures include, but are not limited to, soil moisture monitors, evaporative barriers on exposed pots and soils, and timed drip irrigation (SBC §35.42.075). These measures were developed in the Final PEIR to minimize impacts to the Cuyama Groundwater Basin and other groundwater basins in the County. Implementation of these measures is required for permit approval, issuance, and compliance.

The Final PEIR determined that the water demand of cannabis projects, when combined with the development of other cumulative development, has the potential to increase water demand in basins that are already in overdraft status. The cannabis projects, however, would be subject to review under the County's Land Use Permit and Development Plan processes, which would ensure compliance with Comprehensive Plan policies and LUDC development standards. As part of the County's review of cannabis projects, individual projects are evaluated to determine if their water use would be below the 31 AFY significance adopted for the Cuyama groundwater basin. Proposed cannabis projects that use less than 31 acre feet of water would result in a less than significant water use impact on a project-specific and cumulative basis. In addition, required water use approvals and conservation measures would continue to prevent the significant loss or degradation of important water resources within the County.

In addition, the Cuyama Groundwater Sustainability Plan (GSP) will require that water use in the Cuyama Groundwater Basin be managed sustainably, and may include restrictions on water use, if needed. The implementation of an approved GSP would further reduce the effects of groundwater use by cumulative development that would extract water from the Cuyama Groundwater Basin.

Based on analysis included in the PEIR, which concluded that the combined effects of cannabis projects and other cumulative development projects would result in less than significant hydrology impacts; County review requirements of cannabis project water use demands; and the implementation of an approved GSP for the Cuyama Groundwater Basin, cumulative water use impacts of the proposed Project and other agricultural projects in the Cuyama Valley would be **less than significant.**

4.1.2.4 Cultural and Tribal Cultural Resources

As presented in Section 3.10.4 of this DEIR, the proposed Project would have potentially significant but mitigable impacts on cultural and tribal cultural resources. These potentially significant impacts would be reduced to a less than significant level with the implementation of **MM CUL-01.1, MM CUL-01.2, and MM CUL-01.3.** Cumulative development projects in Cuyama Valley region generally consist of proposed cannabis cultivation operations, and those projects also have the potential to encounter cultural and tribal cultural resources. However, the County reviews cannabis permit operation applications to ensure compliance with applicable regulations, including LUDC Section 36.42.075.C.1. This section requires that commercial cannabis activities located on lots that have not been subject to prior archaeological or paleontological surveys in accordance with the County's current Cultural Resource Guidelines submit a Phase 1 cultural resource study documenting the absence or presence of cultural resources on and near the proposed cannabis project site. If current or previously conducted Phase 1 studies indicate that archaeological or other cultural sites are located on or near the cannabis project area, the applicant shall prepare and submit documentation demonstrating that the resources will be protected in accordance with applicable cultural resource protection policies. Compliance with applicable regulatory requirements minimizes the potential for proposed cannabis cultivation operations to result in cumulative impacts to cultural and tribal cultural resources (SBC PEIR, 2017). Therefore, since the proposed Project would have less than significant impacts to cultural and tribal cultural resources with the implementation of proposed mitigation measures, its potential impacts would not be cumulatively considerable and the potential for significant cumulative impacts to cultural and tribal cultural resources would be **less than significant.**

4.1.2.5 Geologic Processes

As presented in Section 3.11.4 of this Revised DEIR, the proposed Project would have potentially significant but mitigable geologic process impacts related to possible increases in short- and long-term erosion and sedimentation. The proposed Project would not increase the population in the project region and would not have the potential to increase the number of people exposed to potential geological hazards such as seismic events, landslides, liquefaction, or other soils-related hazards. Cumulative development projects in the Cuyama Valley region generally consist of proposed cannabis cultivation operations. Those projects could have the potential to result in ground disturbances and related erosion impacts, however, the County reviews cannabis permit operation applications to ensure compliance with applicable regulations, including the County Grading Ordinance. Compliance with applicable regulatory requirements minimizes the potential for proposed cannabis cultivation operations to result in cumulative soil-related impacts (SBC PEIR, 2017). Therefore, since the proposed Project would have less than significant geologic process impacts with the implementation of **MM GEO-02.1**, its potential erosion-related impacts would not be cumulatively considerable and the potential for significant cumulative erosion-related impacts in the project region would be **less than significant.**

4.1.2.6 Water Quality

As presented in Section 3.12.4 of this DEIR, the proposed Project would have the potential to result in significant short- and long-term water quality impacts. These potentially significant impacts can be reduced to a less than significant level with the implementation of **MMs WQ-01.1, WQ-01.2, GEO-02.1, and BIO-01.7.** Cumulative development projects in the Cuyama Valley region generally consist of proposed cannabis cultivation operations. Those projects could have the potential to result in ground disturbances and associated water quality impacts, however, the County reviews cannabis permit operation applications to ensure compliance with applicable regulations, including the County Grading Ordinance. Compliance with applicable regulatory requirements minimizes the potential for proposed cannabis cultivation operations to result in cumulative erosion-related impacts and the potential for the degradation of important water resources (SBC PEIR, 2017). With the implementation of proposed mitigation measures the Project's potential short-term construction and long-term operation water quality impacts would not be significant, the Project would not violate water quality standards (TMDLs) adopted to reduce sediment loads in the Cuyama River, and the Project would not contribute to potential water quality impacts related to pesticide use. Therefore, the proposed Project's potential water quality impacts would not be cumulatively considerable and the potential for significant cumulative short-term water quality impacts in the Project region would be **less than significant.**

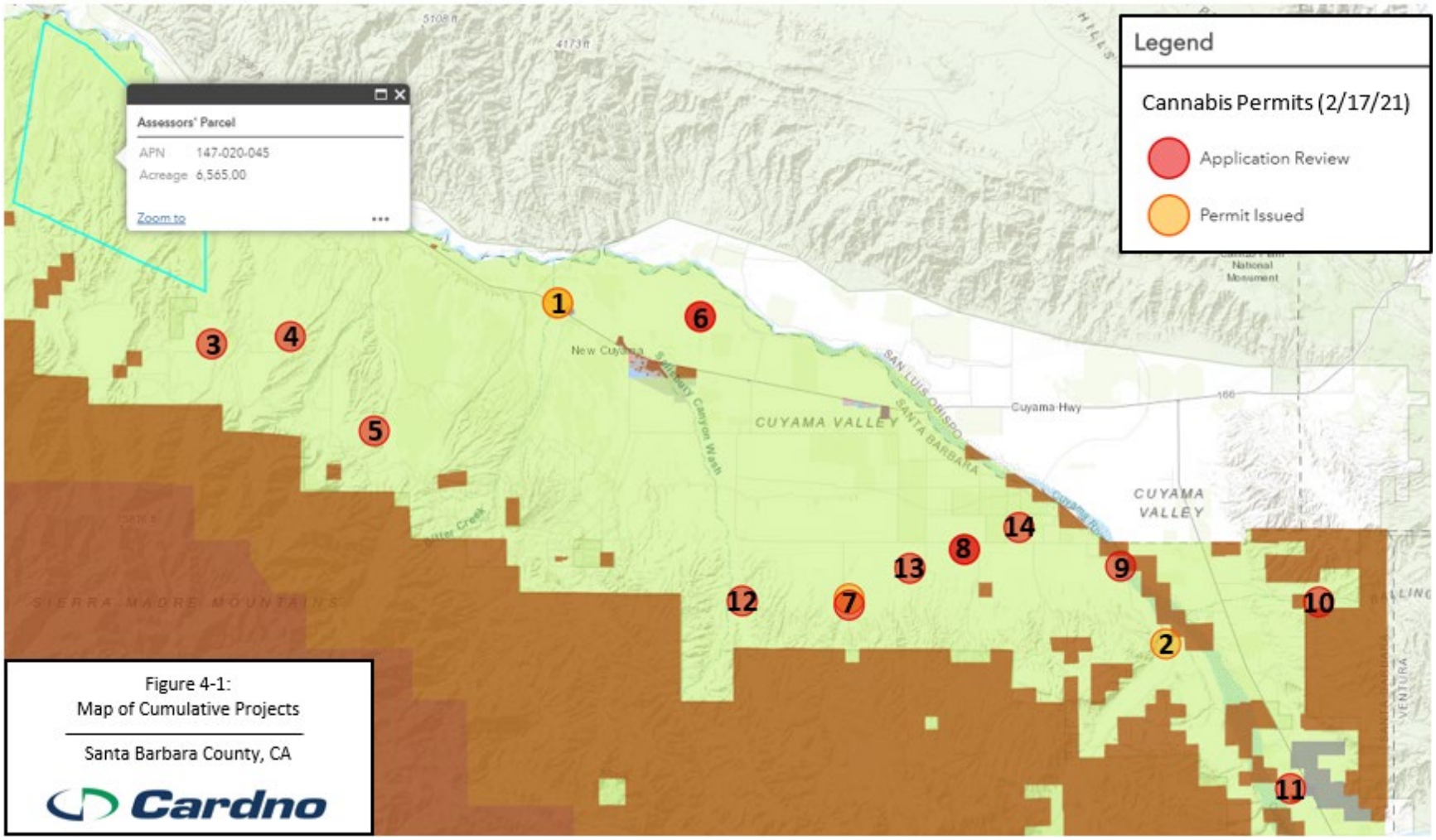
Table 4-1 Cumulative Project List

Project	Location	APN	Acres	Size / Description	Status
1. Sadiq Family Trust Cannabis Cultivation 18LUP-00000-00307 19PMC-00000-00011	5925 Highway 166, Cuyama, CA 93212	147-030-024	0.92	Approximately 10,000 square feet (sf) of outdoor cannabis cultivation within five hoop structures. No grading required and cultivation site served by proposed on-site well.	LUP: Closed PMC: Monitoring in Progress
2. EVO Gardens LLC Cannabis Cultivation 19LUP-00000-00058, 19PMC-00000-00043	2300 Santa Barbara Canyon Road, Ventucopa, CA	149-170-039	40.00	Approximately 2.0 acres of outdoor cannabis cultivation; mixed-light cultivation, packaging, drying, and processing within four 2,760 sf greenhouses; product and chemical storage within four 360 sf cargo containers; miscellaneous agricultural storage within four existing sheds and agricultural storage structures of 250, 405, 180, and 185 sf, respectively; and a fenced composting area located northeast of the outdoor cultivation area. No grading or tree removal proposed. Parcel served by existing well.	LUP: Closed PMC: Monitoring in Progress
3. Cuyama Farm LLC Cannabis Cultivation 18LUP-00000-00528	Wasioja Road, New Cuyama, CA	147-090-055	26.39	Outdoor cannabis cultivation operation on approximately five acres. Cultivation area consists previously farmed land currently occupied by annual grassland. Habitat Protection Plan for special status species on-site. Water for cultivation and employee use provided by an existing well. One existing 5,000-gallon water tank and two proposed 10,000-gallon water tanks for water supply storage.	LUP: In Review
4. Good Sense LLC Outdoor Cannabis Cultivation 20LUP-00000-00048	1508 Wasioja Road, New Cuyama, CA 93214	147-100-004	312.97	17.5 acres of outdoor cannabis cultivation, use of an existing 2,500-gallon water tank, and four new 2,500-gallon tanks. Water supplied by existing water well. With the exception of the four new water tanks, no new structures or hoops are proposed.	In Review
5. Sunshine Organics LLC Outdoor Cannabis Cultivation 20LUP-00000-00050	Aliso Park Road, Cuyama, CA	147-100-024	120.00	175 acres of outdoor cannabis cultivation on four legal lots. All processing activities on-site (drying, trimming, packing). Water supplied by existing private agricultural well.	In Review

Project	Location	APN	Acres	Size / Description	Status
6. Cuyama Greens Cannabis Cultivation 19LUP-00000-00306	Russell Ranch Road, CA	149-310-004	100.00	Cannabis cultivation on 40 acres within hoop structures, drying, trimming, packaging and distribution in an existing 2,400 sf barn.	In Review
7. Santa Barbara Cultivation Inc. 18LUP-00000-00461 20PMC-00000-00029	251 Castro Canyon Road New Cuyama, CA 93254	149-140-075	20.30	15,200 sf of eight new greenhouse structures (each 1,900 sf) for indoor, mixed-light cannabis cultivation, 39,400 sf of outdoor cultivation, and a new 2,400 sf structure for processing, vegetation, storage, office, restroom, and employee break room. Also requesting approval of existing 1,461 sf residence (not part of the cannabis operation), 170 sf shipping storage container, two 2,500-gallon water tanks, and 120 sf nutrients and pesticide storage structure. Parcel served by a private well.	LUP: Closed PMC: In Review
8. Orange Coast Farms Outdoor Cannabis Cultivation 19LUP-00000-00327 21PMC-00000-00005	2225 Foothill Road, New Cuyama, CA 93454	149-160-033	78.27	Approximately 14.86 acres of outdoor cannabis cultivation and 2,880 sf of mixed-light nursery cannabis cultivation for a total of approximately 14.93 aces of cannabis cultivation. No grading or removal of any native vegetation or specimen trees. No existing structures. Water service provided by two existing water wells.	LUP: Appeal Filed PMC: In Review
9. Melabes Corporation Cannabis Cultivation 19LUP-00000-00321	Santa Barbara Canyon Road, CA	149-170-030	60.00	Outdoor cannabis cultivation of 250,000 sf in aboveground smart pots and nursery area of 5,000 sf. Construction of a new 8000 sf processing building, placement of four 320 sf storage containers (total of 1,280 sf), new 2,000 sf office building, and demolition of four existing structures. Installation of one 5,000-gallon water tank, back- up generator, and four solar panels. Water service provided by an existing water well.	Closed
10. Jolly Farms Inc. Cannabis Cultivation & Non-Volatile Processing 18LUP-00000-00463	890 Ballinger Canyon Road Cuyama, CA 93214	149-180-010	260.53	Indoor and outdoor cannabis cultivation, nursery and non-volatile processing. Indoor cultivation and nursery growth in two existing structures (5,050 sf and 2,400 sf). Approximately 190,000 sf (4.5 acres) will be devoted to outdoor cultivation and occur in three on-site separate locations. Water service from existing well and septic system.	In Review

Project	Location	APN	Acres	Size / Description	Status
11. Cuyama Farms LLC Outdoor Cannabis Cultivation 19ZCI-00000-00195	3700 Highway 33 New Cuyama, CA 93254	149-230-010	118.75	Approximately 30 acres of outdoor cannabis cultivation and 10,000 sf of mixed-light nursery cannabis cultivation for a total of 30.23 acres of cannabis cultivation. All processing activities (drying, trimming, and packaging) will occur offsite. Nursery cultivation will occur within a proposed 10,000 sf greenhouse. No grading or removal of any native vegetation or trees. Water service provided by an existing agricultural water well.	Withdrawn - Closed
12. Salisbury Canyon Ranch, LLC – Outdoor Cannabis Cultivation 21LUP-00000-00025	Bell Road, CA	149-140-052	195	Approximately 195 acres of outdoor cannabis cultivation including 0.5-acre nursery with hoop houses. Two 3,000 sf pole barns for cannabis loading and equipment storage, 1,050 sf pole barn for nursery operations, 1440 sf office, 36 sf security kiosk, seven 5,000-gallon tanks, and a 320 sf storage container.	In Review
13. Cuyama Farms LLC Outdoor Cannabis Cultivation 20LUP-00000-00199	2011 Foothill Road, Cuyama, CA 93214	149-160-001	320.07	105.38 acres of outdoor cultivation in hoops. Proposed 320 sf security office, 330 sf restroom structure, and 160 sf pesticide storage container. Served by existing water well, and installation of a private on-site wastewater treatment system for sewage disposal.	In Review
14. SBC Farms LLC Outdoor Cannabis Cultivation 20LUP-00000-00423	1150 Foothill Road, Cuyama, CA 93214	149-150-023	158.16	Approximately 103 acres of cannabis cultivation in hoop structures with a maximum height of 20 feet. Water-conserving features including timed drip irrigation and soil moisture monitors. Served by an existing well on the north block and existing 2,000-gallon and 4,200-gallon water tanks.	In Review

Source: County of Santa Barbara, P&D. 2021. Accela Citizen Access Portal. https://aca.sbcountyplanning.org/CitizenAccess/, Accessed February 17, 2021.



Source: County of Santa Barbara, P&D. 2020. P&D Interactive Map for Cannabis. https://sbcopad.maps.arcgis.com/apps/webappviewer/index.html?id=f287d128ab684ba4a87f1b9cff438f91, Accessed February 11, 2021.

Figure 4-1 Map of Cumulative Projects

4.2 Significant Unavoidable Environmental Impacts

The environmental impact analysis presented in Chapter 3 discloses the environmental impacts of the proposed Project. No significant and unavoidable impacts have been identified.

4.3 Energy Conservation

In 1975, Assembly Bill 1575 was adopted by the State Legislature, creating the California Energy Commission and amending Public Resources Code Section 21100(b)(3) to require EIRs to examine wasteful, inefficient, and unnecessary consumption of energy caused by a proposed project. In response, the State Resources Agency created Appendix F of the CEQA Guidelines to provide guidance on completing this determination. The Final MND (Appendix C.1.) addressed this issue in Section 4.6, Energy and concluded that it is not anticipated that energy use to operate the reservoirs would result in a substantial increase in demand for energy; use energy in a wasteful manner; or require the development of new energy sources. Therefore, Project-related energy use would be **less than significant**. In addition, this section noted that the proposed Project's contribution to the regional demand for energy would not be cumulatively considerable and its cumulative effect would be **less than significant.** Therefore, no mitigation measures are required. The impact discussion provided in the Final MND Section 4.6 meets the requirements set forth in State CEQA Guidelines Appendix F.

4.4 Growth-Inducing Impacts

CEQA Guidelines § 15126(d) requires that an EIR "discuss the growth-inducing impact of the proposed project," including "ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." The Project would not involve any actions that would be growth-inducing. No additional housing would be constructed. Construction of the three reservoirs would not foster economic or population growth in the surrounding area, because the project would not result in additional housing, would not remove obstacles for future development, or result in generation of substantive additional workforce that would need housing. Thus, no growth-inducing impacts would occur.

4.5 Effects Found Not to Be Significant

This DEIR has been prepared consistent with the requirements of CEQA Guidelines Section 15128 (Effects Not Found to be Significant), which states:

"An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. Such a statement may be contained in an attached copy of an Initial Study."

The August 1, 2018, Initial Study/Mitigated Negative Declaration (IS/MND) prepared for the Project evaluated the potential for it to result in significant environmental impacts. That analysis indicates reasons why certain possible environmental effects of the Project were determined to

be less than significant and are not discussed in detail in this Revised Draft EIR. A summary of the analysis included in the IS/MND for environmental issue areas determined to be less than significant is provided below.

This Revised DEIR section also includes updated Greenhouse Gas (GHG) Emissions analysis to address new significance thresholds adopted by the County in 2021, and updated Transportation/Circulation analysis to address a new vehicle miles travelled threshold adopted by the County in 2020. The updated analyses conclude that the Project's greenhouse gas and transportation impacts remain less than significant impacts under the updated thresholds.

4.5.1 Aesthetics/Visual Resources

Project-Specific Impacts. The proposed reservoirs would be constructed by excavating soil below existing grade and using the excavated soil to construct berms that would impound stored water. The height of the water impoundment berms would vary but in general would be approximately three to 20 feet above the adjacent ground surface. Vegetation consisting of an approved erosion control seed mix would be applied to the outside surfaces of the berms for erosion control purposes. The proposed water delivery pipelines that would extend between the reservoirs and existing irrigation water pipelines would be below ground and not visible.

The proposed reservoirs would result in the construction of new above ground facilities that would be visible from public viewing locations such as State Highway 166. Due to the setback distances between the three reservoir sites and State Highway 166 the reservoirs would not be prominently visible to persons traveling on the highway. Grading required to construct the reservoirs would not result in the creation of grading scars or other alterations to existing topography or vegetation that would result in a significant visual impact. Erosion control planting on the reservoir berms would help to make the appearance of the berms blend with undisturbed areas near the reservoir sites. The proposed reservoir berms would have a maximum height of approximately 20 feet above surrounding grade and would not adversely affect existing views of the Sierra Madre Mountains to the south of the project site from public viewpoints such as State Highway 166. No nighttime lighting would be used at the project sites. Therefore, the Project would not obstruct a scenic vista, substantially change the visual character of the project sites, or result in structures that are incompatible with surrounding open space and agricultural uses. Therefore, the Project's aesthetic/visual resource impacts would be **less than significant**.

Cumulative Impacts. Proposed grading to construct the three reservoirs would result in relatively minor alterations to the topography of the project sites, and the Project would not result in the development of new buildings or structures that would be incompatible with surrounding land uses. Therefore, the Project would not result in cumulatively considerable changes to existing aesthetic/visual resource conditions at the project sites or the project area, and would result in **less than significant** cumulative aesthetic/visual resource impacts.

4.5.2 Agricultural Resources

Project-Specific Impacts. The proposed reservoirs would be used to provide frost protection for approximately 840 acres of grape vines that have been planted near the reservoir sites. The proposed reservoirs would be located on prime (if irrigated) agricultural soils, however, they

would be an agricultural accessory use that supports an irrigated agriculture operation. The proposed reservoirs would not convert prime agricultural land to a non-agricultural use, or impair agricultural land productivity. The project parcel is under an agricultural preserve contract. The proposed Project was reviewed by the Agricultural Preserve Advisory Committee on April 1, 2016 and was found to be compatible with the Uniform Rules for agricultural preserves. Therefore, the Project would not conflict with an agricultural preserve contract, and its impacts to agricultural recourses would be **less than significant**.

Cumulative Impacts. The proposed reservoirs would support the long-term use of the project parcel for irrigated agriculture. Therefore, the Project would not contribute to a cumulatively considerable loss of agricultural resources and its cumulative impacts would be **less than significant**.

4.5.3 Air Quality

Project-Specific and Cumulative Impacts. Short-term emissions of ozone precursors (NO_x and ROC) during Project construction would result primarily from the use of earthmoving equipment. Project-related grading to construct the three proposed reservoirs would require approximately 130,897 cubic yards of cut, and 127,048 cubic yards of fill. Due to soil shrinkage, it is not expected that any excess soil would be exported from the project site. Minor amounts of grading (trenching) would also be required for the installation of approximately 2,326 linear feet of proposed reservoir fill and drain lines. Since short-term construction-related emissions are not considered to result in significant air quality impacts, project-related construction emissions of NO_x and ROC would be **less than significant** on a project-specific and cumulative basis. However, due to the non-attainment status of the air basin for ozone, the Project would be required to implement standard conditions required by the Santa Barbara Air Pollution Control District (APCD) to reduce construction-related emissions of ozone precursors to the extent feasible. The implementation of these standard conditions is routinely required for all new development in the County.

The operation of the proposed reservoirs would not generate a substantial amount of traffic or result in substantial direct or indirect emissions from stationary sources. The Project would not result in industrial or other operations that would have the potential to result in emissions of smoke, ash, or objectionable odors. Therefore, the Project would not be a substantial long-term source of emissions and would result in **less than significant** project-specific and cumulative air emission impacts.

Project-related grading would have the potential to be a short-term source of fugitive dust that could have the potential to impact adjacent agricultural operations. Project-related grading would also contribute to regional emissions of PM_{10} and $PM_{2.5}$. Dust emissions resulting from project-related construction would be reduced to the extent feasible through the implementation of County Grading Ordinance and the Air Pollution Control District requirements, which require the implementation of standard dust control measures. Therefore, short-term dust emissions from project-related grading would be **less than significant** under project-specific and cumulative conditions.

4.5.4 Greenhouse Gas Emissions

Project-Specific Impacts. The proposed reservoirs would not result in an increase in population or the development of land uses that would result in substantial long-term emissions of greenhouse gases. Therefore, the August 1, 2018, IS/MND prepared for the Project determined that long-term GHG emissions that may result from the operation of the reservoirs were included in the County's Energy and Climate Action Plan (ECAP), which was adopted in 2015. The Project's GHG emission were considered to be included in the ECAP because the proposed reservoirs are a conditionally permitted use in the AG-II-100 zone district and consistent with the growth projections for the County. As such, GHG emission impacts that may result from the Project would be mitigated by the 53 emission reduction measures specified in the ECAP. Therefore, the IS/MND prepared for the Project determined that the impact of this individual Project would be **less than significant**.

On January 26, 2021, Santa Barbara County adopted new Interim GHG Emissions Thresholds of Significance, which are recommended for use until completion of the County's 2030 Climate Action Plan. The Interim GHG Thresholds recommend that land use projects be first assessed against a screening threshold of 300 MT CO2e. Projects that would emit less than 300 MT CO2e per year do not require further analysis and are considered to result in a less than significant impact. Short- and long-term GHG emissions that would result from the construction and operation of the proposed reservoirs were estimated using the California Emissions Estimator Model (CalEEMod). The analysis modeling results are included in Appendix F of this Revised DEIR and are summarized below.

Short-term project-related GHG emissions would result primarily from the operation of heavy construction equipment used to construct the reservoirs, and from construction worker commute trips. Long-term emissions were estimated based on the Project's potential water use and energy required to produce well water and to pump it to the reservoirs. The estimated water production impacts assumed the Project's water use would be a maximum of 103 acre feet per year as required by proposed mitigation measure WAT-01 (Frost Protection System Evaporative Loss Reduction Plan).

Construction-related GHG emissions were estimated to be approximately 119 metric tons of CO_2, and those emissions were amortized over a 30-year period. The amortized construction emissions were estimated to be approximately four metric tons of CO_2 per year. Long-term operation-related GHG emissions were estimated to be approximately 38 metric tons of CO_2 per year. Therefore, the Project would result in annual GHG emissions of approximately 42 metric tons of CO_2 equivalents per year, which is substantially below the adopted screening threshold of 300 metric tons per year. Similar to the analysis conclusion included in the August 1, 2018, IS/MND, the construction and operation of the proposed reservoirs would result in a **less than significant** GHG emission impact.

Cumulative Impacts. A project's climate change impacts are examined as a cumulative impact that results not from an individual project's GHG emissions, but rather from GHG emissions emitted on a global scale for many decades and from many different sources. Therefore, analysis of a project's GHG emissions under CEQA focuses solely on the incremental contribution of estimated project emissions. Since the Project's estimated GHG emissions would be below the

screening threshold adopted by the County, the Project's incremental contribution is not cumulatively considerable and would be a **less than significant** cumulative impact.

4.5.5 Energy

Project-Specific Impacts. The proposed Project would result in the construction and operation of three water reservoirs. It is not anticipated that energy use to operate the reservoirs would result in a substantial increase in demand for energy; use energy in a wasteful manner; or require the development of new energy sources. Therefore, the Project's energy use would be **less than significant**.

Cumulative Impacts. The proposed Project would not facilitate population growth in the project area and its contribution to the regional demand for energy would not be cumulatively considerable. Therefore, the Project's cumulative effect would be **less than significant**.

4.5.6 Fire Protection

Project-Specific Impacts. The proposed reservoir Project would not result in the construction of habitable or combustible structures, would not increase the population of the area, would not restrict future wildfire suppression activities, and would not result in a substantial demand for fire protection services. Therefore, the Project would have a **less than significant** impact on fire protection services.

Cumulative Impacts. The proposed Project would not result in a cumulatively considerable increase in the demand for fire protection services and would have a **less than significant** cumulative fire protection impact.

4.5.7 Hazardous Materials/Risk of Upset

Project-Specific Impacts. The proposed Project would result in the development and operation of three water storage reservoirs. The operation of the reservoirs would not result in or require the use of hazardous materials at levels that would have the potential to result in a significant hazard to human health or the environment, and potential short-term construction-related hazardous material use impacts would be reduced to a less than significant level through compliance with applicable regulatory requirements and the implementation of proposed MM WQ-01.1 (Equipment Storage – Construction) and MM WQ-01.2 (Equipment Washout – Construction). Minor amounts of traffic that may be generated by the Project would generally be for maintenance-related purposes, and project-related traffic would not substantially interfere with emergency response capabilities to the project site or to other properties in the project area. Therefore, the Project's potential hazard-related impacts would be **less than significant**.

Cumulative Impacts. The Project would require a minimal use of hazardous materials and would not result in significant impacts with respect to hazardous materials and/or risk of upset. Therefore, the Project would not have a cumulatively considerable effect on safety within the County and the Project's cumulative impact would be **less than significant**.

4.5.8 Historic Resources

Project-Specific Impacts. The proposed Project site does not include any structures that could be considered historical, and the Project would not alter the contextual nature of the site. As a result, **no impacts** to historic resources would result.

Cumulative Impacts. The proposed Project would not affect any historic structures and would have **no impact** related to cumulative historic resource impacts.

4.5.9 Land Use

Project-Specific Impacts. The proposed reservoirs would occupy approximately 15.6 acres of the 6,565-acre project property, and would be used to support an existing agricultural operation. The Project would not result in the removal of any housing or the displacement of any people.

Land uses on and adjacent to the proposed reservoir sites are open space and agriculture, and the project property is zoned AG-II-100. The reservoirs are a conditionally permitted use by the zoning of the project site and would not result in land use conflicts with nearby land uses. The Project would not result in an extension of urban services that could serve new development beyond the proposed Project, and would not result in an increase in the population of the project area.

Construction of the proposed reservoirs would not result in adverse economic or social effects that would have the potential to result in physical changes to existing environmental conditions on the project sites or in the project area. Operation of the reservoirs would require the use of groundwater and the Project's contribution to existing groundwater overdraft conditions in the Cuyama Valley would result from evaporative losses of water from the proposed reservoirs and the use of stored water in the vineyard's existing spray irrigation frost protection system. This potential impact would be reduced to a less than significant level with the implementation of proposed mitigation measure WAT-01 (Frost Protection System Evaporative Loss Reduction Plan). Due to the relatively minor increase in groundwater use that would result from the operation of the reservoirs, the Project would not result in substantial economic or social changes in the project area.

The proposed Project would not result in the development of an incompatible land use; induce substantial population growth or result in the loss of housing; result in the loss of open space; or result in an economic or social effect that would result in a physical change in the environment. Therefore, the Project would result in a **less than significant** land use impact.

Cumulative Impacts. The Project would not result in any significant project-specific land use impacts. The Project would be consistent with the zoning of the project site and would be compatible with surrounding land uses and development. The Project's contribution to cumulative land use impacts would not be cumulatively considerable and its cumulative impacts would be **less than significant**.

4.5.10 Noise

Project-Specific Impacts. The operation of the proposed reservoirs would not result in the generation of noise that would have the potential to result in significant noise impacts to persons

or uses located on or near the proposed reservoir sites. Minor amounts of traffic that may be generated by the Project would generally be for periodic maintenance-related purposes, and such traffic would not substantially increase existing noise conditions along Highway 166. The construction of proposed reservoirs would result in a temporary increase in noise levels at the construction sites. However, no construction activities would occur within 1,600 feet of residences or other sensitive receptors located on or adjacent to the project sites. Therefore, the Project's potential short- and long-term noise impacts would be **less than significant**.

Cumulative Impacts. The Project would not be a substantial source of noise. Therefore, the Project's noise impacts would not be cumulatively considerable and its cumulative impacts would be **less than significant.**

4.5.11 Public Facilities

Project-Specific Impacts. The proposed Project would not result in the development of habitable structures and would not increase population on the project site or in the project area. The Project would not result in a demand for law enforcement, generate additional school-age children, generate solid waste, or be a source of sewage generation.

Stormwater runoff from slopes south of and adjacent to Reservoir No. 1 (the eastern-most reservoir) would be collected in a proposed drainage swale located adjacent to the southern end of the reservoir. The swale would extend to the east away from the reservoir, and when it reaches Schoolhouse Canyon Road, which is east of and adjacent to the reservoir site, the swale would convey collected runoff beneath the roadway through a proposed culvert. The runoff would then be discharged over a proposed rock energy dissipater at a site approximately 50 feet east of the road and allowed to sheet flow across native soil towards Schoolhouse Canyon Creek. The proposed drainage culvert beneath Schoolhouse Canyon Road would not substantially alter existing runoff characteristics or result in significant impacts to Schoolhouse Canyon Road. Therefore, the Project would have a **less than significant** impacts on public facilities.

Cumulative Impacts. The proposed Project would not result in a population increase that would contribute to significant public facilities impacts. Solid waste generation would be below the County threshold of 40 tons per year for a significant cumulative impact. The Project would not result in a substantial increase in impermeable surfaces at the project sites that would substantially increase runoff water volumes. Therefore, the Project's contribution to public facility impacts would not be cumulatively considerable and its cumulative effects would be **less than significant**.

4.5.12 Recreation

Project-Specific Impacts. There are no parks or public trails located on or near the project sites, and the Project would not result in a population increase that would contribute to significant impacts to recreation facilities. Therefore, the Project would have **no impact** on existing recreational facilities or increase the demand for recreation opportunities.

Cumulative Impacts. The Project would not result in an increase in population in the project area and would not directly or indirectly impact any existing recreation facilities. Therefore, the Project would have **no impact** related to cumulative effects on recreation.

4.5.13 Transportation/Circulation

Project-Specific Impacts. Short-term traffic generated by the Project would be primarily from the transportation of construction equipment and materials to and from the reservoir site sites, and by construction workers commuting to and from the project sites. Long-term traffic would likely result from periodic maintenance activities. Overall, traffic generated by the Project would be very low and would not adversely affect the operation of State Highway 166 or substantially increase the need for road maintenance. Adequate area would be available adjacent to the proposed reservoir sites to accommodate construction and maintenance vehicle parking. Adequate sight distance is provided along State Highway 166 to accommodate project-related vehicles that would enter and leave the project sites. In addition, the proposed Project would not result in an increased demand for transit services, and would have no effect air, rail, or waterborne traffic. Therefore, the small amount of traffic generated by the Project would result in **less than significant** traffic-related impacts.

Senate Bill (SB) 743 was adopted in 2013 and required the Governor's Office of Planning and Research (OPR) to develop new CEQA guidelines that address transportation impact metrics under CEQA. SB 743 eliminates level of service (LOS) as a basis for determining significant transportation impacts under CEQA and provides a vehicle miles travelled (VMT) performance metric. As a result, the State has shifted from measuring a project's impact to drivers (LOS) to measuring the impact of driving (VMT) as it relates to achieving State goals of reducing GHG emissions, encouraging infill development, and improving public health through active transportation. CEQA Guidelines Section 15064.3(c) states that the requirement to use the VMT criteria applies on and after July 1, 2020.

In September 2020, Santa Barbara County approved an amendment to the *Santa Barbara County Environmental Thresholds and Guidelines Manual*, which included adoption of VMT thresholds of significance and analysis methodologies. Included in the *Guidelines Manual* are "screening criteria" that may be used to identify projects that would result in less than significant VMT impacts without conducting detailed VMT analyses and studies. The screening criteria included in the *Guidelines Manual* are that same as the screening criteria identified by OPR in their *Technical Advisory on Evaluating Transportation Impacts in CEQA, (December, 2018).* The County presumes that land use or transportation projects meeting any of the identified screening criteria, absent substantial evidence to the contrary, would have less than significant VMT impacts and would not require further analysis. For small projects, any project that generates 110 or fewer average daily trips is presumed to have a less than significant VMT impact.

The proposed reservoirs would not be a substantial long-term source of traffic generation, and vehicle trips generated by the Project would generally be for maintenance purposes. While the number of maintenance-related vehicle trips may vary over time, it is assumed that on average it would be less than one trip per day. Therefore, traffic generated by the Project would be substantially lower than the 110 average daily trip VMT screening criteria, no additional VMT impact analysis is required, and the Project's VMT impacts would be **less than significant**.

Cumulative Impacts. Long-term traffic generated by the Project would primarily be for periodic maintenance of the reservoirs. Therefore, the traffic generated by the Project would not

cumulatively considerable and the Project's cumulative traffic-related impacts would be **less than significant.**

4.5.14 Water Resources/Flooding

The August 1, 2018, IS/MND prepared for the Project determined that it would result in less than significant impacts related to surface water movement, changes in percolation and drainage patterns, changes to the amount of water in a water body, and impacts to water quality resulting from surface water discharges. Additional information regarding this analysis is provided below.

Project-Specific Impacts. Each of the proposed reservoir's stormwater drainage systems would collect water from a limited area upslope of the reservoirs, and water from the reservoir overflow and stormwater drainage systems would be discharged over rock energy dissipaters. After discharge over the energy dissipaters, the water would sheetflow over the ground surface, which in the vicinity of proposed discharge locations has a gradient of five percent or less. Therefore, the amount of stormwater discharged from the drainage systems and the reservoir overflow systems would be limited and would not substantially alter existing drainage patterns, the course or direction of runoff water, or substantially increase or decrease the amount of water in the ephemeral drainages located adjacent to the reservoir sites. With the use of rock energy dissipaters and due to the presence of gentle slope gradients below proposed discharge locations, the proposed water discharges would not be a substantial source of erosion (turbidity) that would have the potential to adversely affect the water quality of the drainages near the reservoirs, which are tributaries to the Cuyama River. The interior of the reservoirs would be provided with an impermeable liner and precipitation that falls within the reservoirs would be retained and would not percolate into the ground. However, most of the retained precipitation would eventually be used for crop production, either for frost protection or irrigation after the end of the frost season. Therefore, the retained precipitation would ultimately be returned to the ground surface and not result in substantial long-term changes to percolation conditions at or near the project sites. Overall, the Project would have **less than significant** impacts on existing drainage conditions at the project site.

Cumulative Impacts. The proposed reservoirs would not substantially change existing drainage characteristics at the proposed project sites, and would not adversely affect surface water conditions at the project sites or downstream areas. Therefore, the Project's changes in existing drainage conditions would not cumulatively considerable and its cumulative drainage-related impacts would be **less than significant.**

5 Policy Consistency

5.1 Introduction

Chapter 5 addresses the consistency of the proposed Project with applicable County Plans and Policies related to the resource areas covered in the FEIR. The consistency analysis previously prepared for policies related to other resource areas included in the Planning Commission Staff Report for the project Appeal Hearing on September 12, 2018 (see Appendix C.2) is summarized below and herein incorporated by reference.

5.2 Comprehensive Plan

North Fork Ranch Frost Ponds Project **Policy Consistency Analysis for Resource Areas Addressed in FEIR**	
REQUIREMENT	**DISCUSSION**
Land Use Element –Land Use Development Policies	
Land Use Development Policy 4. *Prior to issuance of a development permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development. The applicant shall assume full responsibility for costs incurred in service extensions or improvements required for the proposed project.*	Adequate private water and sewer services are in place to serve the proposed reservoirs, access to the project site is from State Route 166, and the project site would continue to be served by Santa Barbara County Fire Station No. 41 located approximately nine miles to the west. The Project would not decrease the ability to provide required services for new or existing development. ***Sensitive Species.*** This policy is not applicable to sensitive species. **Flooding Risk.** This policy is not applicable to flood risk. **Evaporative Groundwater Loss.** Water stored in the reservoirs would be provided from existing private wells that produce water for the operation of the existing vineyards. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes.** This policy is not applicable to geologic processes. **Water Quality.** This policy is not applicable to water quality.

North Fork Ranch Frost Ponds Project Policy Consistency Analysis for Resource Areas Addressed in FEIR	
REQUIREMENT	**DISCUSSION**
	Proposed Project is POTENTIALLY CONSISTENT with this policy.
Hillside and Watershed Protection Policy 1: *Plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied if it is determined that the development could be carried out with less alteration of the natural terrain.*	Grading would not be excessive and no soil would be imported to or exported from the project site. **Sensitive Species.** Project-related grading would impact a patch of native grasslands located on and adjacent to proposed reservoir site No. 3. This policy is not applicable to sensitive species. **Flooding Risk.** This policy is not applicable to flood risk. **Evaporative Groundwater Loss.** This policy is not applicable to evaporative groundwater loss. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes.** The proposed reservoirs would be constructed by excavating soil below existing grade and using the excavated soil to construct berms that would impound stored water. No soil would be imported or exported from the project site. **Water Quality.** With implementation of **MM GEO-02.1,** which requires the preparation and implementation of approved Storm Water Management Plan and/or an Erosion and Sediment Control Plan, potential erosion and sedimentation impacts associated with project-related grading would be minimized. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**

North Fork Ranch Frost Ponds Project Policy Consistency Analysis for Resource Areas Addressed in FEIR	
REQUIREMENT	**DISCUSSION**
Hillside and Watershed Protection Policy 2. *All developments shall be designed to fit site topography, soils, geology, hydrology, and any other existing conditions and be oriented so that grading and site preparation is kept to a minimum. Natural features, landforms, and native vegetation, such as trees, shall be preserved to the maximum extent feasible. Areas of the site not suited to development because of known soil, geologic, flood, erosion or other hazards shall remain in open space.*	The proposed reservoirs would generally fit site topography and are orientated so that grading would be minimized. The Proposed reservoirs are located at sites that are suited to this type of development. **Sensitive Biological Species.** A patch of native grasslands was discovered during 2019 sensitive species surveys for the proposed Project. Temporary fencing and monitoring required by **MM Bio-02** will minimize impacts to native grasslands during construction, and the measure requires replacement of native grasslands and native grassland buffers that are removed or degraded. Potential grading/project construction impacts to sensitive wildlife species, including San Joaquin kit fox, American badger, and nesting birds would be minimized with the implementation of proposed mitigation measures. No other issues related to biology or sensitive species, as defined in this policy were observed on site during surveys or are expected based on analysis conducted for this Project. **Flooding Risk.** The flood risk evaluated in FEIR Section 3.8.3, indicated that potential impacts include erosion and failure risks due to berm degradation, improper drainage, and failure due to seismic events. However, **MMs FLOOD-01 through FLOOD-03** require preparation and implementation of an operation and maintenance plan to prevent berm degradation, corrections to plans to ensure proper drainage, and review and approval by a geotechnical engineer to ensure seismic stability to reduce these potential impacts to less than significant. **Evaporative Groundwater Loss.** This policy is not applicable to evaporative water loss. **Cultural and Tribal Cultural Resources**. This policy is not applicable to cultural and tribal cultural resources.

North Fork Ranch Frost Ponds Project Policy Consistency Analysis for Resource Areas Addressed in FEIR	
REQUIREMENT	**DISCUSSION**
	Geologic Processes. The proposed reservoir sites have slopes that generally range between two and six percent. Grading required to construct the reservoirs would not result in substantial alterations to existing topography. The geotechnical report prepared for the Project (GSI Soils, Inc., 2016) concluded that the project site is suitable for the proposed reservoirs provided that design and construction recommendations presented in the report are incorporated into the Project. **Water Quality.** The proposed reservoirs would be located a minimum of 100 feet from ephemeral drainages located on the Project property that drain to the Cuyama River. With implementation of **MMs** GEO-02.1, WQ-01.1, and WQ-01.2, potential short- and long-term water quality impacts of the project would be minimized. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**
Hillside and Watershed Protection Policy 3. *For necessary grading operations on hillsides, the smallest practical area of land shall be exposed at any one time during development, and the length of exposure shall be kept to the shortest practicable amount of time. The clearing of land should be avoided during the winter rainy season and all measures for removing sediments and stabilizing slopes should be in place before the beginning of the rainy season.* **Hillside and Watershed Protection Policy 5.** *Temporary vegetation, seeding, mulching, or other suitable stabilization methods*	**Sensitive Biological Species. MM GEO-02.1** requires revegetating temporarily disturbed areas. **MM BIO-02** avoids, protects, and replaces on-site native grasslands. In addition, the project plans include installation of an appropriate nonnative seed mix on the reservoir berms to prevent erosion. **Flooding Risk.** These policies are not applicable to flood risk. **Evaporative Groundwater Loss.** These policies are not applicable to evaporative water loss. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes and Water Quality. MM GEO-02.1** requires the preparation and implementation of measures to reduce potential short- and long-

North Fork Ranch Frost Ponds Project Policy Consistency Analysis for Resource Areas Addressed in FEIR	
REQUIREMENT	**DISCUSSION**
shall be used to protect soils subject to erosion that have been disturbed during grading or development. All cut and fill slopes shall be stabilized with planting of native grasses and shrubs, appropriate non-native plants, or with accepted landscaping practices.	term erosion-related impacts consistent with the requirements of the County's Grading Ordinance. Proposed erosion control measures include the use of best management practices to retain sediment on the project site, and the application of an erosion control seed mix over disturbed areas. The potential for erosion- and grading-related impacts would be minimized should Project construction be conducted in the rainy season. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**
Hillside and Watershed Protection Policy 6. *Provisions shall be made to conduct surface water to storm drains or suitable watercourses to prevent erosion. Drainage devices shall be designed to accommodate increased runoff resulting from modified soil and surface conditions. Water runoff shall be retained onsite whenever possible to facilitate groundwater recharge.*	The quantity of water that would be discharged from the Project's proposed stormwater drainage systems would not be substantially more or substantially altered from existing drainage patterns. **Sensitive Biological Species.** This policy is not applicable to sensitive species. **Flooding Risk.** The quantity of water that would be discharged from the Project's proposed stormwater drainage systems would not be substantially more or substantially altered from existing drainage patterns. Analysis of the project's drainage plans, however, indicates that there is some risk of erosion due to uncertainty related to the design of proposed drainage swales. However, **MMs Flood-01 through Flood 03** require revisions to the proposed drainage plans to ensure that the proposed drainage swales are effective in transmitting site drainage without causing or contributing to erosion. **Evaporative Groundwater Loss.** This policy is not applicable to evaporative water loss. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes and Water Quality.** The stormwater drainage systems for each of the

North Fork Ranch Frost Ponds Project Policy Consistency Analysis for Resource Areas Addressed in FEIR	
REQUIREMENT	**DISCUSSION**
	proposed reservoirs would collect water from a limited upslope area and divert that water around the reservoirs. Water from the drainage systems, as well as water from the reservoir's overflow systems, would be discharged over rock energy dissipaters. After discharge over energy dissipaters, the water would sheetflow over the ground surface, which in the vicinity of proposed discharge locations has a gradient of five percent or less. Therefore, the amount of stormwater discharged from the drainage systems and the reservoir overflow systems would be limited and would not substantially alter existing drainage patterns, the course or direction of runoff water, or substantially increase or decrease the amount of water in the ephemeral drainages located adjacent to the reservoir sites. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**
Hillside and Watershed Protection Policy 7. *Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste, shall not be discharged into or alongside coastal streams or wetlands either during or after construction.*	The potential for construction-related impacts to water quality in groundwater basins, nearby streams and wetlands would be reduced to less than significant by **MM Geo-2** (Erosion and Sediment Control Plan), **MM WatCon-04** Equipment Storage-Construction, and **MM Wat Conv-05** Equipment Washout-Construction. **Sensitive Species.** This policy is not applicable to sensitive species. **Flooding Risk.** This policy is not applicable to flood risk. **Evaporative Groundwater Loss.** This policy is not applicable to evaporative groundwater loss. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources.

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	Geologic Processes. This policy is not applicable to geological processes. **Water Quality. MMs WQ-01.1** and **WQ-01.2** would reduce the potential for short-term construction-related water quality impacts to a less than significant level. **MM BIO-01.7** would minimize the potential for long-term project operation to result in water quality impacts from chemicals such as pesticides and herbicides. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**
Visual Resources Policy 2. *In areas designated as rural on the land use plan maps, the height, scale, and design of structures shall be compatible with the character of the surrounding natural environment, except where technical requirements dictate otherwise. Structures shall be subordinate in appearance to natural contours of the landscape; and shall be sited so as not to intrude into the skyline as seen from public viewing place.*	The three proposed reservoirs would be setback from State Route 166 by approximately 3,000, 1,200 and 1,500 feet and would not be prominently visible from the highway. Grading required for the construction of the reservoirs would not result in the creation of substantial grading scars or substantial alterations to existing topography. Erosion control planting on the reservoir berms would make the appearance of the berms similar to undisturbed areas near the reservoir sites. The proposed reservoirs would have a maximum height of approximately 20 feet above surrounding grade and no night lighting is proposed. **Sensitive Species.** This policy is not applicable to sensitive species. **Flooding Risk.** This policy is not applicable to flood risk. **Evaporative Groundwater Loss.** This policy is not applicable to evaporative groundwater loss. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes.** This policy is not applicable to geological processes. **Water Quality.** This policy is not applicable to water

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	quality. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**
Historical and Archaeological Sites Policy 2. *When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.* **Historical and Archaeological Sites Policy 3.** *When sufficient planning flexibility does not permit avoiding construction on archaeological or other types of cultural sites, adequate mitigation shall be required. Mitigation shall be designed in accord with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission.* **Historical and Archaeological Sites Policy 5:** *Native Americans shall be consulted when development proposals are submitted which impact significant archaeological or cultural sites.*	**Sensitive Species.** This policy is not applicable to sensitive species. **Flooding Risk.** This policy is not applicable to flood risk. **Evaporative Groundwater Loss.** This policy is not applicable to evaporative groundwater loss. **Cultural and Tribal Cultural Resources.** Based on the cultural resource survey conducted for the Project, communication with local tribes, and the Native American Heritage Commission, as well as cultural resources mitigation measures **MM CUL-01.1** (Cultural Resource Monitor); **MM CUL-01.2** (Stop Work at Encounter); and MM CUL-01.3 (Pre-Construction Meeting) impacts to cultural resources would be reduced to a less than significant level. **Geologic Processes.** This policy is not applicable to geologic processes. **Water Quality.** This policy is not applicable to water quality. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**

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Agricultural Element	
Agricultural Element, Goal I: *Santa Barbara County shall assure and enhance the continuation of agriculture as a major viable production industry in Santa Barbara County. Agriculture shall be encouraged.*	The proposed project would not remove lands from agricultural production and would be supportive of existing agricultural production. **Sensitive Species.** This policy is not applicable to sensitive species. **Flooding Risk.** This policy is not applicable to flood risk. **Evaporative Groundwater Loss.** This policy is not applicable to evaporative groundwater loss. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes.** This policy is not applicable to geologic processes. **Water Quality.** This policy is not applicable to water quality. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**
Policy 1.B: The County shall recognize the rights of operation, freedom of choice as to the methods of cultivation, choice of crops or types of livestock, rotation of crops and all other functions within the traditional scope of agricultural management decisions. These rights and freedoms shall be conducted in a manner which is consistent with: (1) sound agricultural practices that promote the long-term viability of agriculture and (2) applicable resource protection policies and regulations.	**Sensitive Species.** This policy is not applicable to sensitive species. **Flooding Risk.** This policy is not applicable to flood risk. **Evaporative Groundwater Loss.** Mitigation measures identified by this FEIR, and alternatives to the proposed Project evaluated by the FEIR, do not specify methods of cultivation or choice of crops to be implemented at the proposed project site. Proposed **mitigation measure WAT-01** (Frost Protection System Evaporative Loss Reduction Plan) identified in Section 3.9.6 of this FEIR would establish a maximum amount of groundwater that may be used (*i.e.,* lost to evaporation) in conjunction with the operation of a discretionary project (the proposed water storage reservoirs) and the

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	operation of the associated frost protection system that would be connected to the reservoirs. The requirements of **WAT-01** have been proposed to reduce a potentially significant groundwater use impact to a less than significant level consistent with the requirements of CEQA Guidelines Section 15021(a), which states "*CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible.*" Therefore, the proposed mitigation measure requirement that identifies the maximum amount of groundwater that may be used for Project-related frost protection is consistent Agriculture Element Policy 1.B, requirement 2 (*these rights and freedoms shall be conducted in a manner which is consistent with applicable resource protection policies and regulations)*. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes.** This policy is not applicable to geologic processes. **Water Quality.** This policy is not applicable to water quality. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**
Policy 1.G: Sustainable agricultural practices on agriculturally designated land should be encouraged in order to preserve the long-term health and viability of the soil.	**Sensitive Species.** This policy is not applicable to sensitive species. **Flooding Risk.** This policy is not applicable to flood risk. **Evaporative Groundwater Loss.** Proposed **mitigation measure WAT-01** (Frost Protection System Evaporative Loss Reduction Plan) identified in Section 3.9.6 of this FEIR would reduce the Project's groundwater use impacts to a less than significant level. Minimizing project-related groundwater use will facilitate the long-term use of

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	soil on the project property for agricultural cultivation purposes. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes.** This policy is not applicable to geologic processes. **Water Quality.** This policy is not applicable to water quality. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**
Conservation Element - Ecological Systems	
This Element guides the County to preserve for the future, biological diversity, including as many different species and communities, as possible.	**Sensitive Biological Species.** The Project would not result in the elimination of any species or their communities. Potential significant impacts to native grasslands and sensitive wildlife species (e.g. San Joaquin kit fox and American badger) could occur and are discussed in Section 3.7.4 of the FEIR. Implementation of **MMs BIO-01.1 and BIO-01.2** are intended to avoid and protect San Joaquin kit fox; **MM BIO-01.3** addresses potential impacts to Northern California legless lizard and California glossy snake, **MM BIO-01.4** addresses potential impacts to American badger; **MM BIO-01.5** requires a construction activity monitor for biological resources; **MM BIO-01.6** defines preconstruction surveys for nesting birds; **MM BIO-01.7** prohibits use of pesticides, herbicides, and rodenticides; **MM-BIO-02** requires installation of exclusionary fencing during construction to avoid and limit impacts to native grasslands and implement a restoration plan for native grasslands and native grassland buffers that are impacted.. Section 3.7.6 concludes that with the implementation of the mitigation measures listed above, impacts to sensitive biological

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	resources would be **less than significant** and therefore would comply with this policy for protecting biologic diversity and sensitive plant and wildlife species. **Flooding Risk.** This policy is not applicable to flooding risk. **Evaporative Groundwater Loss.** This policy is not applicable to evaporative water loss. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes.** This policy is not applicable to geologic processes. **Water Quality.** This policy is not applicable to water quality. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**
Conservation Element - Groundwater Resources Section (re-published 2009)	
Policy 3.4: The County's land use planning decisions shall be consistent with the ability of any affected water purveyor(s) to provide adequate services and resources to their existing customers, in coordination with any applicable groundwater management plan.	Water used by the proposed Project would be produced by existing agricultural wells located on the project site. The project would not use water from water purveyors or impact their ability to provide water to existing customers. **Sensitive Biological Species.** This policy is not applicable to sensitive species. **Flooding Risk.** This policy is not applicable to flood risk. **Evaporative Groundwater Loss.** No water purveyor would provide water for the proposed Project. With the implementation of **WAT-01**, the Project's water use that is subject to the County's adopted groundwater use threshold of significance would be less than significant because evaporative water losses resulting from the operation of the proposed reservoirs and the vineyard's spray irrigation system would be below the threshold of 31 acre feet per year. Therefore, the Project would not adversely affect

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	the ability of any water purveyor in the region from providing adequate services or resources to their existing customers. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes.** This policy is not applicable to geologic processes. **Water Quality.** This policy is not applicable to water quality. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**
Policy 3.5: In coordination with any applicable groundwater management plan(s), the County shall not allow, through its land use permitting decisions, any basin to become seriously overdrafted on a prolonged basis.	The proposed Project with the mitigation described below would not allow any ground water basin to become seriously overdrafted. **Sensitive Biological Species.** This policy is not applicable to sensitive species. **Flooding Risk.** This policy is not applicable to flood risk. **Evaporative Groundwater Loss.** Section 3.9.3 of the FEIR evaluates impacts associated with the use of groundwater to operate the proposed Project. The discussion under **Impact WAT-01** Groundwater Water Pumping provides a description of the current status of the Cuyama Basin Groundwater Sustainability Agency (GSA) and Groundwater Sustainability Plan (GSP) that the GSA has prepared. It also confirms that according to the Santa Barbara County Water Agency (County agency responsible for groundwater resources), no new thresholds for groundwater extraction by individual projects have been accepted or proposed by the Cuyama Basin GSA or updated in the GSP. Therefore, the County threshold of 31 AFY remains the applicable threshold for assessing groundwater extraction impacts from non-agricultural groundwater use. With implementation of **WAT-01**, the proposed Project's

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	water use that is subject to the threshold would be below 31 AFY. Therefore, the project-specific and cumulative water use impacts of the Project would be less than significant, and the Project would not result in a significant impact related to groundwater basin overdraft. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes.** This policy is not applicable to geologic processes. **Water Quality.** This policy is not applicable to water quality. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**
Policy 3.6: The County shall not make land use decisions which would lead to the substantial overcommitment of any groundwater basin.	The proposed Project with mitigation, as described below, would not lead to the substantial overcommitment of any groundwater basin. **Sensitive Biological Species.** This policy is not applicable to sensitive species. **Flooding Risk.** This policy is not applicable to flood risk. **Evaporative Groundwater Loss.** As discussed above for Policy 3.5, the County threshold of 31 AFY remains the applicable threshold for assessing groundwater extraction impacts from non-agricultural groundwater use. With implementation of **WAT-01**, the proposed Project is below the significance threshold for this resource area. **Cultural and Tribal Cultural Resources.** This policy is not applicable to cultural and tribal cultural resources. **Geologic Processes.** This policy is not applicable to geologic processes. **Water Quality.** This policy is not applicable to water

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	quality. **Proposed Project is POTENTIALLY CONSISTENT with this policy.**

5.3 Santa Barbara County Land Use and Development Code

Allowable Uses in AG-II-100 Zone Districts

The following discussion identifies applicable Santa Barbara County Land Use Development Code (LUDC) development standards for agricultural structural development pursuant to (LUDC Section 35.21.050 and includes an assessment of the proposed Project's consistency with these standards.

The proposed Project is located in the AG-II-100 (Agriculture, 100-acre minimum parcel size) zone district. The AG-II zone district is applied to areas appropriate for agricultural land uses on prime or non-prime agricultural lands located within the Rural Area as shown on County Comprehensive Plan maps. The intent of the AG-II zone is to preserve lands for long-term agricultural use on large properties (a minimum of 40- to 320-acre lots) in rural areas of the County.

Pursuant to LUDC §35.21.050, construction and operation of the three frost protection reservoirs is a conditionally permitted use in the AG-II zone. LUDC Table 2-3 lists standards for new development in the AG-II zone related to structure setbacks, height limits, landscaping, parking, and signage. The proposed reservoirs would be located a minimum of 1,200 feet south/southeast of Highway 166 and would comply with the required 50-foot setback requirement of the AG-II zone. Structure height requirements in this zone district do not apply to the proposed reservoirs. Similarly, the landscaping (LUDC Chapter 35.34) and parking (LUDC Chapter 35.36) standards identified in Table 2-3 are also not applicable to the development of reservoirs in the AG-II zone, and the Project does not include a proposal to install any signs.

Sensitive Biological Resources

Pursuant to LUDC §35.21.050.C.2., development shall be located no less than 100 feet from environmentally sensitive habitat areas that are deemed by a qualified professional to be intact and of high quality. This setback may be adjusted upward or downward on a case-by-case basis depending upon site specific conditions such as slope, biological resources and erosion control. This requirement specifically applies to native plant communities recognized as rare by CDFW (2003 or as amended), e.g., native grasslands; nesting, roosting, and/or breeding areas for rare, endangered or threatened animal species; and plant communities known to contain rare, endangered, or threatened species.

Section 3.7.4 of the FEIR includes a discussion of impacts to sensitive biological resources. **Impact Bio-1** addresses impacts to special status plant/animal species and **Impact Bio-2** evaluates wildlife movement impacts. **Mitigation Measures BIO-01.1 and BIO-01.2** are intended to avoid

and protect San Joaquin kit fox, a species listed as Endangered by the USFWS and Threatened by the CDFW; **MM Bio-01.3** addresses potential impacts to Northern California legless lizard and California glossy snake, **MM BIO-01.4** addresses potential impacts to American badger; **MM BIO-01.5** lists requirements for a construction activity biological resources monitor; **MM BIO-01.6** defines preconstruction surveys for nesting birds; and **MM BIO-01.7** prohibits use of pesticides, herbicides, and rodenticides. Section 3.7.6 concludes that with the implementation of the mitigation measures listed above, impacts to sensitive biological resources would be **less than significant**.

Impact Bio-3 describes potential impacts to native grasslands from construction of Reservoir No. 3. **MM BIO-02** requires the (1) installation of exclusionary fencing during construction to avoid and limit short term potential impacts to the native grasslands, (2) preparation and implementation of a restoration plan to replace damaged or destroyed native grasslands, and (3) restoration of native grasslands to offset the loss of native grassland buffer which provides long-term protection to native grasslands. The native grassland buffer was established at 25 feet due to site conditions including current buffer width, current buffer quality, ongoing human activity, and slope. Section 3.7.6 concludes that with the implementation of **MM BIO-02**, impacts to native grasslands would be **less than significant**.

Therefore, the project is POTENTIALLY CONSISTENT with applicable AG-II-100 development standards.

6 Alternatives

6.1 Introduction

Section 15126.6 of the *CEQA Guidelines* provides guidance for the identification and evaluation of project alternatives in an EIR. The *CEQA Guidelines* state that an "*EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives*." *CEQA Guidelines* Section 15126.6(a) also states that "*an EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation*." The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR examines in detail only the ones that the Lead Agency determines could feasibly attain most of the basic objectives of the Project.

Key concepts pertaining to the discussion of alternatives are further specified in the CEQA Guidelines. The range of alternatives required within an EIR is governed by the "rule of reason," which requires an EIR to set forth only those alternatives necessary to permit a reasoned choice. Although there is no rule for the number of alternatives that must be discussed, the EIR must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation, but need not consider every conceivable alternative to a project. Furthermore, an EIR need not consider an alternative with an unlikely or speculative potential for implementation or an alternative that would result in effects that cannot be reasonably ascertained.

An EIR is not required to include alternatives that are infeasible. The term "feasible" is defined in the CEQA Guidelines § 15364 as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors" (see Public Resources Code § 21061.1). CEQA Guidelines § 15126.6(f)(1) provides additional factors that may be considered when addressing the feasibility of alternatives. These factors include site suitability; economic viability; availability of infrastructure; general plan consistency; other plans or regulatory limitations; jurisdictional boundaries; and whether the proponent can reasonably acquire, control, or otherwise have access to potential alternative sites.

Alternative locations should be discussed where any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. CEQA Guidelines § 15126.6(f)(2)(A) specifies that only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR. CEQA Guidelines § 15126.6(f)(2)(B) states, "If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR."

Finally, the analysis of environmental effects of project alternatives need not be as thorough or detailed as the analysis of the project itself. Rather, CEQA Guidelines §15126 specifies that the

EIR must include "sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Project."

6.2 Significant Environmental Impacts Identified in this FEIR

As required by Section 15126.6 of the *CEQA Guidelines*, this FEIR examines a range of reasonable alternatives to the proposed Project. A project that would attain most of the basic project objectives (stated in Chapter 2, *Project Description*) but would avoid or substantially lessen significant adverse impacts identified for the project in the following resource areas: sensitive biological resources, flooding, groundwater use, cultural and tribal cultural resources, geologic processes, and water quality.

6.2.1 Sensitive Biological Resources

Potentially significant impacts from the proposed Project to sensitive biological resources are discussed in FEIR Section 3.7. Impacts were identified in two areas: special-status species and environmentally sensitive habitat, namely native grasslands. Mitigation measures have been developed to reduce impacts to sensitive biological impacts to less than significant levels. These two areas were considered during the development of alternatives.

6.2.2 Flooding

Potentially significant impacts from downstream flooding from the proposed Project's three reservoirs are discussed in FEIR Section 3.8. Mitigation measures have been developed to reduce flooding risk impacts to less than significant levels. Flood risk was considered when alternatives were developed.

6.2.3 Groundwater Use

Potentially significant impacts from extraction and use of groundwater resources from operation of the proposed Project's three reservoirs and frost protection system are discussed in FEIR Section 3.9. MM WAT-01 was developed to minimize impacts to groundwater resources to less than significant levels. Groundwater extraction and use were considered when alternatives were developed.

6.2.4 Cultural and Tribal Cultural Resources

Potential impacts of the proposed Project on cultural and tribal cultural resources are evaluated in FEIR Section 3.10. A potentially significant impact may occur if previously undetected cultural or tribal cultural resources are encountered during the construction of the proposed reservoirs. Mitigation measures have been developed to reduce this potentially significant impact to a less than significant level.

6.2.5 Geologic Processes

Potential geologic process impacts of the proposed Project are evaluated in FEIR Section 3.11. Potentially significant short-term erosion and sedimentation impacts have the potential to result from the construction of the proposed reservoirs, and potentially significant long-term erosion and sedimentation impacts have the potential to result from erosion of the reservoir water

containment berms. Compliance with existing regulations and the implementation of a proposed mitigation measure would reduce these potential impacts to a less than significant level.

6.2.6 Water Quality

Potential water quality impacts of the proposed Project are evaluated in FEIR Section 3.12. Potentially significant water quality impacts may result due to short- and long-term erosion of disturbed areas, and from short-term construction operations. Compliance with existing regulations and the implementation of proposed mitigation measures would reduce these potential water quality impacts to a less than significant level.

6.3 Alternatives Considered in this EIR

Alternatives considered in this FEIR include:

- **Proposed Project**, described in Chapter 2.
- **No Project:** would consist of existing conditions at the time the State Clearinghouse confirmed receipt of the Notice of Preparation (NOP) for the DEIR on January 10, 2020. No frost pond reservoirs would constructed at the existing North Fork Ranch vineyard property.
- **Alternative 1: Reduced Project 1** would consist of constructing proposed Reservoirs No. 1 and No. 2 only. This alternative also includes installation of additional piping to bring frost protection groundwater to areas that would have been served from Reservoir No. 3.
- **Alternative 2: Reduced Project 2** would consist of constructing proposed Reservoir No. 2 only. This alternative also includes installation of additional piping to bring frost protection groundwater to areas that would been served from Reservoirs No. 1 and No. 3.

6.4 Alternatives Dismissed from Further Evaluation/ Determined to be Infeasible

Several alternatives were considered to minimize or eliminate potentially significant impacts from the proposed Project. The feasibility of some of these alternatives was discussed during past proceedings. The following discussion justifies why these infeasible or ineffective alternatives have been dismissed from further consideration.

- **Large Wind Machines:** install permanent or portable agricultural wind machines in key locations in the vineyard to mix airflow and limit pooling of colder air in order to avert the need for frost protection. The applicant has conducted trials of these machines within the existing vineyard. Based upon feedback from the applicant, on-site microclimates and topographic barriers prevented sufficient airflow mixing for these devices to be effective.
- **Convert Selected Existing Varietal Blocks:** replace blocks of existing varietals potentially impacted by frost events with types where frost events will not affect budding or damage the grapevine productivity. Agricultural activities are subject to the County's Right to Farm

Ordinance; it is not appropriate for P&D to regulate or limit which species of vines the applicant plants without violating this ordinance.

- **Underground Reservoirs:** proposed mitigation measure WAT-01 evaluated in Chapter 3, Section 3.9 would result in lowering evaporative water loss by requiring covers for the three proposed reservoirs. Installing underground reservoirs or large storage tanks achieves the same benefit, however the costs and additional grading associated with undergrounding the three proposed reservoirs was determined to be infeasible.
- **Shade Balls:** proposed mitigation measure WAT-01 evaluated in Chapter 3, Section 3.9 would result in lowering evaporative water loss by requiring covers for the three proposed reservoirs. Using shade balls would have a similar result in lowering evaporative loss as using a solid reservoir cover, however, it was confirmed that a solid cover was a more effective method for the proposed Project and therefore, shade balls are no longer being considered.
- **Fogging System/Smudge Pots/Heaters:** Petroleum-based fuel-fired heaters and smudge pots were eliminated from consideration due to air quality and greenhouse gas emissions resulting from burning fossil fuels. A fogging system would not work at the proposed Project site because the temperature and wind patterns within the vineyard would result in the creation of snowfall when the fogging encounters freezing temperatures. Snowfall would not achieve frost protection.
- **Helicopters to Alter Air-mixing Patterns:** operating helicopters above the existing vineyards to mix airflow to avoid potential freezing events is not feasible due to helicopter safety considerations related to low-flying conditions that are too close to varying terrain, and that would occur during the dark, when frost events occur.
- **Trucking in Frost Protection Water:** using water trucks to import water to fill the reservoirs was reviewed. This was determined to be infeasible due to increased air quality and traffic-related impacts in the Cuyama Valley. In addition, finding a suitable water supply source to fill the proposed three approximately 44.6 to 44.8 AF reservoirs would result in significant costs.
- **Barrier Management:** installing barriers to reduce cold air from draining down to the vineyard. Barriers could be installed using vegetation (shrubs, hedgerows or windrows), fences, or earthen berms/hills. However, the effectiveness of this method cannot be determined with existing information. Studies on airflow patterns would be required. Therefore, it cannot be determined if this is a feasible alternative to the Project.
- **Install Selective Sinks:** placing tower-less wind machines in low-lying areas where cold air drains or pools. These machines would break up stratified warm and cold air layers using horizontal propellers that propel cold air upward to mix with warmer air. These units are portable and can be moved to different locations within the vineyard to protect budding vines from frost events. However, the effectiveness of this method cannot be determined with

existing information. In order to confirm the effectiveness of this alternative, a detailed study would need to be conducted for the microclimates and growing conditions that exist for each of the vineyard varietal blocks. Therefore, it cannot be determined if this is a feasible alternative to the Project.

6.5 Alternatives to the Proposed Project

6.5.1 No Project Alternative

The No Project Alternative is defined in CEQA Guidelines § 15126.6(e) as:

> "…the existing conditions at the time of the notice of preparation is published…as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

Existing conditions at the Project site are described in Chapter 2 and within the impact analyses included in Chapter 3.

Under the No Project Alternative, reservoirs would not be constructed and existing conditions at the time the State Clearinghouse confirmed receipt of the Notice of Preparation (NOP) for the DEIR on January 10, 2020 would remain unaltered. Frost pond reservoirs would not be constructed at the existing North Fork Ranch vineyard property. Additional pumpage and water pressure would need to be installed to support the existing frost protection sprinkler system. Without access to water stored in reservoirs to support full frost protection, it is estimated that only 68-acres of existing vines could be protected, due to the limited amount of pumped water that could be available during the timeframe for application of frost protection water. The reservoirs allow for faster water availability during frost events and therefore a larger coverage area as compared to water pumped directly from the ground at the time of need. This approach could result in damage to grape vines, harvest yields, or premature vine fatality.

6.5.1.1 Sensitive Biological Resources

Under the No Project Alternative, impacts to biological resources would be less than for the proposed Project because there would be no impacts to native grassland or special-status species.

6.5.1.2 Flooding

Under the No Project Alternative, impacts from flooding risk would not occur because there would not be any impounded water that could result in on-site flooding causing downstream risk.

6.5.1.3 Evaporative Groundwater Loss

Under the No Project Alternative, impacts to groundwater resources and subsequent evaporative loss would be less than for the proposed Project because groundwater extractions would continue at the baseline level with only minimal application of frost protection (approximately 68 acres) and only during frost periods that require their use. This would not be a project under CEQA, because no discretionary permits would be required.

6.5.1.4 Cultural and Tribal Cultural Resources

Under the No Project Alternative, impacts on cultural and tribal cultural resources would not occur because there would be no construction activities that would have the potential to encounter previously undetected resources.

6.5.1.5 Geologic Processes

Under the No Project Alternative, potential erosion and sedimentation impacts would not occur because there would be no grading or the creation of disturbed areas where rates of erosion could be increased.

6.5.1.6 Water Quality

Under the No Project Alternative, potential water quality impacts would not occur because Project-related short- and long-term erosion and sedimentation impacts would be avoided, and there would be no construction operations that would have the potential to release construction materials into the environment.

6.5.2 Alternative 1: Construct Only Two Reservoirs

Under Alternative 1, proposed reservoirs 1 and 2 would be constructed at their proposed locations, and Reservoir 3 would not be constructed. Additional piping and pumps would be required to distribute water from Reservoirs 1 and 2 to the areas that would have been frost protected from groundwater stored in Reservoir 3. Alternative 1 would reduce evaporative loss by up to approximately one-third during individual frost protection events, because a maximum of two-thirds of the water used by the proposed Project would be available for frost protection at any given time. This alternative would still provide some level of frost protection for existing vines. However, there would be inadequate frost protection in heavy frost years to protect the vines and this could result in death or severe damage to grape vines and grape harvest yield.

6.5.2.1 Sensitive Biological Resources

Under Alternative 1, impacts to biological resources would be less than for the proposed Project because native grassland impacts would not occur and potential impacts to special-status species would be reduced because the project would disturb approximately two-thirds the land area that would be disturbed by the proposed Project.

6.5.2.2 Flooding

Under Alternative 1, impacts to flood risk would be less than significant with implementation of mitigation measures described for the proposed Project (FLOOD-01 through FLOOD-03). In addition, the risk would be further reduced because Reservoir No. 3 would be eliminated and therefore, only two 44.8 AF reservoirs would have the potential to cause downstream flooding risk.

6.5.2.3 Evaporative Groundwater Loss

Under Alternative 1, impacts to groundwater resources from evaporative loss would be reduced by up to approximately one-third in some years when compared to the proposed Project. The reduction in groundwater use may be less than one-third depending on how resources are reallocated in areas that would have been treated for the proposed Project. Removal of Reservoir No. 3 would eliminate evaporative losses from the surface of one of the three proposed reservoirs. The removal of a reservoir would also reduce overall frost protection water use and associated evaporation from the soil during individual frost protection events because the amount of water available for frost protection would be reduced by approximately one-third. Estimated evaporative losses from the Alternative 1 frost protection system are summarized on Table 6-1.

Table 6-1 Alternative 1: Estimated Frost Protection System Groundwater Evaporative Losses

	Light	Normal	Heavy
Estimated Evaporative Losses Under Alternative 1 (1)	**2015**	**2017**	**2009**
Reservoir Evaporation Less Rainfall (AFY)	16.2	14.4	15.5
Frost Protection Soil Evaporation Loss (AFY)	7.2	26.5	167.2
Groundwater Losses using Reservoirs (AFY)	**23.4**	**40.7**	**182.0**

(1) Estimated groundwater evaporative losses under this alternative may be reduced by approximately one-third compared to the proposed Project in some years.

As shown on Table 6-1, evaporative losses from the frost protection system under Alternative 1 would be less than 31 AFY during a light frost year, but would continue to exceed the threshold during normal and heavy frost years. Therefore, the implementation of Mitigation Measure WAT-01 would still be required under this Alternative.

6.5.2.4 Cultural and Tribal Cultural Resources

Under Alternative 1, impacts on cultural and tribal cultural resources would be less than for the proposed Project because the project would disturb approximately two-thirds the land area that would be disturbed by the proposed Project. A reduction in ground disturbance would reduce the potential for encountering previously undetected resources, however, mitigation measures similar to those required for the proposed Project would still be required.

6.5.2.5 Geologic Processes

Under Alternative 1, potential short- and long-term erosion and sedimentation impacts would be less than for the proposed Project because the project would disturb approximately two-thirds the land area that would be disturbed by the proposed Project. A reduction in ground disturbance would reduce the potential for erosion-related impacts, however, mitigation measures similar to those required for the proposed Project would still be required.

6.5.2.6 Water Quality

Under Alternative 1, potential short- and long-term water quality impacts would be less than for the proposed Project because the project would disturb approximately two-thirds the land area that would be disturbed by the proposed Project, and proposed construction operations would be reduced. A reduction in ground disturbance and construction operations would reduce the potential for water quality impacts, however, mitigation measures similar to those required for the proposed Project would still be required. Alternative 2: Construct Only One Reservoir

Under Alternative 2, proposed Reservoirs 1 and 3 would not be constructed. Additional piping and pumps would be required to distribute water to areas that would have been frost protected from groundwater stored in Reservoirs 1 and 3. Alternative 2 would reduce evaporative loss by up to approximately two-thirds, because the water stored for frost protection would be reduced by two-thirds. Alternative 2 would still provide some level of frost protection for existing vines. However, there would be inadequate frost protection in heavy frost years to protect the vines and this could result in death or severe damage to grape vines and grape harvest yield.

6.5.2.7 Sensitive Biological Resources

Under Alternative 2, impacts to biological resources would be less than for the proposed Project because native grassland impacts would not occur and impacts to special-status species habitat would only result from installation of Reservoir No. 2 requiring approximately one-third of the land area as compared to the proposed Project.

6.5.2.8 Flooding

Under Alternative 2, impacts to flood risk would be less than for the proposed Project because there would only be one reservoir (reservoir No. 2) with a capacity of approximately 44.8 AF of stored groundwater.

6.5.2.9 Evaporative Groundwater Loss

Under Alternative 2, impacts to groundwater resources from evaporative loss would be reduced by up to approximately two-thirds in some years when compared to the proposed Project. The reduction in groundwater use may be less than two-thirds depending on how resources are reallocated in areas that would have been treated for the proposed Project. Removal of Reservoir Nos. 1 and 3 would eliminate evaporative losses from the surface of two of the three proposed reservoirs. The removal of two reservoirs would also reduce overall frost protection water use and associated soil evaporation during individual frost protection events because the amount of water available for frost protection would be reduced by approximately two-thirds. Estimated evaporative losses from the Alternative 2 frost protection system are summarized on Table 6-2.

Table 6-2 Alternative 2: Estimated Frost Protection System Groundwater Evaporative Losses

	Light	Normal	Heavy
Estimated Evaporative Losses Under Alternative 2 (1)	**2015**	**2017**	**2009**
Reservoir Evaporation Less Rainfall (AFY)	8.2	7.3	7.9
Frost Protection Soil Evaporation Loss (AFY)	3.7	13.5	84.8
Groundwater Losses using Reservoirs (AFY)	**11.7**	**20.4**	**91.0**

(1) Estimated groundwater evaporative losses under this alternative may be reduced by approximately two-thirds compared to the proposed Project in some years.

As shown on Table 6-2, evaporative losses from the frost protection system under Alternative 2 would be less than 31 AFY during a light frost year and a normal frost year, but would continue to exceed the threshold during heavy frost years. Therefore, the implementation of mitigation measure WAT-01 would still be required under this Alternative.

6.5.2.10 Cultural and Tribal Cultural Resources

Under Alternative 2, impacts on cultural and tribal cultural resources would be less than for the proposed Project because the project would disturb approximately one-third the land area that would be disturbed by the proposed Project. A reduction in ground disturbance would reduce the potential for encountering previously undetected resources, however, mitigation measures similar to those required for the proposed Project would still be required.

6.5.2.11 Geologic Processes

Under Alternative 2, potential short- and long-term erosion and sedimentation impacts would be less than for the proposed Project because the project would disturb approximately one-third the land area that would be disturbed by the proposed Project. A reduction in ground disturbance would reduce the potential for erosion-related impacts, however, mitigation measures similar to those required for the proposed Project would still be required.

6.5.2.12 Water Quality

Under Alternative 2, potential short- and long-term water quality impacts would be less than for the proposed Project because the project would disturb approximately one-third the land area that would be disturbed by the proposed Project, and proposed construction operations would be reduced. A reduction in ground disturbance and construction operations would reduce the potential for water quality impacts, however, mitigation measures similar to those required for the proposed Project would still be required. Comparison of Alternatives

Table 6-3 provides a comparison of environmental impacts associated with the Project and the two identified feasible alternatives to the Project, using the highest impact classification (i.e., if a resource would have Class I, II, and III impacts, only the Class I [significant and unavoidable] impact is shown). Both the impact classifications and the relative degree of impact of the alternatives as compared to the proposed Project are shown.

Table 6-3 Comparison of Environmental Impacts from Project Alternatives

Environmental Impacts	Impacts of Alternatives Compared to the Proposed Project						
	Proposed Project	No Project Alternative		Alternative 1		Alternative 2	
Sensitive Biological Species	Class II	No Impact	-	Class II	-	Class II	-
Flooding Risk	Class II	No Impact	-	Class II	-	Class II	-
Evaporative Groundwater Loss	Class II	No Impact	-	Class II	-	Class II	-
Cultural and Tribal Cultural Resources	Class II	No Impact	-	Class II	-	Class II	-
Geologic Processes	Class II	No Impact	-	Class II	-	Class II	-
Water Quality	Class II	No Impact	-	Class II	_	Class II	-

Notes:

"+" Impacts from this alternative would be greater than the proposed Project.

"-" Impacts from this alternative would be less than the proposed Project.

"=" Impacts from this alternative would be similar to the proposed Project.

6.6 Environmentally Superior Alternative

CEQA Guidelines § 15126.6(e)(2) require that an environmentally superior alternative be identified among the alternatives that have been evaluated. The environmentally superior alternative is defined as the alternative that would result in the least adverse environmental impacts, when compared to the impacts of the Project. If the No Project Alternative is found to be the environmentally superior alternative, the EIR must identify an environmentally superior alternative among the other alternatives. Table 6-3 above provides a comparison of environmental impacts associated with the Project and the evaluated alternatives. The No Project Alternative would avoid the environmental impacts of the Project, but it would not meet the Project objectives defined in DEIR Chapter 2.

6.6.1 Alternative 1 – Environmentally Superior Alternative

Based upon this analysis and represented in Table 6-3, Alternative 1 is the environmentally superior alternative. Reducing the project by including only reservoirs 1 and 2, as described in Section 6.5.2, would (1) reduce impacts to biological resources by avoiding the impacts on native grasslands and reducing habitat impacts on special-status species; (2) reduce the potential impacts of flooding and erosion by reducing the number of sites that could result in those impacts; (3) reduce the evaporative loss during individual frost events; (4) reduce ground disturbance area, which would reduce the potential for impacts to cultural and tribal cultural resources, erosion and sedimentation, and water quality; and (5) is the alternative most closely aligned with the Project objectives to:

- Construct reservoirs to store extracted groundwater to protect select vineyard areas during frost events.
- Protect sensitive environmental resources adjacent to and on the reservoir sites.

The environmentally superior alternative is generally considered to be the alternative that would result in the fewest significant environmental impacts. However, just tallying the number of significant environmental impacts can sometimes be misleading, because some impacts may be more substantive or difficult to mitigate than others. For instance, a temporary impact can be significant, but a permanent significant impact is often more important in comparing impacts among alternatives. Similarly, some resource impacts are considered more important or sensitive than others. The challenges associated with limiting the extraction and use of groundwater resources to below the County's threshold may be more difficult than addressing impacts sensitive biological resources, where mitigation can ensure that residual impacts are less than significant.

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