INDIAN WELLS VALLEY WATER DISTRICT
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INDIAN WELLS VALLEY WATER DISTRICT
INITIAL STUDY AND
DRAFT MITIGATED NEGATIVE DECLARATION
FOR THE
1.0 MG B-ZONE, 1.0 MG C-ZONE, 0.1 MG D-ZONE, AND 0.55 MG E-ZONE RESERVOIRS PROJECT

SEPTEMBER 2021

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DATE 9/28/2021

178-151.2
(REPORTS/CEQA/178-151-IS)
VEM/DFS/blt

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PART 1
PROJECT INFORMATION

PART 1 - PROJECT INFORMATION

A. INDIAN WELLS VALLEY WATER DISTRICT

Indian Wells Valley Water District (IWVWD or the District) is the primary supplier of water service for domestic consumption, landscape irrigation, and fire protection for the City of Ridgecrest and surrounding areas in Kern County and San Bernardino County, California. IWVWD was formed in 1953 for the purpose of providing public potable water service to the residents of its service area.

IWVWD's service area comprises approximately 38 square miles, with a population of approximately 35,800 people, served through approximately 12,600 service connections. The sole source of supply for IWVWD is groundwater pumped from the Indian Wells Valley Groundwater Basin. This is also the case for all other water users in the Indian Wells Valley, including agricultural users, industry, and the federal government.

B. PROJECT DESCRIPTION

1. Proposed Project

The Indian Wells Valley Water District 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs Project (the Project) generally consists of construction and operation of four welded steel potable water storage reservoirs on District-owned sites currently occupied by existing District facilities. Construction of each proposed reservoir is briefly described below.

1.0 MG B-Zone Reservoir (Gateway Site)

Construction of the new 1.0 million gallon (MG) B-Zone Reservoir (also referred to as the new 1.0 MG Gateway Reservoir) includes the following:

- Site grading, placement of Class 2 base material, and construction of reinforced concrete ringwall;
- Construction of a 1.0 MG welded steel reservoir with a diameter of approximately 87 feet and a total maximum height of no more than 36 feet;

- Construction of 12-inch diameter inlet/outlet piping and 12-inch diameter drain piping;
- Construction of a drainage swale surrounding the new reservoir; and
- Connection of the new reservoir to the District's existing supervisory control and data acquisition (SCADA) system.

1.0 MG C-Zone Reservoir (C-1 Site)

Construction of the new 1.0 MG C-Zone Reservoir includes the following:

- Demolition and removal of the existing 0.4 MG C-Zone Reservoir;
- Site grading, placement of Class 2 base material, and construction of reinforced concrete ringwall;
- Construction of a 1.0 MG welded steel reservoir with a diameter of approximately 87 feet and a total maximum height of no more than 36 feet;
- Connection of the new reservoir to existing onsite piping;
- Construction of a drainage swale surrounding the new reservoir; and
- Connection of the new reservoir to the District's existing SCADA system.

0.1 MG D-Zone Reservoir (Salisbury Site)

Construction of the new 0.1 MG D-Zone Reservoir includes the following:

- Demolition and removal of the existing 0.1 MG D-Zone Reservoir;
- Site grading, placement of Class 2 base material, and construction of reinforced concrete ringwall;
- Construction of a 0.1 MG welded steel reservoir with a diameter of approximately 27 feet and a total maximum height of no more than 34 feet;
- Connection of new reservoir to existing onsite piping; and
- Connection of the new reservoir to the District's existing SCADA system.

1.0 MG E-Zone Reservoir (College Tank Site)

Construction of the new 0.55 MG E-Zone Reservoir (also referred to as the new 0.55 MG College Reservoir) includes the following:

- Site grading, placement of Class 2 base material, and construction of reinforced concrete ringwall;
- Construction of a 0.55 MG welded steel reservoir with a diameter of approximately 66 feet and a total maximum height of no more than 36 feet;
- Connection of new reservoir to existing onsite piping;
- Construction of a drainage swale surrounding the new reservoir on the north and east;
- Construction of a retaining wall on the north side of the new reservoir;
- Modifications to existing site fencing to relocate the existing vehicle gate and install a new man gate; and
- Connection of the new reservoir to the City's existing supervisory control and data acquisition (SCADA) system.

Operation of the Project includes placing each new reservoir into service and using same for water storage prior to distribution within the District's municipal water system.

2. Purpose

The purpose of the Project is to replace two of the District's existing reservoirs which were damaged during an earthquake and to construct two additional reservoirs to create storage redundancy, improve emergency preparedness, and improve operational flexibility. The existing 0.4 MG C-Zone Reservoir and the existing 0.1 MG D-Zone Reservoir were damaged during the magnitude 7.1 earthquake that occurred on July 5, 2019, with an epicenter located approximately nine miles northeasterly of the City of Ridgecrest. The two new additional tanks that will be constructed are the 1.0 MG B-Zone (Gateway) Reservoir and the 0.55 MG E-Zone (College) Reservoir.

C. ENVIRONMENTAL SETTING

1. Location

The Project is located on four existing District-owned sites that each comprise 2.5 acres and are located as summarized below. Refer also to **Figures 2 through 6** herein.

1.0 MG B-Zone Reservoir (Gateway Site)

The Gateway Site is located at the southwest corner of East Javis Avenue and South Gateway Boulevard, on District-owned property identified as Assessor's Parcel Number (APN) 343-120-46 in the City of Ridgecrest, Kern County, California.

1.0 MG C-Zone Reservoir (C-1 Site)

The C-1 Site is located approximately 1.2 miles southeast of the intersection of College Heights Boulevard and Javis Avenue, approximately 0.3 mile northeasterly of Cerro Coso Community College, on District-owned property identified as APN 343-120-47 in the City of Ridgecrest, Kern County, California.

0.1 MG D-Zone Reservoir (Salisbury Site)

The Salisbury Site is located approximately 0.1 mile southeast of the eastern terminus of Belle Vista Street, on District-owned property identified as APN 343-120-44, east of the City of Ridgecrest, in an unincorporated area of Kern County, California.

0.55 MG E-Zone Reservoir (College Tank Site)

The College Tank Site is located approximately one mile southeast of the intersection of Javis Avenue and Sunland Street (RC 27) and approximately 0.3 mile southeast of Cerro Coso Community College, on District-owned property identified as APN 343-140-14, south of the City of Ridgecrest, in an unincorporated area of Kern County, California.

2. Climate

The Project area is located in the Mojave Desert, which has an arid climate characterized by hot summers, cold winters, and sparse precipitation. Temperatures in the area often exceed 100 degrees Fahrenheit (°F) during summer months, with an annual average daily temperature of approximately 80°F. Annual rainfall averages less than five inches. Most rainfall occurs between November and March, while some thundershowers occur during summer monsoons.

3. Land Use

Land use on the Project sites consists of existing District facilities, as summarized below. Each site is fenced and maintained by the District.

1.0 MG B-Zone Reservoir (Gateway Site)

The Gateway Site contains the existing 0.6 MG Gateway Reservoir, an existing radio tower, existing telemetry antenna, an existing swamp cooler on concrete slab, an existing temporary restroom, and an existing emergency standby generator. The site is fenced and is surrounded by open space to the west and south and by rural residential development to the north and east.

1.0 MG C-Zone Reservoir (C-1 Site)

The C-1 Site contains the existing 1.0 MG C-Zone Reservoir, the existing 0.4 MG C-Zone Reservoir, and an existing communication tower. The site is fenced and is surrounded by open space on all sides.

0.1 MG D-Zone Reservoir (Salisbury Site)

The Salisbury Site contains the existing 0.4 MG D-Zone Reservoir and the existing 0.1 MG D-Zone Reservoir. The site is fenced and is surrounded by open space to the south and east and residential development to the north and west.

0.55 MG E-Zone Reservoir (College Tank Site)

The College Tank Site contains the existing 0.55 MG College Reservoir. The site is fenced and is surrounded by open space on all sides.

D. COMPLIANCE WITH CEQA

This document has been prepared in compliance with the provisions of the California Environmental Quality Act, codified in California Public Resources Code, Division 13, Section 21000 *et seq* (CEQA) and the State CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 *et seq*). Pursuant to CEQA and the State CEQA Guidelines, this Initial Study has been prepared to determine whether the Project may have a significant effect on the environment.

This Initial Study for the District's 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs Project has been prepared by Krieger & Stewart, Incorporated under contract with the District to comply with the provisions of CEQA.

E. LEAD AGENCY

IWVWD is lead agency for the Project, as it is the public agency with the primary responsibility for preparing CEQA documents and for carrying out and approving the Project. Since the District is responsible for the Project, it must comply with the requirements of CEQA and the CEQA Guidelines issued by the State of California.

The District routinely constructs new facilities, maintains them, and replaces them as necessary to maintain adequate, reliable, and safe domestic water service to its customers. The Project is a continuation of the authority that the District has exercised in the past.

F. PUBLIC INFORMATION DOCUMENT

This is a public information document prepared in accordance with CEQA and the State CEQA Guidelines. The purposes of this Initial Study are to provide the District with information to use as a basis for identifying the potential environmental impacts of the Project, for determining the appropriate CEQA document to prepare for the Project, to facilitate environmental assessment of the Project, and to provide documentation of the factual basis for the finding in the Project's CEQA document. Additionally, this document identifies mitigation intended to avoid or reduce any adverse environmental impacts of the Project to levels that are less than significant.

PART 2
ENVIRONMENTAL EFFECTS AND CHECKLIST

PART 2 - ENVIRONMENTAL EFFECTS AND CHECKLIST

A. PROJECT INFORMATION

1. Project Title:

1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs

2. Lead Agency Name and Address:

Indian Wells Valley Water District
500 West Ridgecrest Boulevard
Ridgecrest, CA 93555

3. Contact Person and Phone Number:

Renee Morquecho, Chief Engineer
Indian Wells Valley Water District
(760) 375-5086
reneem@iwvwd.com

4. Project Location:

Refer to **Part 1.C(1)** on **Page 4** herein. Refer also to **Figures 1 through 6** herein.

5. Project Sponsor's Name and Address:

Indian Wells Valley Water District
500 West Ridgecrest Boulevard
Ridgecrest, CA 93555

6. General Plan Designation:

Gateway Site:	Open Space
C-1 Site:	Open Space
Salisbury Site:	8.4: Mineral and Petroleum (Min. 5 Acre Parcel Size)
College Tank Site:	1.1: State or Federal Land

7. Zoning:

Gateway Site:	RSP (Recreation, Schools, and Public Use)
C-1 Site:	RSP (Recreation, Schools, and Public Use)
Salisbury Site:	Estate 2.5 Acres, Residential Suburban Combining [E(2½) RS]
College Tank Site:	Estate 20 Acres [E(20)]

8. Description of Project:

Refer to **Part 1.B**, beginning on page 1 herein.

9. Surrounding Land Uses and Setting:

Refer to **Part 1.C(2)** and **Part 1.C(3)**, on **Pages 5 and 6** herein.

10. **Other public agencies whose approval may be required** (e.g., permits, financing approval, or participation agreement):

- State Water Resources Control Board, Division of Drinking Water

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

No Native American tribe has contacted Indian Wells Valley Water District to request notification on Projects within the District's service area. Therefore, the District does not plan to consult with any Native American tribes on this project unless a request is received from a tribe prior to or during the CEQA public review process.

Tribal Cultural Resources are also discussed in **Issue XVIII** herein.

B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- ❑ Aesthetics
- ❑ Agriculture/Forestry Resources
- ❑ Air Quality
- ❑ Biological Resources
- ❑ Cultural Resources
- ❑ Energy
- ❑ Geology/Soils
- ❑ Greenhouse Gas Emissions
- ❑ Hazards & Hazardous Materials
- ❑ Hydrology/Water Quality
- ❑ Land Use/Planning
- ❑ Mineral Resources
- ❑ Noise
- ❑ Population/Housing
- ❑ Public Services
- ❑ Recreation
- ❑ Transportation
- ❑ Tribal Cultural Resources
- ❑ Utilities/Service Systems
- ❑ Wildfire
- ❑ Mandatory Findings of Significance
- ☒ None

C. DETERMINATION (To be completed by the Lead Agency):

On the basis of this initial evaluation:

❑ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

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

❑ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

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

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

D. [signature]

9/28/2021

David F. Scriven
KRIEGER & STEWART, INCORPORATED
District Consulting Engineer
INDIAN WELLS VALLEY WATER DISTRICT

Date

D. EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a. Earlier Analyses Used. Identify and state where they are available for review.

b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

a. The significance criteria or threshold, if any, used to evaluate each question; and

b. The mitigation measure identified, if any, to reduce the impact to less than significant.

E. ENVIRONMENTAL CHECKLIST

Issue I. Aesthetics

Except as provided in Public Resources Code Section 21099, would the Project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	❑	❑	☒	❑

The Project includes construction of four water storage reservoirs at four existing District-owned properties that are occupied by existing District reservoirs, as described in ***Part 1(B)*** *herein.*

- ***1.0 MG B-Zone Reservoir (Gateway Site).*** *The new 1.0 MG B-Zone (Gateway) Reservoir will be located to the west of the existing 0.6 MG Gateway Reservoir, on the same site. The new 1.0 MG Gateway Reservoir will be approximately 87 feet in diameter and will extend no more than 36 feet above the ground surface. The site is surrounded by rural residential development and open space. While the new 1.0 MG Gateway Reservoir is larger than the existing 0.6 MG Gateway Reservoir, the Gateway site is not located within a scenic vista and the Project will not adversely impact a scenic vista.*

- ***1.0 MG C-Zone Reservoir (C-1 Site).*** *The new 1.0 MG C-Zone Reservoir will replace the existing 0.4 MG C-Zone Reservoir, which is located just north of the existing 1.0 MG C-Zone Reservoir. The new 1.0 MG C-Zone Reservoir will be approximately 87 feet in diameter and will extend no more than 36 feet above the ground surface. While the new 1.0 MG C-Zone Reservoir is larger than the existing 0.4 MG C-Zone Reservoir that it is replacing, the C-1 Site is not located within a scenic vista and the Project will not adversely impact a scenic vista.*

- ***0.1 MG D-Zone Reservoir (Salisbury Site).*** *The new 0.1 MG D-Zone Reservoir will replace the existing 0.1 MG D-Zone Reservoir in the same location. The new reservoir will be approximately 27 feet in diameter and will extend no more than 34 feet above the ground surface. Because the new D-Zone Reservoir is located in the same place and is the same capacity as the existing D-Zone Reservoir, views at the Salisbury Site are not expected to change significantly. The Salisbury Site is not located within a scenic vista and will not adversely impact a scenic vista.*

- ***0.55 MG E-Zone Reservoir (College Tank Site).*** *The new 0.55 MG E-Zone (College) Reservoir will be located north of the existing 0.55 MG College Reservoir on the same site. The new 0.55 MG College Reservoir will be approximately 66 feet in diameter and will extend no more than 36 feet above the ground surface. The College Tank Site is located approximately 0.3 mile southeasterly of Cerro Coso*

Community College. The addition of the new reservoir near the existing reservoir will not substantially change views from Cerro Coso Community College. The College Tank Site is not located within a scenic vista and will not adversely impact a scenic vista.

For the reasons described above, the Project will not have a substantial adverse effect on a scenic vista.

Issue I. Aesthetics (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	❑	❑	❑	☒

Although there are Eligible State Scenic Highways in Kern County, there are no Officially Designated State Scenic Highways in Kern County at this time. The Eligible State Scenic Highways nearest the Project sites are U.S. Highway 395 and State Highway 14, which extend from the Kern County boundary with Inyo County on the north, southerly to State Highway 58 on the south. Project facilities are all located within existing sites containing existing District facilities of similar appearance. The Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	❑	❑	❑	☒

The four project sites are occupied by existing District facilities, and the sites are located generally within and nearby the City of Ridgecrest, near open space and suburban residential uses. Construction and operation of the Project facilities will not conflict with applicable zoning or other regulations governing scenic quality.

Issue I. Aesthetics (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	❑	❑	❑	☒

The Project includes lights for use in the event that operation or maintenance activities need to be conducted at the reservoir sites outside of daylight hours. Said lights are directed downward. The Project does not include security lighting. For these reasons, the Project will not create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

Issue II. Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in forest protocols adopted by the California Air Resources Board.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	❑	❑	❑	☒

Based on maps available from the State of California Department of Conservation, Division of Land Resources Protection, Farmland Mapping and Monitoring Program, online at https://maps.conservation.ca.gov/DLRP/CIFF, the Project sites are located within areas of land categorized as "Other Land", which is defined below.

***Other Land** is land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.*

In some counties, including Kern County, the Rural Land Mapping Project provides more detail on the distribution of various land uses within the Other Land category. Based on this additional detail, the Project sites are further categorized as either "Nonagricultural or Natural Vegetation" (C-1 Site and College Tank Site) or "Rural Residential Land" (Gateway Site and Salisbury Site). These two categories are defined below.

Nonagricultural or Natural Vegetation *is heavily wooded, rocky/barren areas, riparian and wetland areas, grassland areas which do not qualify as Grazing Land due to their size or land management restrictions, small water bodies and recreational water ski lakes. Constructed wetlands are also included in this category.*

Rural Residential Land *consists of areas of 1 to 5 structures per 10 acres ("ranchettes").*

There is no land categorized as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (collectively, Farmland) located on or adjacent to any of the Project sites. For these reasons, construction and operation of the Project will not convert Farmland to non-agricultural use.

Issue II. Agriculture and Forest Resources (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	❑	❑	❑	☒

Based on information available from Kern County's Interactive County Map (GIS Tool), accessed online at http://www.kerncounty.com/government/gis-menu/interactive-county-map-gis-tool, there are no Williamson Act contracts in effect on, or in the vicinity of, any of the Project sites. None of the Project sites are zoned for agricultural use. For these reasons, the Project will not conflict with existing zoning for agricultural use or with a Williamson Act Contract.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	❑	❑	❑	☒

The Project sites consist of District-owned sites that are occupied by existing District water storage reservoirs, and there are no lands zoned for forest land or timberland located on or adjacent to any of

the Project sites. For these reasons, construction and operation of the Project will not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production.

Issue II. Agriculture and Forest Resources (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?	❑	❑	❑	☒

*The Project sites do not contain nor adjoin any forest land. Therefore, construction and operation of the Project will not result in the loss of forest land or conversion of forest land to non-forest use. Refer also to **Issue II(c)** above.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	❑	❑	❑	☒

*The Project does not involve changes in the existing environment that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Refer also to **Issues II(a) through II(d)**, above.*

Issue III. Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project conflict with or obstruct implementation of the applicable air quality plan?	❑	❑	❑	☒

The Project is located within the Mojave Desert Air Basin (MDAB), which extends within portions of Kern, San Bernardino, Riverside, and Los Angeles Counties. The Project is located within the portion of the MDAB that is within Kern County, which is under the jurisdiction of the Eastern Kern Air Pollution Control District (EKAPCD).

A project is considered to conflict with or obstruct implementation of the applicable air quality plan if it would result in population or employment growth that would exceed the estimates for such growth that are set forth in the applicable air quality plan.

The reservoirs included in the Project will be operated as part of the District's existing water system, and the Project does not have the potential to result in an increase in population and employment growth in the area. For these reasons, the Project would not conflict with or obstruct any applicable air quality plan.

Potential impacts related to greenhouse gases are described in ***Issue VII*** *herein.*

Issue III. Air Quality (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality threshold?	❑	❑	☒	❑

As described in ***Issue III(a)*** *above, the Project is located within the Mohave Desert Air Basin (MDAB). Air quality conditions in the MDAB are under the jurisdiction of the Eastern Kern Air Pollution Control District.*

State and federal designations based on the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS) for the project area are listed below. "Attainment" is the category given to an area that has had no CAAQS or NAAQS violations in the past 3 years. "Non-Attainment" is the category given to an area that has had one or more such violations in the past 3 years. An area is considered "Unclassified" when there is insufficient data.

Under the CAAQS, the Project area is classified as Non-Attainment for ozone (O_3) and for particulate matter measuring greater than 2.5 microns and up to 10 microns in diameter (PM_{10}). The Project area is classified as Attainment for particulate matter measuring 2.5 microns or less in diameter ($PM_{2.5}$), for nitrogen dioxide (NO_2), sulfur dioxide (SO_2), nitrogen dioxide sulfates (SO_4), and lead. The Project area is unclassified for carbon monoxide (CO). Additional information about each of these pollutants and the CAAQS is available at the California Air Resources Board website at www.arb.ca.gov/resources/california-ambient-air-quality-standards.

Under the NAAQS, the Project area is classified as Attainment for PM_{10}, and as Unclassified/Attainment for O_3, $PM_{2.5}$, CO, NO_2, SO_2, and lead. Additional information about these pollutants and the NAAQS is available on the United States Environmental Protection Agency's website at www.epa.gov/criteria-air-pollutants.

*Project construction air pollutant emissions were estimated using the California Emissions Estimator Model (CalEEMod, Version CalEEMod.2020.4.0). Copies of the CalEEMod output reports are included in **Appendix C** herein. Peak day air pollutant emissions estimated to be generated during construction are set forth in **Table 1** below.*

Table 1
Estimated Peak Day Construction Equipment Exhaust Emissions for Construction of 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs

	Pollutants (pounds/day[(1)])					
	ROG	NO_X	CO	SO_x	PM_{10}	$PM_{2.5}$
Project Construction Emissions	**1.9486**	**2.8551**	**15.2727**	**0.0297**	**8.0234**	**4.2903**

(1) Peak day, assuming all construction equipment operating simultaneously on the same day.

Construction activities will result in a temporary increase in quantities of air pollutants in the area of each of the Project sites, including airborne dust, resulting from operation of construction vehicles and equipment. Dust will be mitigated to the extent possible using dust palliatives (such as water) and best management practices (BMPs) specified in the construction contract documents for the Project. Air pollutant emissions resulting from Project construction will be less than significant and short-term.

Ongoing operation of the Project will generate small quantities of air pollutant emissions resulting from daily District vehicle trips to the Project sites for routine operation and maintenance; however, said daily vehicle trips are already taking place as part of operation and maintenance of the existing reservoirs on the Project sites. Therefore, Project operation would not result in an increase in vehicle trips or air pollutant emissions over existing conditions.

For the reasons described above, air pollutant emissions generated by construction and operation of the Project will be less than significant and will not result in an increase in O_3 or PM_{10}, for which the Project area is designated Non-Attainment under the CAAQS.

Issue III. Air Quality (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project expose sensitive receptors to substantial pollutant concentrations?	❑	❑	☒	❑

The sensitive receptors nearest the Project sites are as follows:

- ***Gateway Site**: The nearest sensitive receptor is a residential property located across the street from the site, on the east side of S. Gateway Boulevard.*
- ***C-1 Site**: The nearest sensitive receptors are a residence located approximately a half mile to the east and Cerro Coso Community College, located approximately 0.3 mile to the south.*
- ***Salisbury Site**: The nearest sensitive receptor is a residence located approximately 220 feet to the west.*
- ***College Tank Site**: The nearest sensitive receptor is Cerro Coso Community College, located approximately 0.3 mile to the northwest.*

*Quantities of air pollutant emissions will temporarily increase during Project construction at each site; however, as described in **Issue III(b)** herein, said increases will be less than significant and short-term, with construction at each site expected to last approximately 6 months. Ongoing operation of the Project will not result in an increase in air pollutant emissions over current conditions. For these reasons, construction and operation of the Project will not expose sensitive receptors to substantial pollutant concentrations.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	❑	❑	❑	☒

Project construction would not result in emissions other than those cited above, and the Project would not result in odors adversely affecting a substantial number of people. Operation of the Project would not generate other emissions, including those leading to odors. For these reasons, the Project will not result in other emissions, such as those leading to odors adversely affecting a substantial number of people.

Issue IV. Biological Resources

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	❑	☒	❑	❑

Certain species of plants and animals have low populations, limited distributions, or both. Such species are vulnerable to further declines in population and distribution and may be subject to extirpation as the human population grows and the habitats these species occupy are converted to urban or other uses. State and federal laws, particularly the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) provide the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS) with mechanisms for conserving and protecting native plant and animal species. Many plants and animals have been formally listed as "Threatened" or "Endangered" under FESA, CESA, or both, while many others have been designated as candidates for such listing. Additionally, others have been designated as "Species of Special Concern" by CDFW, as "Species of Concern" by USFWS, or are on lists of rare, threatened or endangered plants developed by the California Native Plant Society (CNPS). Collectively, all of these listed and designated species are referred to as "special status species".

The Federal Migratory Bird Treaty Act (MBTA), codified in 50 CFR Section 10.13, makes it unlawful to "take" (i.e. harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect) migratory birds or their nests, eggs, feathers, or any part thereof. With few exceptions, all native bird species are protected by the MBTA. Birds protected under the MBTA are also referred to as "special status species".

Circle Mountain Biological Consultants, Inc. (CMBC) performed a biological resources assessment, focused survey for Agassiz's Desert Tortoise, and habitat assessments for burrowing owl and Mohave ground squirrel, the findings and recommendations of which are set forth in the report titled, Focused Survey for Agassiz's Desert Tortoise, Habitat Assessments for Burrowing Owl and Mohave Ground Squirrel, and General Biological Resource Assessment for Four Replacement Tank Sites in the City of Ridgecrest, Kern County, California, dated January 2020 (Biological Report). A copy of the Biological Report is included in ***Appendix B*** *herein. The following summary is based on the Biological Report.*

The Biological Report indicates that no evidence of burrowing owl (Athene cunicularia) or burrows suitable for burrowing owls were found on any of the four Project Sites. Therefore, the Project would not adversely impact burrowing owls at any of the Project sites, and no mitigation measures for burrowing owls are needed. Further, while there are suitable foraging habitats for loggerhead shrike (Lanius ludovicianus) and Cooper's hawk (Accipiter cooperi) on all four of the Project sites, there are no nesting sites for either of these bird species on any of the four Project sites, and no mitigation for these species are necessary. The Biological Report states that, although the Project Sites are within the known elevational range of Mohave ground squirrel (Xerospermophilus mohavensis), there are no suitable habitats on any of the Project sites to support the species, and CMBC concludes that the Mohave ground squirrel is absent from all four of the Project sites, and no mitigation for Mohave ground squirrel is necessary. Potential impacts on other species, and proposed measures to mitigate the potential impacts, are described below.

- ***Agassiz's Desert Tortoise***

  As a result of its focused survey for Agassiz's desert tortoise (Gopherus agassizii), CMBC did not find tortoise sign on any of the four Project sites or adjacent areas. Based on the absence of tortoise sign, CMBC concluded that Agassiz's desert tortoise (also referred to herein as desert tortoise or tortoise) is absent from each of the Project Sites. However, there is suitable habitat for tortoises in areas adjacent to all four Project Sites. Although no impacts to tortoises are anticipated, the Project incorporates mitigation to further reduce the potential for impacts to tortoises. Mitigation Measure BIO-1 is incorporated into the Project. Mitigation Measure Bio-1 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, which is included in ***Appendix A*** *herein.*

- ***Silver Cholla***

  Based on the Biological Report, a silver cholla (Cylindropuntia echinocarpa) is present on the C-1 Site, near the southwest corner of the site, south of the existing 1.0 MG C-Zone Reservoir and near the perimeter fence. The existing 1.0 MG C-Zone Reservoir and the site fencing will not be impacted as part of the Project, so no impacts to the silver cholla are anticipated; however, in order to further reduce the potential for impacts to the silver cholla, Mitigation Measure BIO-2 is incorporated into the Project. Mitigation Measure BIO-3 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, which is included in ***Appendix A*** *herein.*

- ***Nesting Birds***

  Trees, shrubs, and other vegetation may provide nest sites for birds protected by the Migratory Bird Treaty Act or the California Fish and Game Code. Based on the CMBC Report, the Project Sites and buffer areas contain vegetation that may provide potential habitat for nesting birds. In order to avoid or reduce potential impacts to nesting birds, Mitigation Measure BIO-3 is incorporated into the Project. Mitigation Measure BIO-3 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, which is included in ***Appendix A*** *herein.*

With incorporation of Mitigation Measures BIO-1 through BIO-3, the Project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species.

Mitigation Measure BIO-1: Agassiz's Desert Tortoise

The following measures will be implemented in order to avoid or reduce potential impacts on desert tortoise:

1. *A 15 mile per hour (mph) speed limit will be observed along dirt roads that are not posted with speed limits.*
2. *All applicable measures required by the California Department of Fish and Wildlife (CDFW) in several incidental take permits for operation and maintenance by District staff will be implemented. These measures are routinely emphasized to field personnel in annual education programs.*
3. *The District will provide an educational brochure, setting forth protective measures for tortoises, to all Project contractors to provide to all construction personnel. Each construction worker will sign the associated sign-in sheet to indicate intent to comply with the protective measures.*
4. *All District staff and contractors will keep the gates closed at each Project site, except when entering and exiting the site, to preclude tortoises from entering the sites.*
5. *Construction equipment and workers' vehicles will be parked within the fenced sites, to the extent practicable, during Project construction. If any vehicles cannot be accommodated within a given site, workers shall check beneath vehicles for tortoises prior to moving the vehicles. A tortoise shall not be handled. If a tortoise is observed, a*

biologist will be called to the site to determine the appropriate actions. Alternatively, the vehicle shall not be moved until the tortoise has left on its own accord.

6. *The District's Chief Engineer will serve as the Field Contact Representative (FCR) for all permits issued to the District authorizing take of desert tortoises. If a tortoise is encountered during Project construction, the construction contractor will immediately notify the FCR. The FCR will take necessary precautions to ensure that no take occurs.*
7. *The College Tank Site will be fitted with 1 x 2-inch hardware cloth attached to the lower edge of the chain link perimeter fence prior to commencement of construction in order to preclude tortoises, including hatchlings, from entering the site. The hardware cloth will be installed in accordance with the applicable tortoise exclusion fencing standards from the U.S. Department of Fish and Wildlife. The other Project Sites (Gateway, C-1 Zone, and Salisbury) are already fitted with this hardware cloth.*

Mitigation Measure BIO-2: Silver Cholla

The silver cholla located near the southwestern corner of the C-1 Site will be flagged or otherwise marked to ensure that it is not disturbed during construction activities at the site. In the event that construction impacts cannot be avoided, the District will contact a qualified biologist to salvage the plant for replanting in another location.

Mitigation Measure BIO-3: Nesting Birds

Commencement of construction and vegetation removal at the Project Sites will take place during the non-breeding season extending from September 15 through March 15. If it is necessary to commence Project construction between March 16 through September 14, then a nesting bird preconstruction survey will be conducted by a qualified biologist at the applicable site(s) prior to commencement of site disturbance.

The preconstruction surveys will be conducted at the appropriate time of day during the breeding season, and the survey will end no more than three days prior to site disturbance. If greater than three days passes since the preconstruction survey, then the applicable site(s) will be resurveyed within three days prior to site disturbance.

If no nesting birds are observed, then Project construction may begin. If an active bird nest is located, then the biologist will determine an appropriate exclusionary buffer around the

nest. The exclusionary buffer will be clearly marked in the field by construction personnel under the guidance of the qualified biologist. No construction or vegetation clearing will be conducted within the exclusionary buffer until the qualified biologist has determined that the young have fledged or the nest is no longer active.

Issue IV. Biological Resources (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	❑	❑	❑	☒

*Besides potential habitat for the special status species described in **Issue IV(a)** above, there are no riparian habitats or other sensitive natural communities on the Project sites. Therefore, the Project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	❑	❑	❑	☒

*Based on the Biological Report cited in **Issue IV(a)** above, there are no wetlands or stream courses located on or adjacent to the Project site. Therefore, construction and operation of the Project will not have a substantial adverse effect on state or federally protected wetlands.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project 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?	❑	❑	❑	☒

The Project is located on four existing, fenced sites that contain existing District facilities and will not 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.

Issue IV. Biological Resources (continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	❑	❑	❑	☒

The Project will not conflict with any local policies or ordinances protecting biological resources. No trees subject to a tree preservation policy or ordinance will be removed.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	❑	❑	❑	☒

The Project sites are not located within an area covered by an adopted Habitat Conservation Plan, a Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan; therefore, the Project will not conflict with the provisions of any such plan.

Issue V. Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	❑	❑	❑	☒

CEQA Guidelines Section 15064.5(3) states, in part, that "Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4852), including the following:

"(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) 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

(D) Has yielded, or may be likely to yield, information important in prehistory or history."

Further, California Public Resources Code Section 5020.1(j) states that a "'Historical resource' includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California."

CRM TECH performed a cultural resources overview of the District's service area, the methods and findings of which are set forth in the report, Cultural Resources Overview, Water System General Plan, Indian Wells Valley Water district, Kern and San Bernardino Counties, California, dated September 19, 1997 (CRM TECH Report), a copy of which is available from the District, and is incorporated herein by reference.

The CRM TECH Report notes that almost all areas within the District, with the exception of graded or paved roadbeds, are potentially sensitive for various types of cultural resources. Although there are no known historical or archaeological resources on any of the Project sites, mitigation is incorporated into the Project at all four Project Sites to avoid or reduce the potential for adverse impacts upon any historical or archaeological resources that may be uncovered during Project construction.

In order to avoid or reduce potential impacts upon historical or archaeological resources, Mitigation Measure CUL-1 is incorporated into the Project. Mitigation Measure CUL-1 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, which is included in ***Appendix A*** *herein. With incorporation of Mitigation Measure CUL-1, the Project will not cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.*

Mitigation Measure CUL-1: Cultural Resources

In the event that any object uncovered during Project construction activities appears to be a historical or archaeological artifact (or appears to be older than 40 years), all work within fifty (50) feet of the discovery shall be immediately halted or diverted, and the following steps shall be taken:

- *The construction contractor shall halt all work within a 50-foot radius of the discovery. Work outside the 50-foot radius may continue.*
- *The construction contractor shall immediately contact Indian Wells Valley Water District (the District) via telephone to notify the District of the find.*

- *The District will contact a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualifications Standards to evaluate the nature and significance of the find.*
- *If the qualified archaeologist determines that the find is not a significant historical or archaeological resource, then construction may resume with approval of the District.*
- *If the qualified archaeologist determines that the find is a significant historical or archaeological resource, then construction shall not resume until a plan has been developed to preserve or protect the resource as appropriate and as determined by the District in collaboration with the qualified archaeologist.*

With incorporation of Mitigation Measure CUL-1, the Project would not cause a substantial adverse change in the significance of a historical resource.

Issue V. Cultural Resources (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	❑	❑	❑	☒

*Refer to **Issue V(a)** above. The Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. A description of potential impacts upon tribal cultural resources is included in **Issue XVIII** herein.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	❑	❑	❑	☒

*There are no known cemeteries or burial grounds located on or adjacent to any of the Project sites. To avoid or reduce potential impacts upon any human remains that may be inadvertently encountered during Project construction, Mitigation Measure CUL-2 is incorporated into the Project. Mitigation Measure CUL-2 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, which is included in **Appendix A** herein. Additionally, the Project will comply with the provisions of Section 15064.5 of the State CEQA Guidelines.*

Mitigation Measure CUL-2: Human Remains

In the event that any human remains are encountered during Project construction, the construction contractor will halt or divert all work and will immediately contact the Kern County Coroner and the Indian Wells Valley Water District (the District). Construction activities will not resume until a qualified archaeologist or historian evaluates the nature and significance of the find and the District notifies the construction contractor to proceed.

Issue VI. Energy

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	❑	❑	❑	☒

The primary energy resource that will be consumed during construction of the Project is fuel needed by the construction contractor for operating construction vehicles and equipment. Operation of the Project will require fuel for travel of one District vehicle trip to the sites daily. Minimal quantities of electric power will be used for operation of the telemetry sensors connecting the reservoirs to the District's existing SCADA system and for occasional operation of lights when needed. This energy use is minimal and will not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	❑	❑	❑	☒

Construction and operation of the Project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Refer also to ***Issue VI(a)*** *above.*

Issue VII. Geology and Soils

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) 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.	❑	❑	❑	☒
ii) Strong seismic ground shaking?	❑	❑	❑	☒
iii) Seismic-related ground failure, including liquefaction?	❑	❑	❑	☒
iv) Landslides?	❑	❑	❑	☒

i) ***Gateway Site****: Based on the report, Geotechnical Exploration Indian Wells Valley Water District Proposed "Gateway" Plant Improvements New 1.0 MG Reservoir Tank, Replacement Booster Pumphouse and Pipeline 895± East Javis Avenue Ridgecrest, Kern County, California Kern County Parcel (APN) No. 343-12-046), by Leighton Consulting, Inc., dated March 23, 2020 (Gateway Geotechnical Report), the Gateway Site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. Further, Kern County has not mapped a fault through or towards this site. For these reasons, construction and operation of the new 1.0 MG Gateway Reservoir will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.*

C-1 Site*: Based on the report, Geotechnical Exploration Indian Wells Valley Water District Three Proposed Potable Water Tanks College, C-Zone and D-Zone Sites Ridgecrest, Kern County, California Kern County Parcel (APNs) 343-140-14, 343-120-47, and 343-120-44, by Leighton Consulting, Inc., dated March 15, 2021 (C-1, Salisbury, and College Geotechnical Report), the C-1 Site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. Further, Kern County has not mapped a fault through or towards this site. For these reasons, construction and operation of the new 1.0 MG C-Zone Reservoir will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.*

***Salisbury Site**: Based on the report, Geotechnical Exploration Indian Wells Valley Water District Three Proposed Potable Water Tanks College, C-Zone and D-Zone Sites Ridgecrest, Kern County, California Kern County Parcel (APNs) 343-140-14, 343-120-47, and 343-120-44, by Leighton Consulting, Inc., dated March 15, 2021 (C-1, Salisbury, and College Geotechnical Report), the Salisbury Site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. Further, Kern County has not mapped a fault through or towards this site. For these reasons, construction and operation of the new 0.1 MG D-Zone Reservoir will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.*

***College Tank Site**: Based on the report, Geotechnical Exploration Indian Wells Valley Water District Three Proposed Potable Water Tanks College, C-Zone and D-Zone Sites Ridgecrest, Kern County, California Kern County Parcel (APNs) 343-140-14, 343-120-47, and 343-120-44, by Leighton Consulting, Inc., dated March 15, 2021 (C-1, Salisbury, and College Geotechnical Report), the College Tank Site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. Further, Kern County has not mapped a fault through or towards this site. For these reasons, construction and operation of the new 0.55 MG College Reservoir will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.*

ii) *Being located in seismically-active southern California, all of the Project Sites are subject to strong seismic ground shaking. The Project does not include any structures intended for human occupancy, and Project facilities at each site will be designed and constructed in accordance with the recommendations of the Gateway Geotechnical Report and the C-1, Salisbury, and College Geotechnical Report, cited in **Issue VII(a)(i)** above, as applicable to each site. For these reasons, construction and operation of the Project is not expected to directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.*

iii) *Based on the Gateway Geotechnical Report and the C-1, Salisbury, and College Geotechnical Report, cited in **Issue VII(a)(i)** above, all four of the Project Sites lack shallow groundwater and contain dense alluvium, and the potential for liquefaction at each site has been determined to be nil. Further, assuming that the new reservoir at the Gateway Site is underlain by only compacted fill and dense alluvium, seismically induced settlement under the new 1.0 MG Gateway Reservoir is expected to be negligible. Assuming that the new 1.0 MG*

C-Zone Reservoir, the new 0.1 MG D-Zone Reservoir, and the new 0.55 MG College Reservoir are underlain by only compacted fill, dense alluvium, and quartz monzonite bedrock, seismically induced settlement under each of these tanks is expected to be negligible. For these reasons, the Project will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure.

iv) *Based on the Gateway Geotechnical Report and the C-1, Salisbury, and College Geotechnical Report, cited in* ***Issue VII(a)(i)*** *above, the Gateway, C-1, and College Sites are relatively flat. The Salisbury Site slopes down to the north, with the existing 0.1 MG D-Zone Reservoir located on a small pad built into the hillside. Project facilities will be designed and constructed in accordance with the recommendations set forth in the Gateway Geotechnical Report and the C-1, Salisbury, and College Geotechnical Report, as applicable to each site. Further, the Project does not include facilities intended for human occupancy. For these reasons, the Project will not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.*

Issue VII. <u>Geology and Soils</u> (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project result in substantial soil erosion or the loss of topsoil?	❑	❑	☒	❑

A majority of the areas that will be disturbed as part of Project construction have already been disturbed, particularly during construction and operation of existing facilities. Project design at each site provides for adequate stormwater flow, and substantial soil erosion is not anticipated. Although some soil erosion may result during Project construction as a result of disturbed soils or stockpiles that may be present during construction, contract documents will require the construction contractor to use standard erosion control measures and best management practices to prevent or minimize erosion.

Disturbed ground surfaces will be returned to near-preconstruction conditions after Project construction, and no erosion related to the Project is expected to occur after completion of construction and final site stabilization.

For the reasons described above, the Project would not result in substantial soil erosion or substantial impacts related to the loss of topsoil.

Issue VII. Geology and Soils (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project 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 on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	❑	❑	❑	☒

*Based on the Gateway Geotechnical Report and the C-1, Salisbury, and College Geotechnical Report, cited in **Issue VII(a)(i)** above, none of the Project Sites are located on a geologic unit or soil that is unstable or that would become unstable as a result of the Project. Further, the Project will incorporate the recommendations set forth in the Gateway Geotechnical Report and the C-1, Salisbury, and College Geotechnical Report. For these reasons, the Project would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse related to unstable soils. Refer also to **Issue VII(a)** above.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	❑	❑	❑	☒

*Based on the Gateway Geotechnical Report and the C-1, Salisbury, and College Geotechnical Report, cited in **Issue VII(a)(i)** above, all four sites are underlain primarily by alluvial soils, with the C-1, Salisbury, and College Sites are additionally underlain by quartz monzonite bedrock at varying depths. These soils are not known to be expansive; therefore, the Project will not create substantial direct or indirect risks to life or property related to expansive soil.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	❑	❑	❑	☒

The Project does not include septic tanks or alternative wastewater disposal systems.

Issue VII. Geology and Soils (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	❑	❑	☒	❑

Federal, state, and local regulations and policies provide protection for paleontological resources. These include, but are not limited to, the federal Paleontological Resources Preservation Act of 2009 (Public Law 111-011, Title VI, Subtitle D), California Public Resources Code Section 30244, Kern County General Plan (2009), and City of Ridgecrest General Plan (2009).

Due to the existing development on the Project Sites, no paleontological resources are known or expected to be present on the sites. Further, the Project Sites do not contain any unique geologic features. For these reasons, no impacts to unique paleontological resources or unique geological features are anticipated.

*To prevent an adverse impact upon any previously undiscovered paleontological resource that may be present in subsurface soil deposits, Mitigation Measure PALEO-1 is incorporated into the Project. Mitigation Measure PALEO-1 is summarized below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, a copy of which is included in **Appendix A** herein. With incorporation of PALEO-1, construction and operation of the Project would not directly or indirectly destroy a unique paleontological resource or geological feature.*

Mitigation Measure PALEO-1: Paleontological Resources

The following measures will be implemented to protect any paleontological resources uncovered during ground disturbance at each of the Project Sites:

- *If any potential paleontological resources are uncovered during Project construction, all work in the vicinity of the discovery shall be halted until a qualified paleontologist can evaluate the nature and significance of the find.*
- *If a qualified paleontologist determines that a specimen uncovered during Project construction is potentially significant, then all future ground-disturbing actions associated with the Project will be monitored by a qualified paleontological monitor.*
- *Specimens recovered from the Project site by the qualified paleontological monitor will be, in accordance with standard paleontological practice, identified and curated at a*

repository with permanent retrievable storage that will allow for additional research in the future.

Issue VIII. Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	❑	❑	☒	❑

Gases that trap heat in the Earth's atmosphere are referred to as greenhouse gases (GHGs). GHGs that are emitted due to human activities, primarily from the combustion of fossil fuels (e.g. gasoline in motor vehicles), are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The most common GHG that results from human activities is CO_2, followed by CH_4 and N_2O, respectively.

To quantify and combine these three GHGs into a single figure, each gas is converted to "carbon dioxide equivalent" (CO_2e) units. CO_2e is defined by the United States Environmental Protection Agency (USEPA) as, "A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP)…The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP." The GWPs for carbon dioxide, methane, and nitrous oxide are 1, 21, and 310, respectively.

The Project is expected to generate GHGs during construction and operation. GHGs emitted during construction would result from operating construction vehicles and equipment and from workers' vehicles commuting to and from the Project sites. Estimated quantities of GHGs that would be generated during Project construction at all sites combined total approximately 28 metric tons of CO_2e per year, as determined by reports generated using the California Emissions Estimator Model (CalEEMod, Version CalEEMod.2020.4.0). Copies of the CalEEMod output reports are included in ***Appendix C*** *herein.*

GHG's emitted during ongoing operation and maintenance would result from daily vehicle trips to and from each Project Site; however, since each site contains existing District reservoirs, the Project would not result in an increase in vehicle trips for ongoing operation and maintenance above existing conditions; therefore, there would be no impact.

In accordance with the Eastern Kern Air Pollution Control District Policy Addendum to CEQA Guidelines Addressing GHG Emission Impacts for Stationary Source Projects When Serving as Lead

CEQA Agency, adopted by the EKAPCD Board on March 8, 2012, EKAPCD considers projects that emit less than 25,000 metric tons of CO_2e per year to have a less than significant impact with regard to GHG emissions.

For the reasons described above, the Project will not generate GHG emissions that would, either directly or indirectly, have a significant impact on the environment.

Issue VIII. Greenhouse Gas Emissions (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of greenhouse gases?	❑	❑	❑	☒

*As described in **Issue VIII(a)** above, construction of the Project would generate insignificant quantities of GHGs, while operation of the Project would not result in an increase in GHG emissions over existing conditions. For these reasons, construction and operation of the Project will not conflict with any plan, policy, or regulation adopted for the purpose of reducing GHG emissions.*

Issue IX. Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	❑	❑	❑	☒

Small quantities of fuel, lubricants, adhesives, paint, and coatings will be used during construction of each reservoir. Said use will be short-term and strictly controlled, and waste materials will be properly disposed of. Such materials will not be allowed to enter any drainage. Further, operation of the reservoirs does not involve the generation, transport, use, storage, or disposal of any hazardous materials. Therefore, construction and operation of the Project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Issue IX. Hazards and Hazardous Materials (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	❑	❑	❑	☒

Construction and operation of the Project do not have the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Refer also to ***Issue IX(a)*** *above.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	❑	❑	❑	☒

None of the Project Sites are located within one-quarter mile of an existing or proposed school. The nearest school is Cerro Coso Community College, which is located approximately 0.3 mile northwesterly of the College Tank Site, approximately 0.3 mile southwesterly of the C-1 Site, approximately one mile southwesterly of the Gateway Site, and approximately 1.1 miles southwesterly of the Salisbury Site. Project construction and operation will take place within the existing reservoir sites and will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	❑	❑	❑	☒

None of the Project sites are located on a site included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. According to maps and data available to the public on EnviroStor (the California Department of Toxic Substances Control (DTSC) database located online at http://www.envirostor.dtsc.ca.gov/public), the nearest such site is the Naval Air Weapons Center, China Lake (NAWS China Lake), which is located at the north end of the City of Ridgecrest. The Project will not have an impact on, nor be impacted by, the NAWS China Lake site and will not create a significant hazard to the public or the environment.

Issue IX. Hazards and Hazardous Materials (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	❑	❑	❑	☒

The airports nearest the Project site are the Naval Air Weapons Station, China Lake (NAWS China Lake) and the Inyokern Airport. NAWS China Lake is located at the northern end of the City of Ridgecrest; the southern boundary of NAWS China Lake is approximately five miles north of the northernmost Project Site, which is the Gateway Site. The Inyokern Airport is a public use general aviation airport owned by the Indian Wells Valley Airport District and is located approximately ten miles northwesterly of the closest Project Site, which is the C-1 Site.

Project facilities will not generate noise during operation besides daily vehicle trips to the sites for routine operation and maintenance, and said vehicle trips are currently taking place for operation of the District's existing facilities on the Project Sites. The Project Sites are fenced and contain existing District water system facilities. For these reasons, the Project would not result in a safety hazard or excessive noise related to airports.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	❑	❑	❑	☒

Transportation corridors would remain open during Project construction, and no lane or road closures are necessary. Therefore, construction and operation of the Project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	❑	❑	☒	❑

Based on maps available on the Fire Hazard Severity Zone Viewer available on the California Department of Forestry and Fire Protection's Fire Resource and Assessment Program website

(http://frap.fire.ca.gov), none of the Project Sites are located in, or adjacent to, an area designated as a moderate, high, or very high fire hazard severity zone. There is a slight risk of fire occurring during Project construction; however, the risk is less than significant and short-term. Additionally, construction contract documents for the Project will require construction contractors to comply with safety standards specified in Title 8 of the California Code of Regulations and that any equipment or machinery that poses a risk of emitting sparks or flame be equipped with an arrestor, thereby further limiting potential impacts. For these reasons, construction and operation of the Project will not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Issue X. Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	❑	❑	❑	☒

The Project includes construction and operation of four welded steel potable water storage reservoirs on existing District-owned reservoir sites that are currently occupied by existing reservoirs. Project facilities do not have a waste stream and will not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	❑	❑	❑	☒

The Project does not have a water demand beyond that required during construction. Therefore, the Project does not have the potential to substantially decrease groundwater supplies or interfere substantially with groundwater recharge.

Issue X. Hydrology and Water Quality (Continued)

c) Would the project 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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Result in substantial erosion or siltation on- or off-site?	❑	❑	☒	❑
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	❑	❑	☒	❑
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	❑	❑	❑	☒
iv) Impede or redirect flood flows?	❑	❑	❑	☒

i) Facilities proposed at each Project Site will be designed to accommodate stormwater runoff in consideration of additional impervious areas resulting from the new reservoirs. Design features at each site will prevent substantial erosion or siltation on- or off- site. Therefore, drainage flow and pattern changes will be less than significant and will not result in substantial erosion or siltation on- or off-site.

ii) The Project will result in an increase of impervious surfaces at the Gateway Site, C-1 Site, and College Tank Site as a result of additional areas that will include water storage reservoirs over existing conditions. Project facilities at the Salisbury Site are not expected to increase the impervious surface area of the site. Project design includes adequate drainage features to accommodate the increase in stormwater runoff, if any, at each of the Project Sites. Therefore, the Project will not result in flooding on- or off-site. Refer also to ***Issue X(c)(i)*** *above,*

iii) The Project would not create or contribute any runoff water or result in stormwater runoff that would exceed the capacity of existing or planned drainage systems or provide substantial additional sources of polluted runoff. Refer also to ***Issues X(c)(i)*** *and* ***X(c)(ii)*** *above.*

iv) Project facilities do not have the potential to impede or redirect flood flows.

Issue X. Hydrology and Water Quality (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?	❑	❑	❑	☒

The Project site is not located within a flood hazard, tsunami, or seiche zone. Based on the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer Viewer, available online at https://www.fema.gov/flood-maps/national-flood-hazard-layer, all four of the Project sites are located within areas mapped as Zone X, Areas of Minimal Flood Hazard. Based on the California Official Tsunami Inundation Maps available on the California Department of Conservation website at https://www.conservation.ca.gov/cgs/tsunami/maps, there are no tsunami inundation areas mapped within Kern County. There are no water bodies of sufficient size located near any of the Project Sites that would put the sites at risk of a seiche. For these reasons, the Project is not at risk of inundation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	❑	❑	❑	☒

The water quality control plan applicable to the Project area is the Water Quality Control Plan for the Lahontan Region, effective March 31, 1995 and amended through October 29, 2019. The Project does not include features that will conflict with or obstruct water quality policies or objectives, and will not conflict with or obstruct implementation of the water quality control plan cited above.

The sustainable groundwater management plan applicable to the Project area is the Groundwater Sustainability Plan for the Indian Wells Valley Groundwater Basin, Bulletin 118 Basin No. 6-054, Indian Wells Valley Groundwater Authority, dated January 2020, prepared by Stetson Engineers, Inc. The Project does not conflict with or obstruct implementation of the groundwater sustainability plan.

For the reasons described above, the Project will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Issue XI. Land Use and Planning

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project physically divide an established community?	❑	❑	❑	☒

The Project is located on four existing District-owned reservoir sites; therefore, the Project does not have the potential to physically divide an established community.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	❑	❑	❑	☒

The Project reservoirs are being constructed on existing District reservoir sites. Project construction and operation will take place within the bounds of the existing District-owned properties and will not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Issue XII. Mineral Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	❑	❑	❑	☒

There are no known mineral resources on any of the Project sites. Based on Kern County GIS maps available to the public at https://maps.kerncounty.com/H5/index.html?viewer=KCPublic, there are no mineral resource zones located on or near any of the Project Sites. For these reasons, the Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Issue XII. Mineral Resources (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	❑	❑	❑	☒

There are no known mineral resources designated on or in close proximity to the Project Sites. Therefore, construction and operation of the Project will not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Refer also to ***Issue XII(a)*** *above.*

Issue XIII. Noise

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	❑	❑	☒	❑

Chapter 8.36 of the Kern County Code of Ordinances prohibits the creation of noise from construction between the hours of 9:00 pm and 6:00 am on weekdays and between the hours of 9:00 pm and 8:00 am on weekends, which is audible to a person with average hearing faculties at a distance of 150 feet from the construction site, if the construction site is within 1,000 feet of an occupied residential dwelling. The Health and Safety Element of the City of Ridgecrest General Plan (2009) includes a goal stating that "The City shall limit construction activities to the hours of 7 am to 7 pm, Monday through Saturday. No construction shall occur on Sundays or national holidays…".

The occupied structures nearest the Project Sites are as follows:

- ***Gateway Site****: The nearest sensitive receptor is a residential property located across the street from the site, on the east side of S. Gateway Boulevard, approximately 220 feet to the east.*
- ***C-1 Site****: The nearest sensitive receptors are a residence located approximately a half mile to the east and Cerro Coso Community College, located approximately 0.3 mile to the south.*
- ***Salisbury Site****: The nearest sensitive receptor is a residence located approximately 220 feet to the west.*
- ***College Tank Site****: The nearest sensitive receptor is Cerro Coso Community College, located approximately 0.3 mile to the northwest.*

Due to the distance of occupied structures from the C-Zone and College Tank Sites, Project construction at these two sites will not generate a substantial temporary increase in noise. The Gateway and Salisbury Sites are located in proximity to residences, and it is anticipated that noise will be perceptible at nearby residences during construction at these two sites. To minimize impacts, contract documents will restrict construction during nighttime hours in accordance with the City and County limitations described above, as applicable for each Project Site. Construction noise is anticipated to be less than significant and temporary at the surrounding residences.

The Project will not result in an increase in ambient noise levels at any of the Project sites because the Project will not generate noise levels above existing conditions during ongoing operation of the Project facilities.

For the reasons described above, the Project will not result in generation of a substantial temporary or permanent increase in ambient noise levels in excess of standards established for the area.

Issue XIII. Noise (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?	❑	❑	☒	❑

Project construction is expected to result in some groundborne vibration and groundborne noise during demolition and removal of the existing 0.4 MG C-Zone Reservoir at the C-1 Site, during demolition and removal of the existing 0.1 MG D-Zone Reservoir at the Salisbury Site, and construction of the new reservoirs at all four Project Sites. Said groundborne vibration and groundborne noise levels are not expected to be substantial at the nearest occupied structures, which are located approximately 220 feet east of the Gateway Site, approximately 0.3 mile south of the C-1 Site, approximately 220 feet west of the Salisbury Site, and approximately 0.3 mile northwest of the College Tank Site. Any groundborne vibration or groundborne noise generated during demolition or construction activities will be less than significant and temporary. The Project will not result in generation of groundborne vibration or groundborne noise levels during operation. For these reasons, the Project will not result in the generation of excessive groundborne vibration or groundborne noise levels.

Issue XIII. Noise (Continued)

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	❑	❑	❑	☒

The airports nearest the Project site are the Naval Air Weapons Station, China Lake (NAWS China Lake) and the Inyokern Airport. NAWS China Lake is located at the northern end of the City of Ridgecrest; the southern boundary of NAWS China Lake is approximately five miles north of the northernmost Project Site, which is the Gateway Site. The Inyokern Airport is a public use general aviation airport owned by the Indian Wells Valley Airport District and is located approximately ten miles northwesterly of the closest Project Site, which is the C-1 Site.

While the Project will generate noise during construction at each Project Site, said noise will be less than significant and temporary. Project facilities will not generate noise during operation besides daily vehicle trips to the sites for routine operation and maintenance, and said vehicle trips are currently taking place for operation of the District's existing facilities on the Project Sites. For these reasons, the Project will not expose people residing or working in the Project area to excessive noise levels related to airports.

Issue XIV. Population and Housing

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of road or other infrastructure)?	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	❑	❑	❑	☒

The Project includes replacement of damaged water storage facilities and additional water storage facilities to provide operational flexibility. The additional storage capacity does not provide an additional water supply and would not induce substantial unplanned growth in the area. Further, the Project would not result in a need for the District to hire additional employees. For these reasons, the Project does not have the potential to induce population growth in the area, either directly or indirectly.

Issue XIV. Population and Housing (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	❑	❑	❑	☒

The Project is located on four existing, fenced reservoir sites and does not have the potential to displace any existing people or housing.

Issue XV. Public Services

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Fire protection?	❑	❑	❑	☒
ii) Police protection?	❑	❑	❑	☒
iii) Schools?	❑	❑	❑	☒
iv) Parks?	❑	❑	❑	☒
v) Other public facilities?	❑	❑	❑	☒

i) The Project does not include any features or facilities that would require additional or unusual fire protection resources.

ii) The Project does not include any features or facilities that would require enhanced levels of police protection.

iii) The Project does not have the potential to increase or decrease the area's population and would therefore not result in a greater or lesser demand for schools. The Project will not adversely impact any school.

iv) The Project does not have the potential to increase or decrease the area's population, and therefore will not result in a greater or lesser demand for parks. The Project will not adversely impact any park.

v) The Project will not adversely affect other public facilities.

Issue XVI. Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	❑	❑	❑	☒

Construction and operation of the Project does not have the potential to increase or decrease the area's population, and would therefore not result in increased or decreased use of parks or other recreational facilities. Refer also to ***Issue XIV(a)*** *herein.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	❑	❑	❑	☒

Construction and operation of the Project does not include recreational facilities and will not require the construction or expansion of any recreational facilities.

Issue XVII. Transportation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	❑	❑	☒	❑

Minor, temporary impacts to traffic are expected to occur during construction of the Project due to workers' vehicles and construction vehicles and equipment at each Project Site; however, said impacts will be less than significant and short-term. Operation of the Project will not increase vehicle trips in the area above existing conditions because the four Project Sites contain existing District facilities that are currently being operated by the District. For these reasons, construction and operation of the Project will not conflict with a program, plan, ordinance, or policy addressing the circulation systems, including those cited above.

Issue XVII. Transportation (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	❑	❑	☒	❑

Construction of the Project is expected to result in approximately ten workers' vehicles traveling to and from the Project site per day. For the purposes of this analysis, we have assumed that workers will commute a total of 40 miles per day each, round-trip, which results in a total of 400 vehicle miles traveled (VMT) per day during construction. This amount of daily VMT will only occur during Project construction and is not significant considering the existing traffic levels in the area and the short-term nature of construction. Operation of the Project is expected to require approximately one daily District vehicle trip to and from each of the four Project Sites; however, these trips are an existing ongoing activity that is necessary for operation of the existing reservoirs on the sites. Therefore, no increase in VMT will result from operation of the Project. For these reasons, construction and operation of the Project will not conflict or be inconsistent with CEQA Guidelines section 15064.3(b).

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	❑	❑	❑	☒

The Project will be constructed on four existing fenced sites containing existing District water facilities. No road improvements or other facilities located outside of the Project Sites are included in the Project. Therefore, construction and operation of the Project will not substantially increase hazards due to a geometric design feature or incompatible uses.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project result in inadequate emergency access?	❑	❑	❑	☒

Project facilities will be located at four existing District reservoir sites and will not result in inadequate emergency access at the Project sites or in the local vicinity.

Issue XVIII. Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project 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:				
i) 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)?	❑	❑	❑	☒
ii) 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 Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	❑	❑	❑	☒

i) *The Project sites are each occupied by existing District water storage facilities, and there are no known tribal cultural resources or other cultural resources on the Project sites, including any that are 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). With incorporation of Mitigation Measure TCR-1, described in* ***Issue XVIII(a)(ii)*** *below, the Project will not cause a substantial adverse change in the significance of a tribal cultural resource that is 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).*

ii) *No Native American tribe has contacted the District to request notification on projects within the District's service area. The Project sites have been previously disturbed in the past, as each site is an existing, fenced, District-owned reservoir site, and the District is not aware of any Native American resources located on the Project sites, including any such resources that are 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). However, to avoid or reduce potential impacts upon tribal cultural resources, Mitigation Measure TCR-1 is incorporated into the Project. Mitigation Measure TCR-1 is summarized*

below and is set forth in the Mitigation Monitoring and Reporting Program for the Project, a copy of which is included in ***Appendix A*** *herein. With incorporation of Mitigation Measure TCR-1, the Project will not cause a substantial adverse impact upon a tribal cultural resource, including one that is significant to a California Native American tribe.*

Mitigation Measure TCR-1: Tribal Cultural Resources

In the event that any potential tribal cultural resource is discovered during ground disturbing activities pursuant to the Project, the construction contractor will immediately halt construction and notify the District, which will then contact a qualified archaeologist, meeting Secretary of the Interior's standards, to assess the find. If it is determined by the archaeologist that the find is of Native American origin, the District will notify one or more local tribes of the find, and the District will consult in good faith with the tribe(s) on the disposition and treatment of any artifacts or other cultural materials encountered during activities pursuant to the Project. Construction activities will resume only with express permission of the District.

Issue XIX. Utilities and Service Systems

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the relocation or construction of which could cause significant environmental effects?	❑	❑	☒	❑

The Project consists of construction and operation of four water storage reservoirs, as described in ***Part 1(B)*** *herein. While project facilities will include electric service as part of connection of the new reservoirs to the District's SCADA system, piping, and storm water drainage swales, these facilities will all be located within the existing District-owned Project sites and will not have a significant environmental impact.*

Issue XIX. Utilities and Service Systems (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	❑	❑	❑	☒

Project operation does not have a water demand. Water needed during construction, such as for dust control, will be available from the District's existing water supplies. Construction water demand will be less than significant and short-term. For these reasons, sufficient water supplies are available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	❑	❑	❑	☒

The Project will not generate sanitary wastewater.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	❑	❑	☒	❑

Solid waste will be generated during Project construction, particularly resulting from demolition and removal of the existing 0.4 MG C-Zone and existing 0.1 MG D-Zone reservoirs. This waste, including the demolished reservoirs, will be recycled or taken to a local landfill. The Project will not generate solid waste during ongoing operation. For these reasons, the project will not generate solid waste in excess of state or local standards or in excess of the capacity of local infrastructure. Further, the Project will not otherwise impair the attainment of solid waste reduction goals.

Issue XIX. Utilities and Service Systems (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	❑	❑	❑	☒

*The Project will comply with all federal, state, and local statutes and regulations related to solid waste. Refer also to **Issue XIX(d)** above.*

Issue XX. Wildfire

If the Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?	❑	❑	❑	☒

Based on maps available on the California Board of Forestry and Fire Protection State Responsibility Area Viewer, none of the Project sites are located within a state responsibility area (SRA). All four sites are located within a local responsibility area (LRA), each bounded on one or more sides by a federal responsibility area (FRA). The SRAs nearest the Project sites are located west of Inyokern, on the westerly side of State Route 14. Based on the Fire Hazard Severity Zones (FHSZ) Viewer available on the California Department of Forestry and Fire Projection's Fire and Resource Assessment Program website, none of the Project sites and surrounding areas are located within a very high fire hazard severity zone. Therefore, the Project is not located in or near any state responsibility areas or lands classified as very high fire hazard severity zones. Further, the Project does not have the potential to substantially impair an adopted emergency response plan or emergency evacuation plan.

Issue XX. Wildfire (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Due to slope, prevailing winds, or other factors, would the project exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	❑	❑	❑	☒

The Project does not include habitable structures, and there would be no project occupants. Further, construction and operation of the Project will not exacerbate wildfire risks. Refer also to ***Issue XX(a)*** *above.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	❑	❑	❑	☒

The Project does not require the installation or maintenance of associated infrastructure that will exacerbate fire risk or result in temporary or ongoing impacts to the environment related to fire risk. Refer also to ***Issue XX(a)*** *above.*

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslide, as a result of runoff, post-fire slope instability, or drainage changes?	❑	❑	❑	☒

The Project will be constructed within four existing District reservoir sites, and after completion of construction at each site, disturbed surfaces will be returned to preconstruction conditions. Construction and operation of the Project will not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes.

Issue XXI. Mandatory Findings of Significance

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a)	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	❑	☒	❑	❑

- ***Biological Resources***

  *As described in **Issue IV** herein, although Agassiz's desert tortoise (desert tortoise) has been determined to be absent from the Project Sites, there is suitable habitat for desert tortoise in areas adjacent to the Project Sites. There is a silver cholla located on the C-1 Site. Additionally, the Project Sites contain potential habitat for nesting birds. To reduce the risk of potential impacts on desert tortoise, silver cholla, and nesting birds, Mitigation Measures BIO-1 through BIO-3 are incorporated into the Project. Mitigation Measures BIO-1 through BIO-3 are set forth in the Mitigation Monitoring and Reporting Program for the Project, a copy of which is included in **Appendix A** herein. With incorporation of Mitigation Measures BIO-1 through BIO-3, the Project will not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal.*

- ***Archaeological and Historical Resources***

  *As described in **Issue V** herein, although there are no known archaeological or historical resources on any of the Project Sites, the Project incorporates Mitigation Measure CUL-1, which is intended to avoid or reduce potential impacts upon any archaeological or historical resources that may be uncovered during Project construction at each of the four Project Sites. Mitigation Measure CUL-1 is set forth in the Mitigation Monitoring and Reporting Program included in **Appendix A** herein. With incorporation of Mitigation Measure CUL-1, the Project will not eliminate important examples of major periods of California history or prehistory.*

- ***Paleontological Resources***

  *As described in **Issue VII(f)** herein, there are no known paleontological resources present on any of the Project sites. To avoid adverse impacts upon any previously undiscovered paleontological resources that may be present in subsurface soils at the Project Sites, Mitigation Measure*

PALEO-1 is incorporated into the Project. Mitigation Measure PALEO-1 is set forth in the Mitigation Monitoring Program for the Project, a copy of which is included in ***Appendix A*** *herein. With incorporation of Mitigation Measure PALEO-1, the Project will not eliminate important examples of the major periods of California prehistory.*

Issue XXI. Mandatory Findings of Significance (Continued)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	❑	❑	❑	☒

None of the impacts or potential impacts of the Project are cumulatively considerable.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	❑	❑	❑	☒

As described herein, none of the environmental effects of the Project will cause substantial adverse effects on human beings, either directly or indirectly.

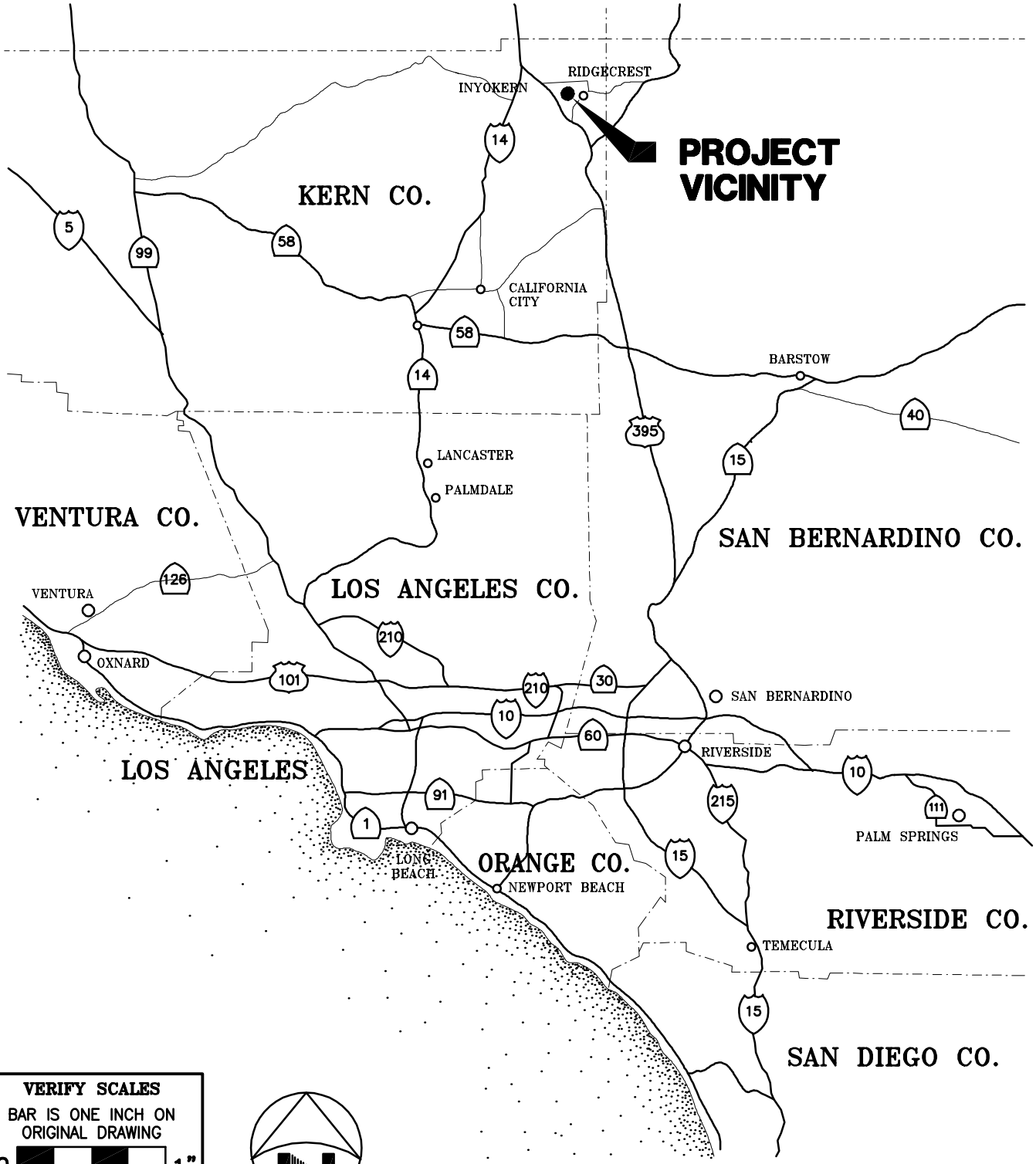
PART 3
REFERENCES AND SOURCES

PART 3 - REFERENCES AND SOURCES

- California Air Resources Board Website for California Ambient Air Quality Standards, www.arb.ca.gov/resources/california-ambient-air-quality-standards
- California Board of Forestry and Fire Protection State Responsibility Area Viewer, bof.fire.ca.gov/projects-and-programs/state-responsibility-area-viewer
- California Code of Regulations, Title 14, Division 6, Chapter 3; Guidelines for Implementation of the California Environmental Quality Act, Section 15000 *et seq;* as amended December 28, 2018
- California Department of Conservation Tsunami Program Website, conservation.ca.gov/cgs/tsunami/maps
- California Department of Toxic Substances Control Website, EnviroStor Database, www.envirostor.dtsc.ca.gov/public
- California Department of Transportation California Scenic Highway Mapping System Website, www.dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways
- California Emissions Estimator Model® (CalEEMod) Software, Version CalEEMod.2020.4.0, downloaded from caleemod.com, June 2021
- City of Ridgecrest General Plan, City of Ridgecrest, December 2009
- Eastern Kern Air Pollution Control District Website, www.kernair.org
- Federal Emergency Management Agency (FEMA) Map Service Center Website, www.msc.fema.gov
- Federal Emergency Management Agency National Flood Hazard Layer Viewer, www.fema.gov/flood-maps/national-flood-hazard-layer
- Fire Hazard Severity Zone Viewer, Fire Resource and Assessment Program, California Department of Forestry and Fire Protection, https://frap.fire.ca.gov
- Google Earth Pro, Version 7.3.4.8248
- Kern County General Plan, Kern County Planning Department, September 22, 2009
- Kern County GIS Mapping System, https://maps.kerncounty.com/H5/index.html?viewer=KCPublic
- Kern County Interactive County Map GIS Tool, www.kerncounty.com/government/gis-menu/interactive-county-map-gis-tool
- Office of the State Fire Marshal Website, osfm.fire.ca.gov
- California Department of Conservation, Division of Land Resources Protection, California Important Farmland Finder, https://maps.conservation.ca.gov/DLRP/CIFF
- Sustainable Groundwater Management Act (SGMA) Groundwater Management Website, water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management

- United States Environmental Protection Agency Website for National Ambient Air Quality Standards, www.epa.gov/criteria-air-pollutants
- Western Regional Climate Center Website, www.wrcc.dri.edu

FIGURES



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INDIAN WELLS VALLEY WATER DISTRICT

B–ZONE, C–ZONE, D–ZONE, AND E–ZONE RESERVOIRS

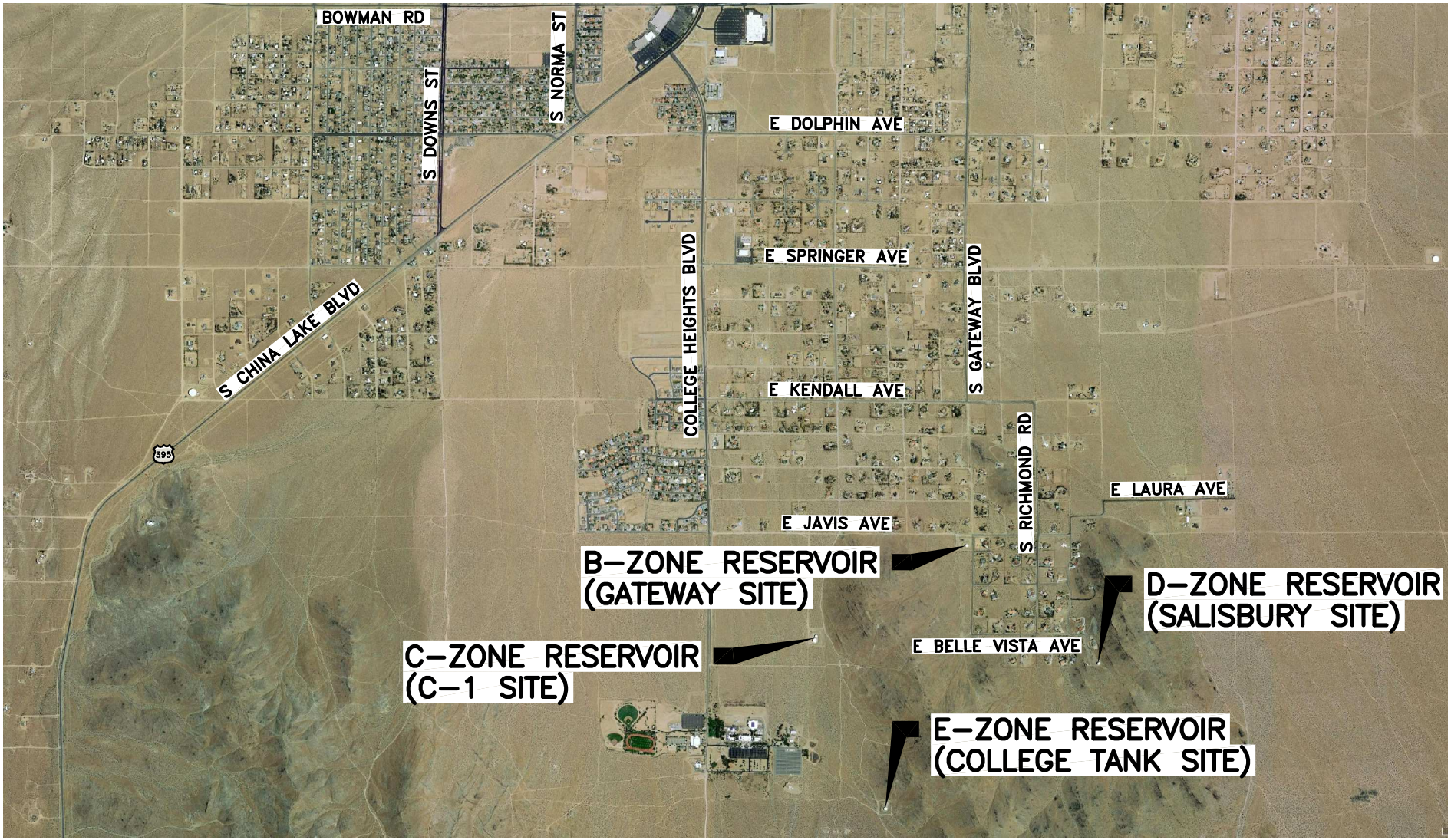
PROJECT VICINITY

FIGURE 1

SCALE: N/A DATE: 08/02/21 DRAWN BY: SPK CHECKED BY: VEM W.O.: 178–151

OF 6

178–151_f1.dwg



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INDIAN WELLS VALLEY WATER DISTRICT

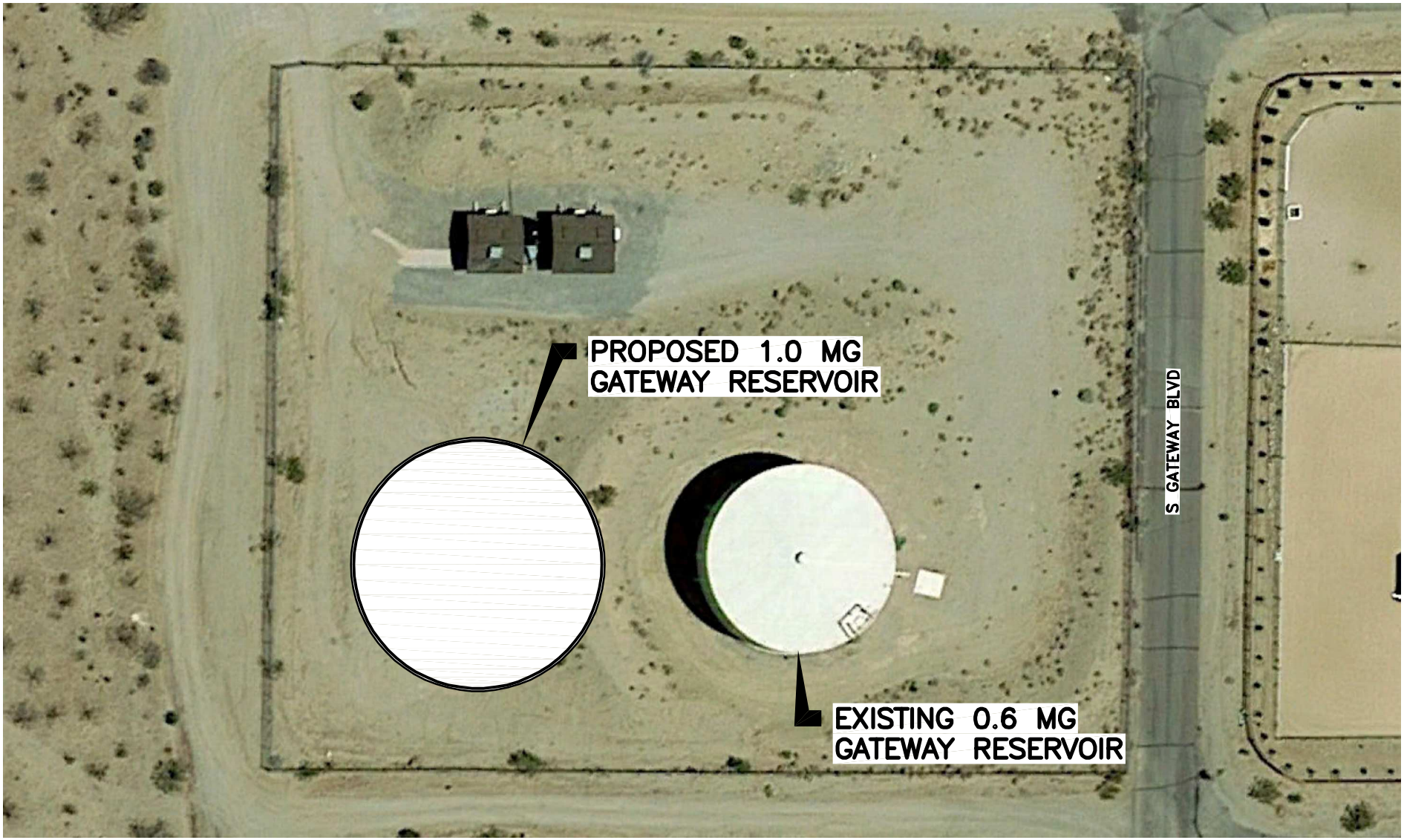
B-ZONE, C-ZONE, D-ZONE, AND E-ZONE RESERVOIRS

PROJECT LOCATIONS

FIGURE 2 OF 6

SCALE: 1"=3,000' DATE: 07/02/21 DRAWN BY: SPK CHECKED BY: VEM W.O.: 178-151

178-151_f2.dwg



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INDIAN WELLS VALLEY WATER DISTRICT

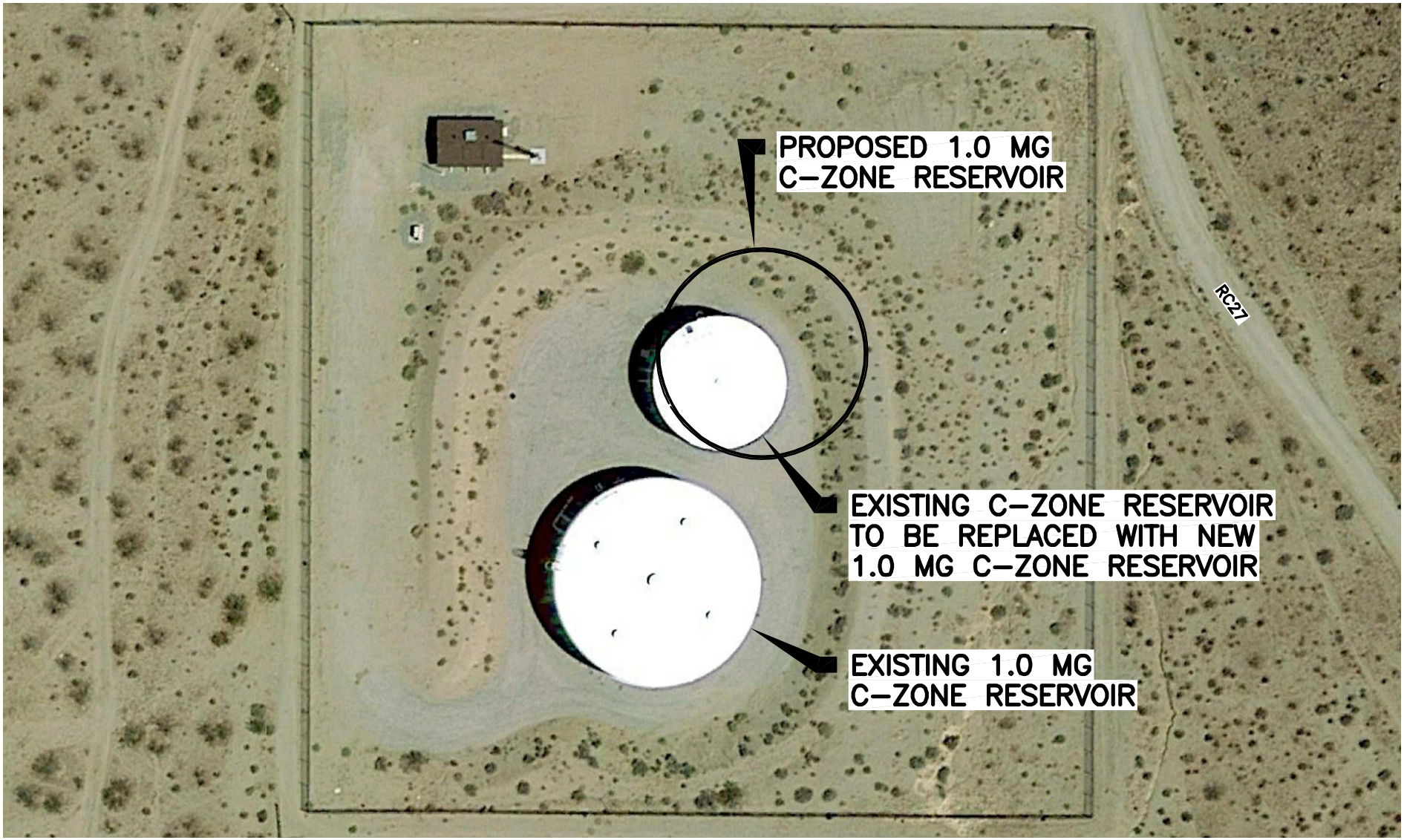
B–ZONE, C–ZONE, D–ZONE, AND E–ZONE RESERVOIRS

1.0 MG B–ZONE RESERVOIR AT GATEWAY SITE

SCALE: 1"=50' DATE: 07/02/21 DRAWN BY: SPK CHECKED BY: VEM W.O.: 178–151

FIGURE 3 OF 6

178–151_f3.dwg



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INDIAN WELLS VALLEY WATER DISTRICT

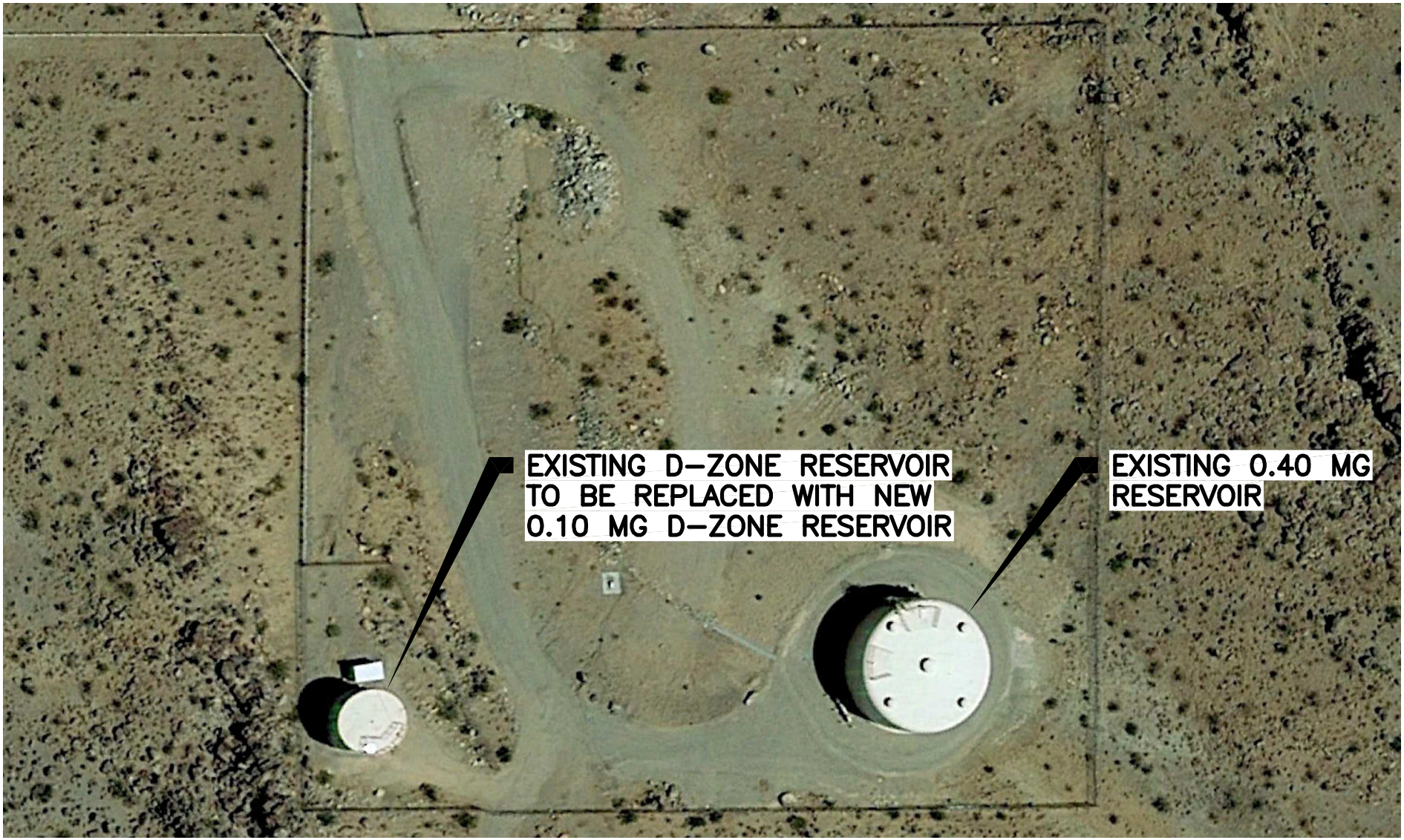
B-ZONE, C-ZONE, D-ZONE, AND E-ZONE RESERVOIRS

1.0 MG C-ZONE RESERVOIR AT C-1 SITE

SCALE: 1"=60' DATE: 07/02/21 DRAWN BY: SPK CHECKED BY: VEM W.O.: 178-151

FIGURE 4 OF 6

178-151_f4.dwg



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INDIAN WELLS VALLEY WATER DISTRICT

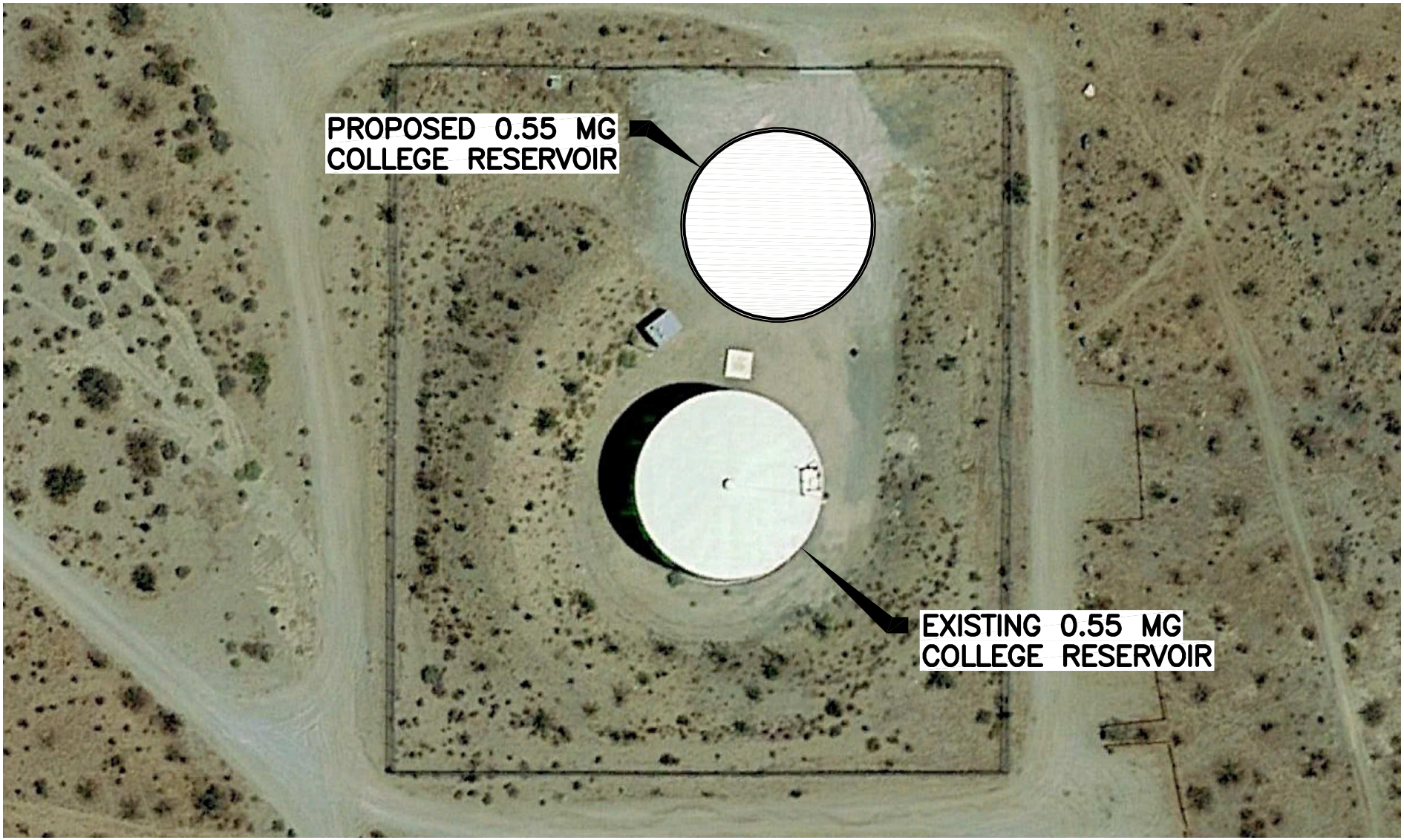
B-ZONE, C-ZONE, D-ZONE, AND E-ZONE RESERVOIRS

0.1 MG D-ZONE RESERVOIR AT SALISBURY SITE

SCALE: 1"=60' DATE: 07/02/21 DRAWN BY: SPK CHECKED BY: VEM W.O.: 178-151

FIGURE 5 OF 6

178-151_f5.dwg



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INDIAN WELLS VALLEY WATER DISTRICT

B–ZONE, C–ZONE, D–ZONE, AND E–ZONE RESERVOIRS

0.55 MG E–ZONE RESERVOIR AT COLLEGE TANK SITE

SCALE: 1"=50' DATE: 07/02/21 DRAWN BY: SPK CHECKED BY: VEM W.O.: 178–151

FIGURE 6 OF 6

178–151_f6.dwg

APPENDIX A

DRAFT MITIGATED NEGATIVE DECLARATION
AND
MITIGATION MONITORING AND REPORTING PROGRAM

INDIAN WELLS VALLEY WATER DISTRICT
1.0 MG B-ZONE, 1.0 MG C-ZONE, 0.1 MG D-ZONE, AND 0.55 MG E-ZONE RESERVOIRS
MITIGATED NEGATIVE DECLARATION

Project: The Indian Wells Valley Water District 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs Project (the Project) generally consists of construction and operation of four welded steel potable water storage reservoirs on District-owned sites currently occupied by existing District facilities. The new 1.0 B-Zone (Gateway) Reservoir will be constructed on the District's Gateway Site, to the west of the existing 0.6 MG Gateway Reservoir. The new 1.0 MG C-Zone Reservoir will be constructed on the District's C-1 Site, replacing the District's existing 0.4 MG C-Zone Reservoir, to the north of the District's existing 1.0 MG C-Zone Reservoir. The new 0.1 MG D-Zone Reservoir will be constructed on the District's existing Salisbury Site, replacing the District's existing 0.1 MG D-Zone Reservoir, located near the southwest corner of the Salisbury Site. The new 0.55 MG E-Zone (College) Reservoir will be constructed on the District's existing College Tank Site, to the northeast of the existing 0.55 MG College Reservoir. A more detailed description of the Project is included in the Project Initial Study, which is available for review on the District's website at www.iwvwd.com/public-documents/public-reports and at Indian Wells Valley Water District's office, located at 500 W. Ridgecrest Boulevard, Ridgecrest, CA 93555.

Location: The Project is located at four District-owned sites containing existing District reservoirs. The Gateway Site is located at the southwest corner of East Javis Avenue and South Gateway Boulevard, on property identified as Assessor's Parcel Number (APN) 343-120-46 in the City of Ridgecrest; the C-1 Site is located approximately 1.2 miles southeast of the intersection of College Heights Boulevard and Javis Avenue, approximately 0.3 mile northeasterly of Cerro Coso Community College, on property identified as APN 343-120-47 in the City of Ridgecrest; the Salisbury Site is located approximately 0.1 mile southeast of the eastern terminus of Belle Vista Street, on property identified as APN 343-120-44, east of the City of Ridgecrest, in an unincorporated area of Kern County; the College Tank Site is located approximately one mile southeast of the intersection of Javis Avenue and Sunland Street (RC 27) and approximately 0.3 mile southeast of Cerro Coso Community College, on property identified as APN 343-140-14, south of the City of Ridgecrest, in an unincorporated area of Kern County; with all Project sites located within Kern County, California.

Figures 1 through 6, copies of which are included with each copy of the Initial Study for the Project, depict the locations of the Project facilities. A copy of the Initial Study is available for review at www.iwvwd.com/public-documents/public-reports and at the District's office located at 500 W. Ridgecrest Boulevard, Ridgecrest, CA 93555.

Entity: Indian Wells Valley Water District

The District's Board of Directors, having conducted a careful and independent review of the Initial Study for the Project, having reviewed the written comments received prior to the public meeting of the Board, and having heard at a public meeting of the Board the comments of any and all concerned persons or entities, including the recommendation of District staff, does hereby find and declare that the Project will not have a significant effect on the environment. A brief statement of the reasons supporting the Board's findings is as follows:

> Construction and operation of the Project as modified will not result in significant adverse impacts upon any threatened or endangered species of plants or animals, nor will it result in damage to or destruction of any significant examples of California history or prehistory or tribal cultural resources. Potential impacts related to biological resources and historical/archaeological/paleontological/tribal cultural resources will be avoided or reduced by adhering to the terms of a Mitigation Monitoring and Reporting Program (see Exhibit A, attached, which is incorporated herein by reference) prior to and throughout construction of the Project.

The Board of Directors hereby finds that the Mitigated Negative Declaration reflects its independent judgment. The Initial Study was prepared by David F. Scriven with Krieger & Stewart, the District's Consulting Engineer for this project. The Initial Study may be viewed at the District's website at www.iwvwd.com/public-documents/public-reports and at the office of the Indian Wells Valley Water District located at 500 W. Ridgecrest Boulevard, Ridgecrest, CA 93555.

Date: _____

Don Zdeba
General Manager
INDIAN WELLS VALLEY WATER DISTRICT

MITIGATION MONITORING AND REPORTING PROGRAM

EXHIBIT A TO THE MITIGATED NEGATIVE DECLARATION

Section I – Introduction

Section 21081.6 of the California Environmental Quality Act (CEQA) requires that a mitigation monitoring program be prepared prior to the approval of any project which incorporates mitigation measures as a condition of approval. Mitigation measures are generally adopted to reduce the potentially significant adverse environmental impacts of a project to a level that is less than significant. The mitigation monitoring program must ensure compliance with mitigation measures during project construction (and, if applicable, during project operation). Since the project considered by the Initial Study for the Indian Wells Valley Water District's 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs Project (the Project) incorporates mitigation measures as a condition of approval, this mitigation monitoring and reporting program has been prepared and incorporated into the Mitigated Negative Declaration for the Project.

Section II – Biological Resources Mitigation Measures and Mitigation Monitoring and Reporting Program

As discussed in Issue IV of the Project Initial Study, there is some potential for Agassiz's desert tortoise (*Gopherus agassizii*) and nesting bird species to be present on the Project Sites. Additionally, there is a silver cholla (*Cylindorpuntia echinocarpa*) located along the fence near the southwestern corner of the C-1 Project Site. Without mitigation, the Project could potentially result in significant adverse impacts upon these species.

This Mitigation Monitoring and Reporting Program is intended to reduce potential impacts by the Project upon biological resources, particularly Agassiz's desert tortoise, silver cholla, and nesting birds, by specifying methods and procedures for avoiding or reducing such impacts.

The following mitigation measures (**BIO 1 through BIO-3**) will be implemented in order to ensure that construction of Project facilities does not result in a significant adverse impact upon Agassiz's desert tortoise, silver cholla, and nesting birds. The measure is attended by a notation of the party responsible for its implementation and of the period for which it will be in effect.

BIO 1: Agassiz's Desert Tortoise

The following measures will be implemented to avoid or reduce impacts to Agassiz's desert tortoise:

1. A 15 mile per hour (mph) speed limit will be observed along dirt roads that are not posted with speed limits.

2. All applicable measures required by the California Department of Fish and Wildlife (CDFW) in several incidental take permits for operation and maintenance by District staff will be implemented. These measures are routinely emphasized to field personnel in annual education programs.

3. The District will provide an educational brochure, setting forth protective measures for tortoises, to all Project contractors to provide to all construction personnel. Each construction worker will sign the associated sign-in sheet to indicate intent to comply with the protective measures.

4. All District staff and contractors will keep the gates closed at each Project site, except when entering and exiting the site, to preclude tortoises from entering the sites.

5. Construction equipment and workers' vehicles will be parked within the fenced sites, to the extent practicable, during Project construction. If any vehicles cannot be accommodated within a given site, workers shall check beneath vehicles for tortoises prior to moving the vehicles. A tortoise shall not be handled. If a tortoise is observed, a biologist will be called to the site to determine the appropriate actions. Alternatively, the vehicle shall not be moved until the tortoise has left on its own accord.

6. The District's Chief Engineer will serve as the Field Contact Representative (FCR) for all permits issued to the District authorizing take of desert tortoises. If a tortoise is encountered during Project construction, the construction contractor will immediately notify the FCR. The FCR will take necessary precautions to ensure that no take occurs.

7. The College Tank Site will be fitted with 1 x 2-inch hardware cloth attached to the lower edge of the chain link perimeter fence prior to commencement of construction in order to preclude tortoises, including hatchlings, from entering the site. The

hardware cloth will be installed in accordance with the applicable tortoise exclusion fencing standards from the U.S. Department of Fish and Wildlife. The other Project Sites (Gateway, C-1 Zone, and Salisbury) are already fitted with this hardware cloth.

Responsible Party: District Engineer

Implementation Period: Prior to and Throughout Project Construction

BIO-2: Silver Cholla

The silver cholla located near the southwestern corner of the C-1 Site will be flagged or otherwise marked to ensure that it is not disturbed during construction activities at the site. In the event that construction impacts cannot be avoided, the District will contact a qualified biologist to salvage the plant for replanting in another location.

Responsible Party: District Engineer

Implementation Period: Prior to and Throughout Project Construction

BIO 3: Nesting Birds

Commencement of construction and vegetation removal at the Project Sites will take place during the non-breeding season extending from September 15 through March 15. If it is necessary to commence Project construction between March 16 through September 14, then a nesting bird preconstruction survey will be conducted by a qualified biologist at the applicable site(s) prior to commencement of site disturbance.

The preconstruction surveys will be conducted at the appropriate time of day during the breeding season, and the survey will end no more than three days prior to site disturbance. If greater than three days passes since the preconstruction survey, then the applicable site(s) will be resurveyed within three days prior to site disturbance.

If no nesting birds are observed, then Project construction may begin. If an active bird nest is located, then the biologist will determine an appropriate exclusionary buffer around the nest. The exclusionary buffer will be clearly marked in the field by construction personnel under the guidance of the qualified biologist. No construction or vegetation clearing will be conducted within the exclusionary buffer until the qualified biologist has determined that the young have fledged or the nest is no longer active.

Responsible Party: District Engineer

Implementation Period: Prior to and During Project Construction

Section III – Historical and Archaeological Resources Mitigation Measures and Mitigation Monitoring and Reporting Program

As discussed in Issue V of the Project Initial Study, the Project would not result in an adverse impact upon any known historical or archaeological resources (cultural resources). This Mitigation Monitoring and Reporting Program is intended to avoid or reduce the potential for impacts by the Project upon previously-undiscovered cultural resources that may be present in subsurface soil deposits by specifying methods and procedures for avoiding or reducing such impacts.

The following mitigation measures (**CUL-1 and CUL-2**) will be implemented in order to ensure that construction of Project facilities does not result in significant adverse impacts upon any previously-undiscovered cultural resources that may be uncovered during Project construction. Each measure is attended by a notation of the party responsible for its implementation and of the period for which it will be in effect.

CUL-1: Cultural Resources

In the event that any object uncovered during Project construction activities appears to be a historical or archaeological artifact (or appears to be older than 40 years), all work within fifty (50) feet of the discovery shall be immediately halted or diverted, and the following steps shall be taken:

- The construction contractor shall halt all work within a 50-foot radius of the discovery. Work outside the 50-foot radius may continue.
- The construction contractor shall immediately contact Indian Wells Valley Water District (the District) via telephone to notify the District of the find.
- The District will contact a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualifications Standards to evaluate the nature and significance of the find.
- If the qualified archaeologist determines that the find is not a significant historical or archaeological resource, then construction may resume with approval of the District.
- If the qualified archaeologist determines that the find is a significant historical or archaeological resource, then construction shall not resume until a plan has been

developed to preserve or protect the resource as appropriate and as determined by the District in collaboration with the qualified archaeologist.

Responsible Party: District Engineer
Implementation Period: During Ground Disturbing Activities

CUL-2: Human Remains

In the event that any human remains are encountered during Project construction, the construction contractor will halt or divert all work and will immediately contact the Kern County Coroner and the Indian Wells Valley Water District (the District). Construction activities will not resume until a qualified archaeologist or historian evaluates the nature and significance of the find and the District notifies the construction contractor to proceed.

Responsible Party: District Engineer
Implementation Period: During Ground Disturbing Activities

Section IV – Paleontological Resources Mitigation Measures and Mitigation Monitoring and Reporting Program

As discussed in Issue VII of the Project Initial Study, there are no known paleontological resources present on any of the Project Sites. This Mitigation Monitoring and Reporting Program is intended to avoid or reduce the potential for impacts by the Project upon previously-undiscovered paleontological resources that may be present in subsurface soil deposits by specifying methods and procedures for avoiding or reducing such impacts.

The following mitigation measure (**PALEO-1**) will be implemented in order to ensure that construction of Project facilities does not result in significant adverse impacts upon any previously-undiscovered paleontological resources that may be uncovered during Project construction. The measure is attended by a notation of the party responsible for its implementation and of the period for which it will be in effect.

PALEO-1: Paleontological Resources

The following measures will be implemented to protect any paleontological resources uncovered during ground disturbance at the Project site:

- If any potential paleontological resource is uncovered during Project construction, all work in the vicinity of the discovery shall be halted until a qualified paleontologist can evaluate the nature and significance of the find.
- If a qualified paleontologist determines that a specimen uncovered during Project construction is potentially significant, then all future ground-disturbing actions associated with the Project will be monitored by a qualified paleontological monitor.
- Specimens recovered from the Project site by the qualified paleontological monitor will be, in accordance with standard paleontological practice, identified and curated at a repository with permanent retrievable storage that will allow for additional research in the future.

Responsible Party: District Engineer
Implementation Period: During Ground Disturbing Activities

Section V – Tribal Cultural Resources Mitigation Measures and Mitigation Monitoring and Reporting Program

As discussed in Issue XVIII of the Project Initial Study, there are no known tribal cultural resources or other cultural resources on the Project site, and the Project would not result in an adverse impact upon any known tribal cultural resources. This Mitigation Monitoring and Reporting Program is intended to avoid or reduce the potential for impacts by the Project upon previously-undiscovered tribal cultural resources that may be present in subsurface soil deposits by specifying methods and procedures for avoiding or reducing such impacts.

The following mitigation measure (**TCR-1**) will be implemented in order to ensure that construction of Project facilities does not result in significant adverse impacts upon any previously-undiscovered tribal cultural resources that may be uncovered during Project construction. The measure is attended by a notation of the party responsible for its implementation and of the period for which it will be in effect.

TCR-1: Tribal Cultural Resources

In the event that any potential tribal cultural resource is discovered during ground disturbing activities pursuant to the Project, the construction contractor will immediately halt construction and notify the District, which will then contact a qualified archaeologist, meeting Secretary of the Interior's standards, to assess the find. If it is determined by the archaeologist that the find is of Native American origin, the District will notify one or more local tribes of the find, and the

District will consult in good faith with the tribe(s) on the disposition and treatment of any artifacts or other cultural materials encountered during activities pursuant to the Project. Construction activities will resume only with express permission of the District.

Responsible Party: District Engineer

Implementation Period: During Ground Disturbing Activities

APPENDIX B

BIOLOGICAL RESOURCES ASSESSMENT

Focused Survey for Agassiz's Desert Tortoise,
Habitat Assessments for Burrowing Owl and Mohave Ground Squirrel, and
General Biological Resource Assessment for
Four Replacement Tank Sites in the City of Ridgecrest,
Kern County, California

Job#: 21-027

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I hereby certify that the statements furnished herein, including attached exhibits, present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a nondisclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project.

Circle Mountain Biological Consultants, Inc.
Author and Field Investigator: Edward L. LaRue, Jr.

August 2021

Figure 1. Four Replacement Tank Sites: Vicinity Map

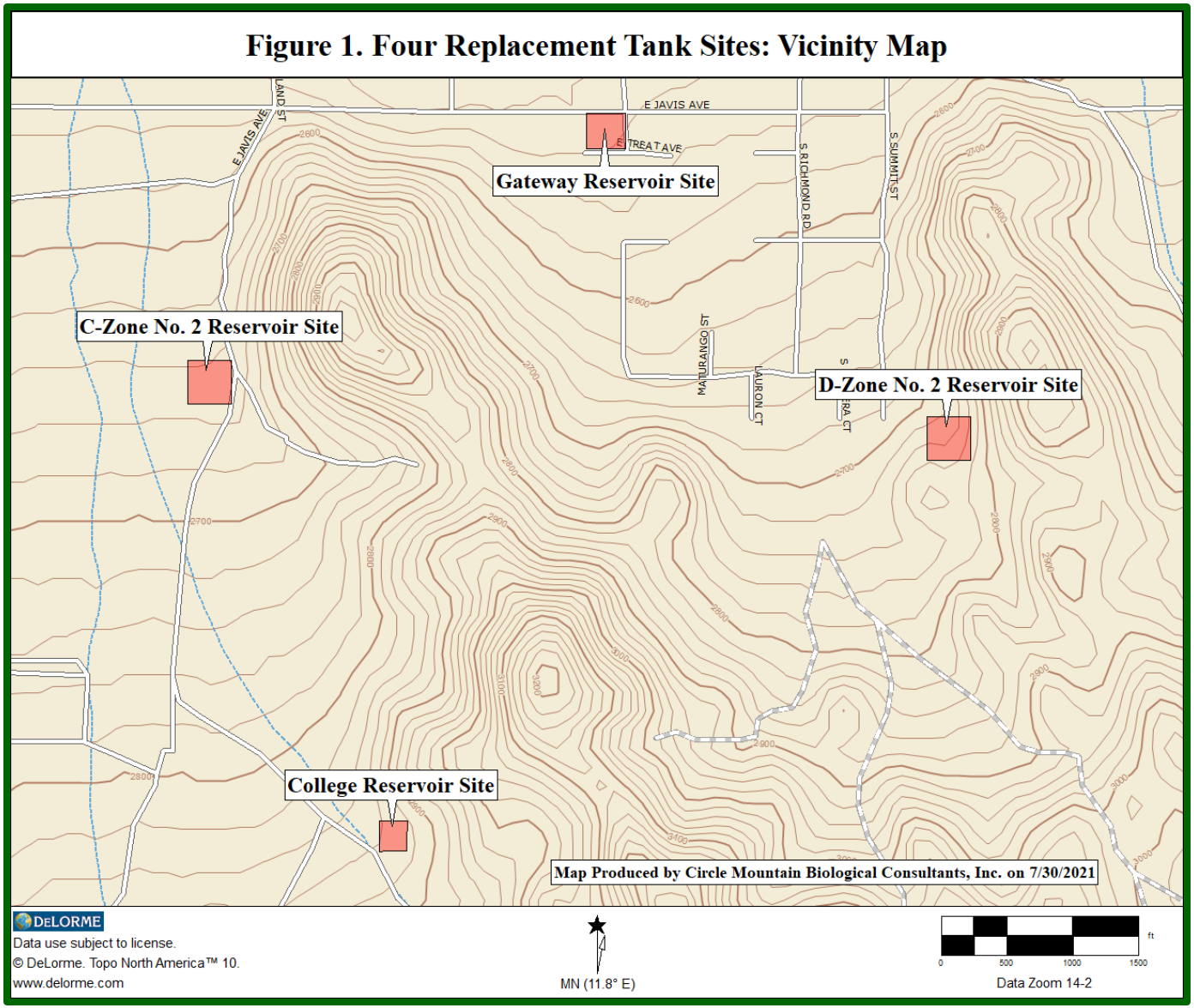


Figure 2a. Gateway Reservoir: Site Map

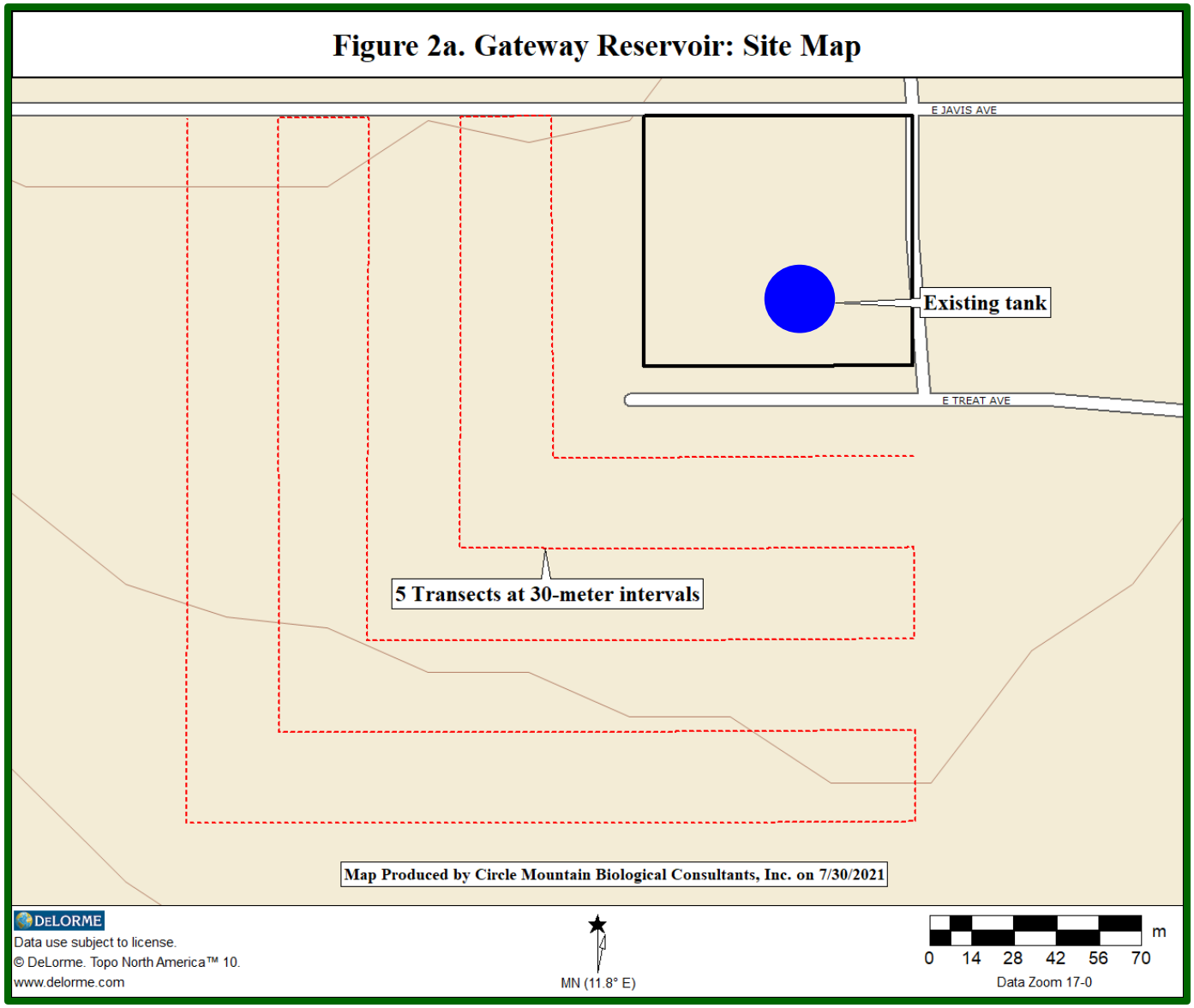


Figure 2b. C-Zone No. 2 Reservoir: Site Map

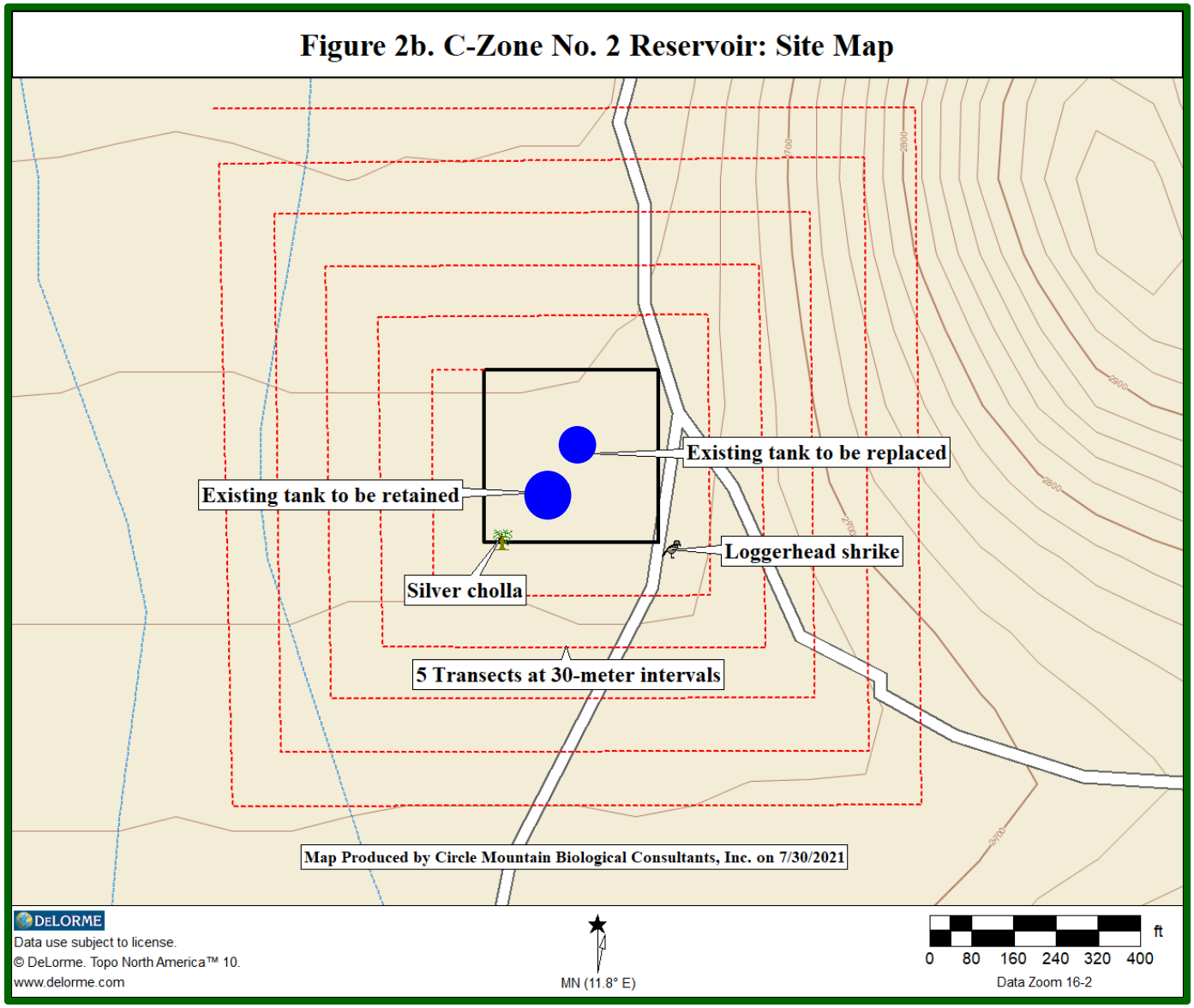


Figure 2c. D-Zone No. 2 Reservoir: Site Map

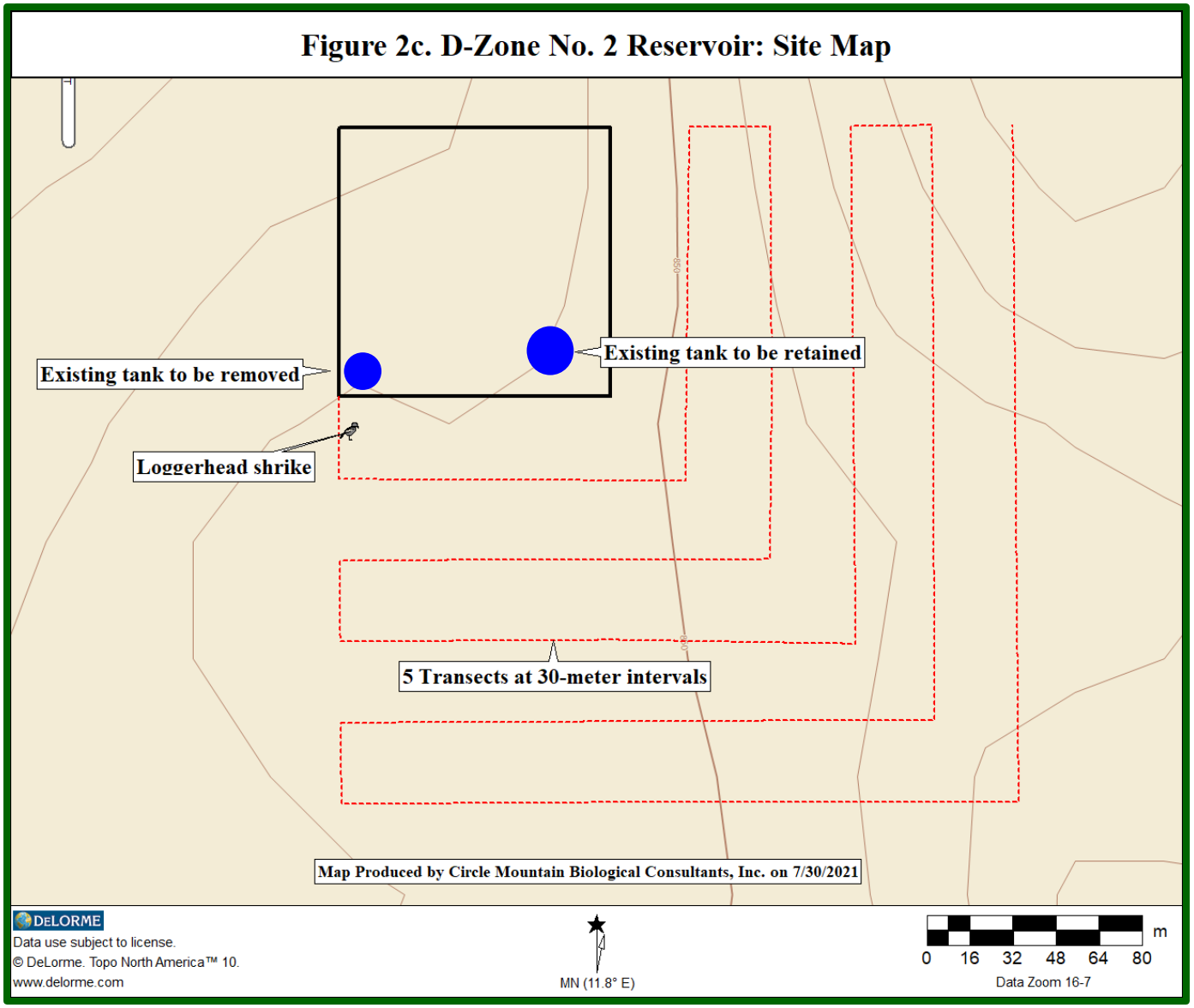


Figure 2d. College Reservoir: Site Map

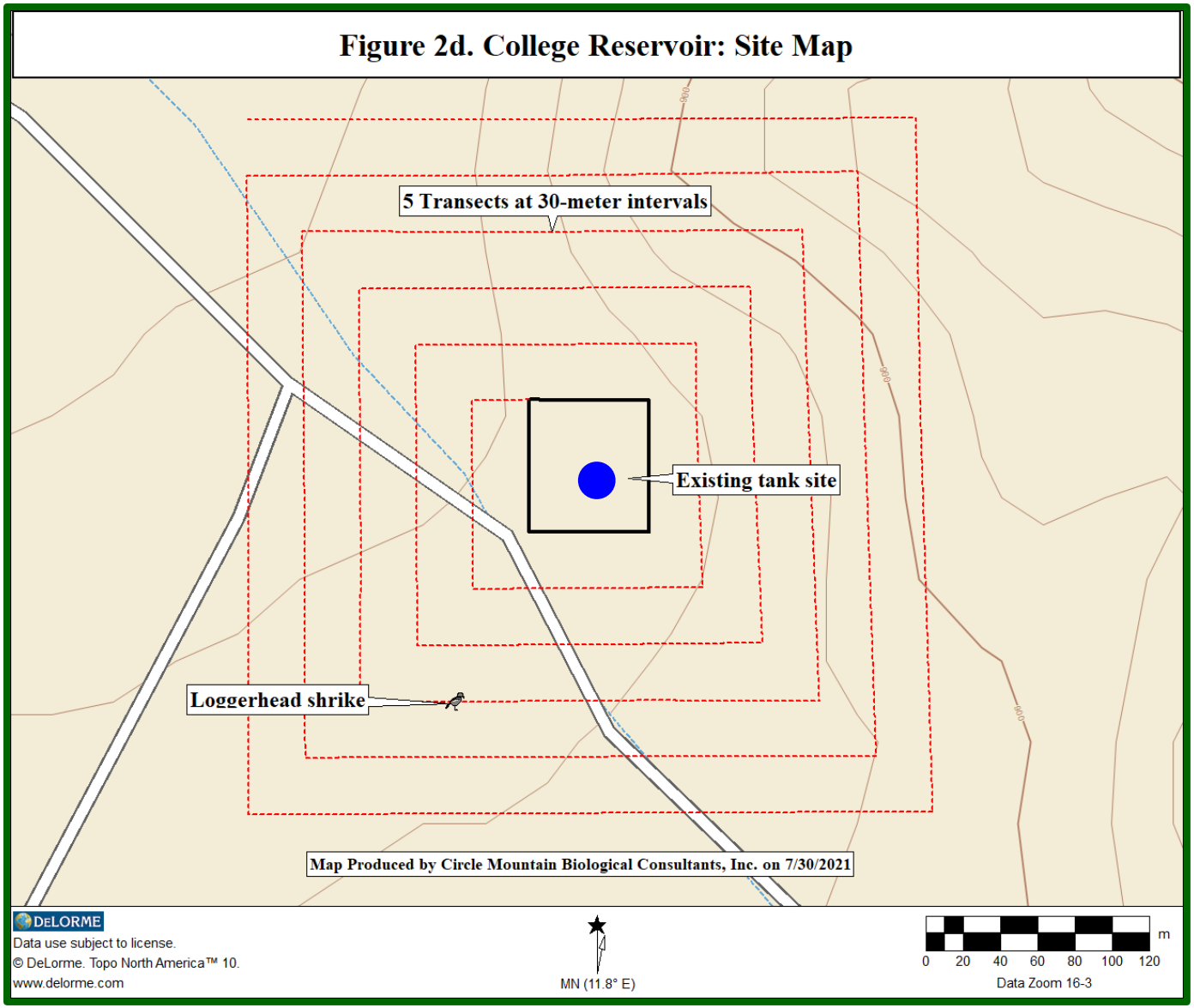


Figure 3. Regional Tortoise Survey Results between 1992 and 2021

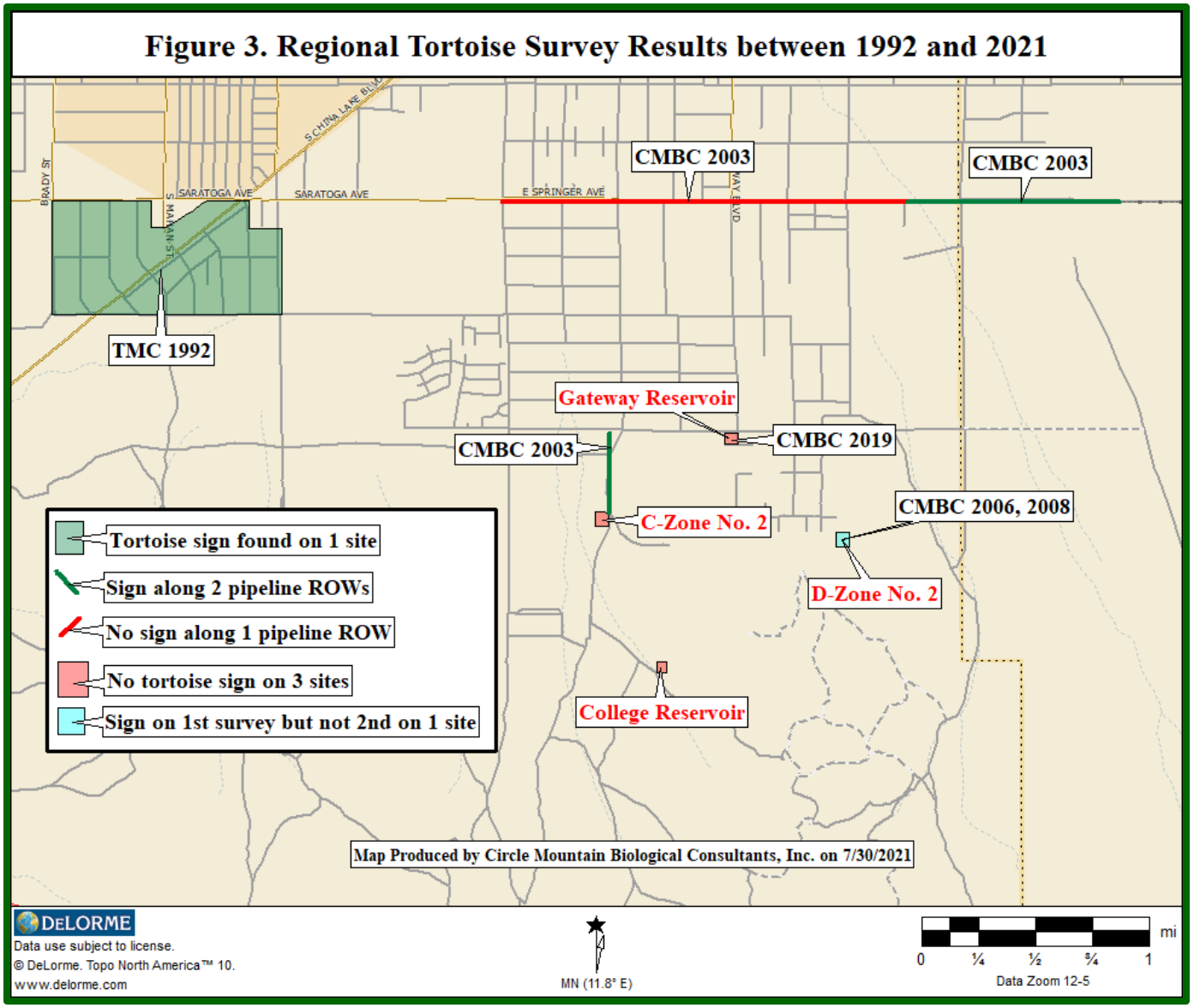
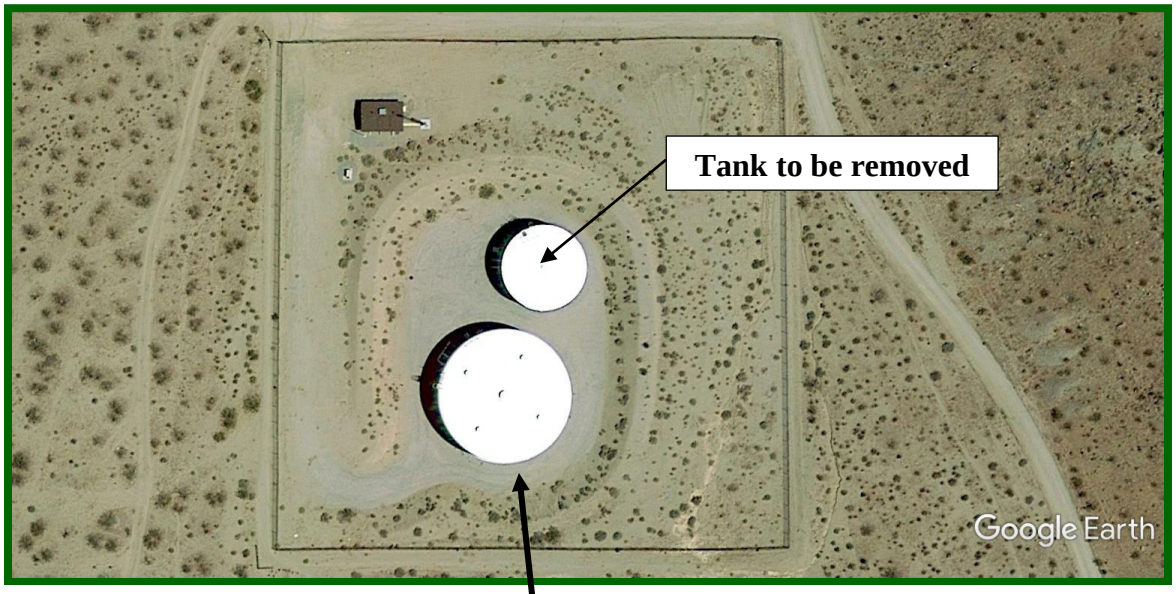


Figure 4a. Gateway Reservoir Site: Aerial Photograph (©2021Google Earth)

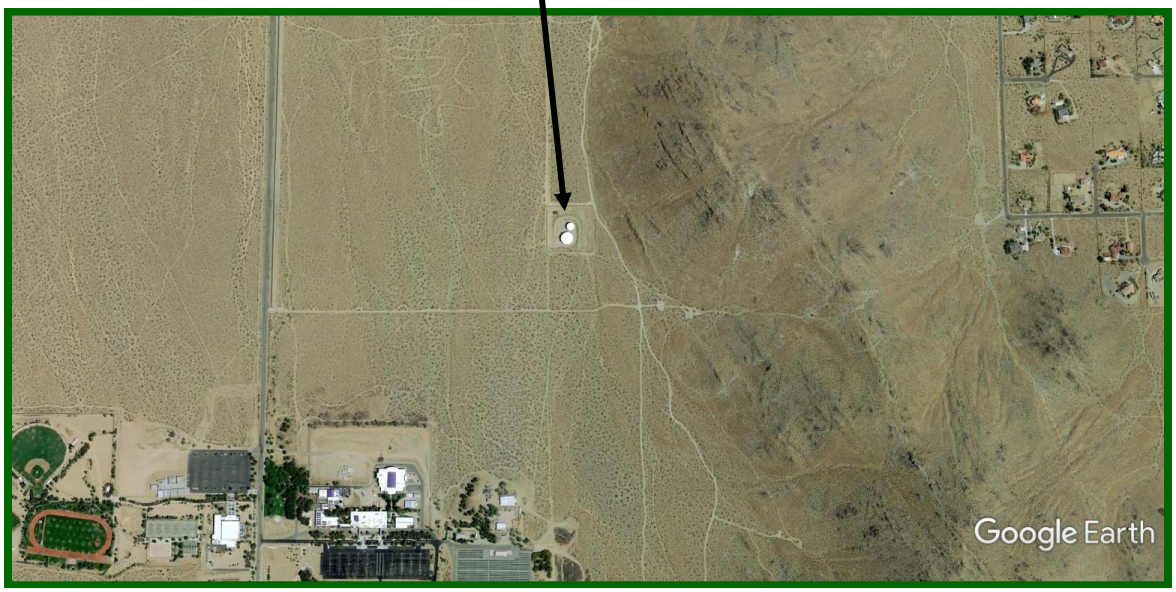
Enlarged aerial view from approximately 3,000 feet altitude (Image date: 7/1/2017)

Regional aerial view from approximately 5,250 feet altitude.

Figure 4b. C-Zone No. 2 Reservoir Site: Aerial Photograph (©2021Google Earth)



Enlarged aerial view from approximately 3,300 feet altitude (Image date: 7/1/2017)



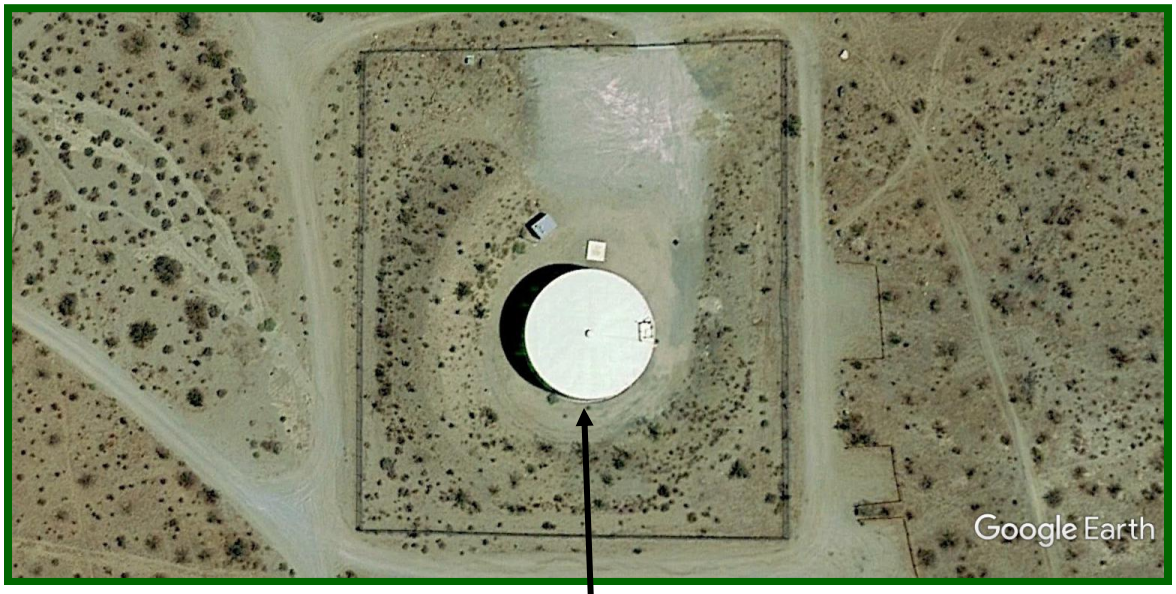
Regional aerial view from approximately 9,800 feet altitude.

Figure 4c. D-Zone No. 2 Reservoir Site: Aerial Photograph (©2021Google Earth)

Enlarged aerial view from approximately 2,700 feet altitude (Image date: 7/1/2017)

Regional aerial view from approximately 12,100 feet altitude.

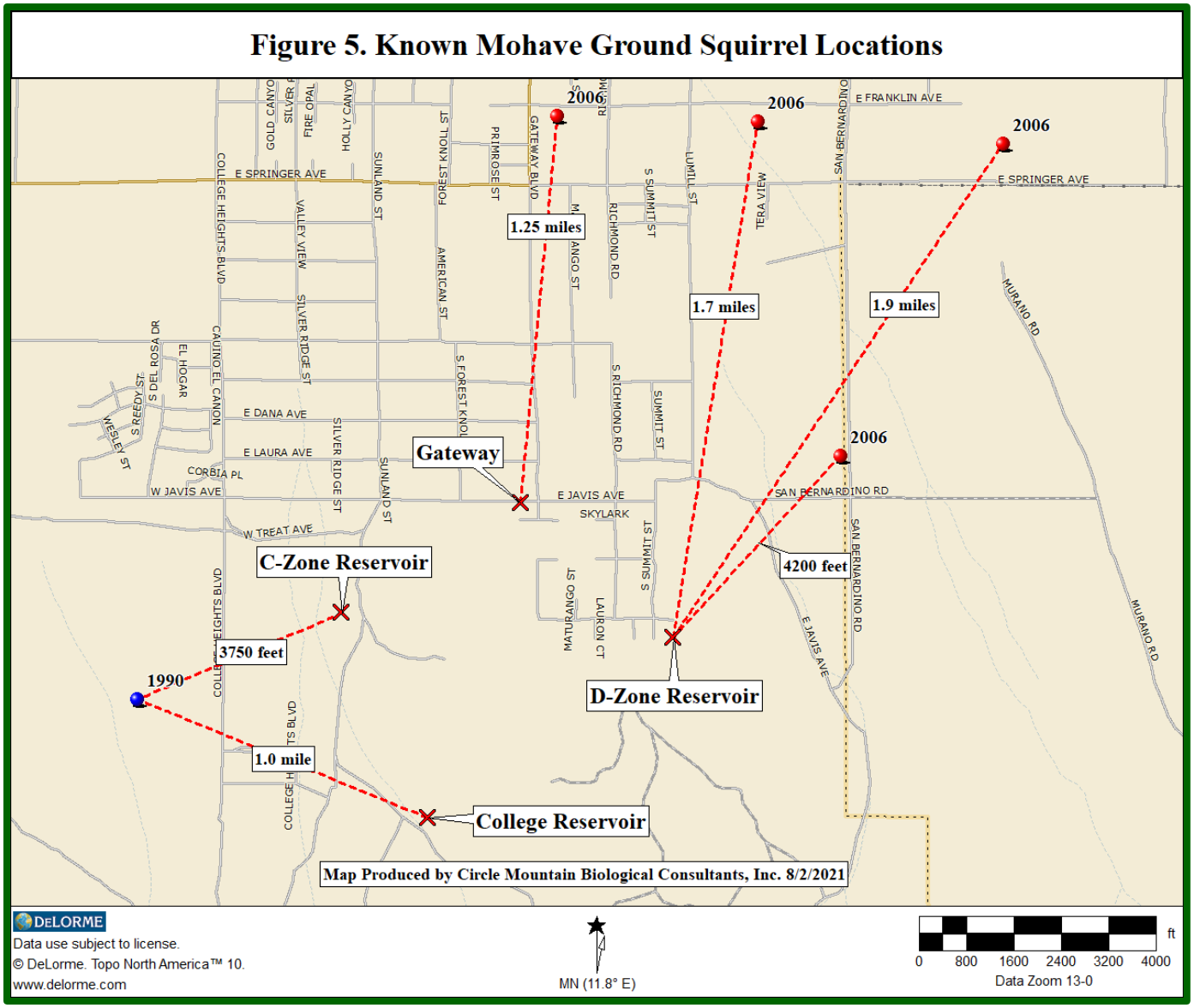
Figure 4d. College Reservoir Site: Aerial Photograph (©2021Google Earth)



Enlarged aerial view from approximately 3,400 feet altitude (Image date: 7/1/2017)

Regional aerial view from approximately 8,700 feet altitude.

Figure 5. Known Mohave Ground Squirrel Locations



Executive Summary

Circle Mountain Biological Consultants, Inc. was contacted by Krieger & Stewart, Inc. on behalf of Indian Wells Valley Water District to perform focused surveys and resurveys for Agassiz's desert tortoise, habitat assessments for burrowing owl and Mohave ground squirrel, and general biological resource assessments on four existing tank sites located in Kern County, California.

For a total of 5.75 hours, on July 27 and 28, 2021, Ed LaRue and Sharon Dougherty of CMBC surveyed the four sites and adjacent areas as described herein. The Gateway site is barren, so only adjacent areas where surveyed. For other sites, this entailed a survey of 21 transects, spaced at 5-meter (15-foot) intervals on the C-Zone and D-Zone sites and 14 transects at 5-meter intervals on the College site. As depicted in Figures 2a through 2d, five zone of influence transects were surveyed for detection of burrowing owls at 30-meter (100-foot) intervals as depicted.

Based on the absence of tortoise sign onsite and in adjacent areas, and available information reviewed for this habitat assessment, CMBC concludes that tortoises are absent from the four subject properties. Although no impacts are anticipated, there are applicable protective measures in various incidental take permits that IWVWD is obligated to implement for this and other construction projects in suitable habitats for desert tortoise and Mohave ground squirrel (see pages 8 and 9).

Based on the field surveys and habitat assessments, CMBC concludes that none of the following special status species reported from the region will be adversely affected by site development: Mohave ground squirrel, burrowing owl, loggerhead shrike, or Cooper's hawk. As such, no adverse impacts have been identified and no additional mitigation measures are recommended.

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**Focused Survey for Agassiz's Desert Tortoise,
Habitat Assessments for Burrowing Owl and Mohave Ground Squirrel, and
General Biological Resource Assessment for a
Four Replacement Tank Sites in the City of Ridgecrest,
Kern County, California**

1.0. Introduction

1.1. Purpose and Need for Study. Circle Mountain Biological Consultants, Inc. (CMBC) was contacted by David Scriven of Krieger & Stewart, Inc. on behalf of Indian Wells Valley Water District (IWVWD) to perform focused surveys and resurveys for Agassiz's desert tortoise (*Gopherus agassizii*), habitat assessments for burrowing owl (*Athene cunicularia*) and Mohave ground squirrel (*Xerospermophilus mohavensis*), and general biological resource assessments on four existing tank sites located in Kern County, California (see Figures 1 and 2).

As depicted in Figure 3, except for the College Reservoir site, the other three sites have been subject to previous surveys (CMBC 2003, 2006, 2008, and 2019), so these sites were "resurveyed" as part of the current study. Given the location of the sites in an unincorporated portion of the county and because Kern County does not have specific guidelines for biological reports, this report has been prepared, in part, according to County of San Bernardino's *Report Protocol for Biological Assessment Reports* (County of San Bernardino 2006).

As the California Environmental Quality Act (CEQA) Lead Agency, IWVWD is required to complete an initial study to determine if site development will result in any adverse impacts to rare biological resources. The information may also be useful to federal and State regulatory agencies, including U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW), respectively, if the Lead Agency asks them to assess impacts associated with proposed development. Results of CMBC's focused tortoise surveys, burrowing owl and Mohave ground squirrel habitat assessments, and general biological resource assessments are intended to provide sufficient baseline information to these agencies to determine if significant impacts will occur and to identify mitigation measures, if any, to offset those impacts.

1.2. Project Description. The following location information and planned activities for each site are summarized below in Tables 1 and 2, respectively:

Table 1. Site Locations

Site Name	Area	Township, Range & Section
Gateway Reservoir Site	1.67 acres	T.27S, R.40E, a portion of the NE ¼ of the NE ¼ of Section 22
C-Zone No. 2 Reservoir Site	2.47 acres	T.27S, R.40E, a portion of the SW ¼ of the NW ¼ of Section 22
D-Zone No. 2 Reservoir Site	2.47 acres	T.27S, R.40E, a portion of the SW ¼ of the NW ¼ of Section 23
College Reservoir Site	1.2 acres	T.27S, R.40E, a portion of the NE ¼ of the NW ¼ of Section 27

Table 2. Project Plans

Site Name	Project Plans
Gateway Reservoir Site	Addition of a new 1.0 MG reservoir on an area of the site graded for a tank in 2020
C-Zone No. 2 Reservoir Site	Replacement of small existing tank with a 1.0 MG reservoir requiring substantial onsite earthwork (a 1.0 MG tank was previously installed on the site in 2009)
D-Zone No. 2 Reservoir Site	Replacement of small existing tank with a same-sized 0.1 MG reservoir (a 0.4 MG tank was previously installed on the site in 2011)
College Reservoir Site	Addition of a new 0.55 MG reservoir on the site (existing tank was previously recoated)

2.0. Methods

2.1. Literature Review. CMBC consulted materials included in our library to determine the nearest tortoise locations and other special status plant and animal species that have been reported from the vicinity of the four tank sites. Between 1991 and 2021, CMBC has completed approximately 31 focused tortoise surveys in the Indian Wells Valley Area, including Inyokern to the west, Ridgecrest to the east, and Olancha to the north. Of relevance given their proximity to the subject property are five focused tortoise surveys completed on seven sites, including three previous surveys on the subject tank sites: Gateway (CMBC 2019), C-Zone No. 2 (CMBC 2003), and D-Zone 2 (CMBC 2006, 2008). These and other materials used in the completion of this report are listed in Section 5.0, below.

2.2. Field Survey.

2.2.1. *Survey and Habitat Assessment Protocols.* A significant paper was published in June 2011 (Murphy et al. 2011) whereby the "desert tortoise" of the Mojave Desert was split into two species, including *Gopherus agassizii*, referred to as "Agassiz's desert tortoise," and a newly described species, *G. morafkai*, referred to as "Morafka's desert tortoise," which occurs in the Sonoran Desert. According to Murphy et al. (2011), "…this action reduces the distribution of *G. agassizii* to only 30% of its former range. This reduction has important implications for the conservation and protection of *G. agassizii*, which may deserve a higher level of protection." Then in 2016 (Edwards et al. 2016), a third species of tortoise was described, referred to as the "Goode's Thornscrub Tortoise" (*Gopherus evgoodei*), which further reduced the perceived range of Morafka's desert tortoise. Agassiz's desert tortoise is the threatened species that occurs in the region surrounding the subject tank sites.

For **Agassiz's desert tortoise**, CMBC generally followed the presence-absence survey protocol first developed by the USFWS in 1992 and recently revised in 2019. USFWS (2019) protocol recommends surveying transects at 10-meter (30-foot) intervals throughout all portions of a given parcel and its associated action area. Since we were also looking for potential Mohave ground squirrel burrows, we shortened the survey intervals

to 5 meters inside the four fenced sites. The *action area* is defined by regulation as all areas to be affected directly or indirectly by proposed development and not merely the immediate area involved in the action (50 CFR §402.02). For these sites, the action areas are within the four fenced sites. Since the sites are considerably smaller than 500 acres, they may be surveyed year-round (USFWS 2019).

For **burrowing owl**, although the formal habitat assessment does not specify a given interval to survey a site (Appendix C in CDFG 2012), subsequent breeding and nonbreeding studies identify that transects are surveyed at 7 to 20 meters (23 to 65 feet) apart, with five additional transects surveyed at 30-meter intervals out to 150 meters (500 feet) in adjacent areas in potential habitat (i.e., excluding areas substantially developed for commercial, residential, and/or industrial purposes) (Appendix D in CDFG 2012). With its narrower transect intervals, the tortoise surveys were sufficient to cover the sites for burrowing owl. The focus of the surveys is to find and inspect all burrows sufficiently large to be used by burrowing owls. Importantly, this methodology is considered a formal *habitat assessment* for presence of burrowing owls, which can be conducted any time of the year. Had burrowing owl sign been found, which it was not, it would have then been necessary to perform breeding burrowing owl surveys during the spring and summer as outlined in CDFG (2012).

For **Mohave ground squirrel**, some jurisdictions require that habitat assessments be performed by individuals certified by CDFW for trapping the species. Ed LaRue and Sharon Dougherty who performed the fieldwork and drafted this assessment are permitted with CDFW to trap for Mohave ground squirrel. LaRue's Memorandum of Understanding (MOU), dated January 21, 2020 as an attachment to scientific collecting permit (SC-001544), expires on December 31, 2022. The primary assessment herein asks the following questions: (1) Is the site within the range of the species? (2) Is there native habitat with a relatively diverse shrub component? And, (3) is the site surrounded by development and therefore isolated from potentially occupied habitat?

2.2.2. *Field Survey Methods*. For a total of 5.75 hours, on July 27 and 28, 2021, Ed LaRue and Sharon Dougherty of CMBC surveyed the four sites and adjacent areas as described herein. The Gateway site is barren, so only adjacent areas where surveyed. This entailed a survey of 21 transects, spaced at 5-meter (15-foot) intervals on the C-Zone and D-Zone sites and 14 transects at 5-meter intervals on the College site. As depicted in Figures 2a through 2d, five zone of influence transects were surveyed for detection of burrowing owls at 30-meter (100-foot) intervals as depicted. Areas north and west of the D-Zone site and south and east of the Gateway site could not be surveyed due to residential development. Copies of CMBC's data sheets completed in the field are included in this report (see Appendix B).

Weather conditions recorded at the beginning and ending of the surveys included temperatures measured approximately 5 centimeters (2 inches) above the ground, percent cloud cover, and wind speeds measured by a hand-held Kestrel® weather and wind speed meter, as reported in Table 3.

Table 3. Weather Summary Data for the Surveys			
Site Name	**Date 2021**	**Begin to End = Total hours**	**Weather Conditions**
College	7/27	0630 to 0815 = 1.75 hrs	74°F, no wind, 0% cloud
Gateway	7/27	1145 to 1215 = 0.5 hrs	96°F, 3 ↑ 8 mph, 0% cloud
C-Zone No. 2	7/27 7/28	0815 to 0930 = 1.25 hrs 0800 to 0830 = 0.5 hrs	86°F, 1 ↑ 2 mph, 0% cloud 88°F, 3 ↑ 6 mph, 10% cloud
D-Zone No. 2	7/27	1000 to 1145 = 1.75 hrs	88°F, 1 ↑ 3 mph, 0% cloud
4 Sites	**2 days**	**06:30 to 12:15 = 5.75 hrs**	**74°F ↑ 96°F, 0 ↑ 8 mph, 0% ↑ 10%cloud**

Garmin® hand-held, global positioning system (GPS) units were used to survey straight transects and record Universal Transverse Mercator (UTM) coordinates (North American Datum – NAD 83) for property boundaries, rare species locations, and other pertinent information. A digital camera was used to take representative photographs (Appendix A), with locations and directions of exhibits shown in Figure 6. ©2021Google™ Earth was accessed via the internet to provide recent aerial photographs of the subject properties and surrounding areas (Figures 4a, 4b, 4c, and 4d).

3.0. Results

3.1. Common Biological Resources.

3.1.1. *Common Flora*. Each of three sites including the College site, C-Zone No. 2, and D-Zone No. 2, are similar in that desert senna (*Senna armata*) is very common, and creosote bush (*Larrea tridentata*) and burrobush (*Ambrosia dumosa*) are present but somewhat less abundant. The Gateway site is barren (Exhibits 1 and 2); compared to the College site and C-Zone No. 2 site each with four perennial species; and D-Zone No. 2 is the most diverse, with a total of seven perennial species, including the three species given above plus interior goldenbush (*Ericameria linearifolia*), California buckwheat (*Eriogonum fasciculatum*), cheesebush (*Ambrosia salsola*), and desert aster (*Xylorhiza tortifolia*).

3.1.2. *Common Fauna.* Common side-blotched lizard (*Uta stansburiana*) was observed on three of four sites (excluding Gateway). The following species were detected by diagnostic scats on one or more sites: desert iguana (*Dipsosaurus dorsalis*), desert horned lizard (*Phrynosoma platyrhinos*), and common chuckwallas (*Sauromalus obesus*), which are restricted to rocky areas and detected on all but the Gateway site.

Most of the bird species are those tolerant of or benefitted by urban development, including common raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), and house finch (*Carpodacus mexicanus*). Chukar (*Alectoris chukar*) were observed at two sites and rock wren (*Salpinctes obsoletus*) at one site, which are indicators of the rockiness of those sites.

All detected mammals are those common to the desert, including kangaroo rat (*Dipodomys* sp.), Audubon cottontail (*Sylvilagus audubonii*), black-tailed hare (*Lepus californicus*), and coyote (*Canis latrans*). We also checked a total of 27 desert woodrat (*Neotoma lepida*) middens at all but the Gateway site, looking for tortoise scats or carcass pieces, which the species collects in their middens.

3.2. Uncommon Biological Resources.

3.2.1. *Agassiz's Desert Tortoise*. No tortoise sign was found either onsite or in adjacent areas during these focused, protocol surveys for the species (USFWS 2019). Based on the absence of tortoise sign on the subject properties, in adjacent areas, and reported from the region (see Figure 3), CMBC concludes that Agassiz's desert tortoise is absent from each of the fenced tank sites.

Even so, there are suitable habitats for tortoises in areas adjacent to all four sites, where the potential to immigrate is from adjacent rocky, hill areas (less so at the Gateway site). In fact, one can see from the color codes used in Figure 3, tortoises have been observed at two of the four sites, including C-Zone and D-Zone tanks. In 2003, a single scat was found along the pipeline north of the C-Zone site, and later when the site was being developed, a tortoise was observed to crawl beneath one of our biological monitor's trucks, where it stayed from about 7:30 in the morning until it left after 4:00 pm that afternoon.

Based on previous observations, the D-Zone No. 2 reservoir is the site where workers are most likely to encounter tortoises. In 2006, several older scats of an adult tortoise were found adjacent to the existing tank that is to be removed and replaced. Then in 2008, six older scats in three accumulations were found onsite and a fresh scat was found 150 meters offsite. When the site was developed in 2011, intensive clearance surveys were performed and when no new tortoise sign was found, the site was developed with approval of the USFWS and with no apparent impacts to tortoises. Since 2011, Jason Lillion of IWVWD reported that a tortoise had been observed within the fenced site and that it was allowed to leave the site on its own accord without being handled or harassed.

3.2.2. *Other Special Status Species*. U.S. Fish and Wildlife Service (2008), California Department of Fish and Wildlife [CDFW 2021a for California Natural Diversity Data Base; 2021b for Special Plant Species list; 2020 for Special Animal Species list; and California Native Plant Society (CNPS 2021)] maintain lists of animals and/or plants considered rare, threatened, or endangered, which are herein collectively referred to as "special status species." Regulatory agency-designated special status species that were identified during previous or current surveys include loggerhead shrike (*Lanius ludovicianus*) and Cooper's hawk (*Accipiter cooperii*). Life history and occurrence information for these two species are given in the next few subsections.

Loggerhead shrike (*Lanius ludovicianus*) is designated as a California Species of Special Concern by CDFW (2020) and a Bird of Conservation Concern by the USFWS (2008). As mapped in Figures 2b (C-Zone site), 2c (D-Zone site), and 2d (College site), loggerhead shrikes were observed at these three sites during the current surveys. There are suitable foraging habitats for loggerhead shrikes on each of the four sites and they may nest in adjacent areas in landscaped areas but not on any of the sites.

Cooper's hawk (*Accipiter cooperi*) is a year-round resident raptor species that is designated as a Watch List species by CDFW (2020). One was observed at the D-Zone site in 2006 (CMBC 2006), possibly hunting small passerine birds. There are not any nesting sites on any of the sites but there are foraging habitats throughout, and plenty of small and medium-sized birds on which Cooper's hawks can prey.

Burrowing owl is designated as a California Species of Special Concern by CDFW (2020), as a Bird of Conservation Concern by the USFWS (2008), and is considered Sensitive by the BLM (CDFW 2021a). It is one of the focal species specifically sought during field surveys, and is usually detected by distinctive feathers, zygodactyl (x-shaped) tracks, and whitewash (fecal material deposited away from burrows may be from other bird species). Although pellets and feathers are sufficiently distinctive that they may be identified away from burrows, it is one or more of these signs at sufficiently large burrows that are the most definitive means of determining burrowing owl use of a given site.

In the case of the subject properties, there was no evidence of burrowing owl. Burrowing owls do not create their own burrows; rather they find existing burrows, which they may slightly modify in order to occupy. Typical existing burrows used by burrowing owls include abandoned kit fox dens, both active and inactive tortoise burrows, deeper badger digs, and inactive California ground squirrel burrows. That no such burrows were found on any of the sites or in adjacent areas is likely one of the reasons no burrowing owl sign was found.

Mohave ground squirrel is designated as a Threatened species by the California Fish and Game Commission and is not federally listed. In spite of two petitions, one in 1993 and another in 2005, to list the Mohave ground squirrel as a federally Endangered species, the USFWS ruled in both instances that listing was not warranted at those times. In recent years, the CDFW has considered three criteria in assessing potential impacts to the Mohave ground squirrel: (1) Is the site within the range of the species? (2) Is there native habitat with a relatively diverse shrub component? (3) Is the site surrounded by development and therefore isolated from potentially occupied habitats?

Figure 5 shows five known locations of Mohave ground squirrels relative to the subject properties (CDFW 2021a). The nearest reported occurrence was 3,750 feet southwest of the C-Zone site where a squirrel was found in 1990, and 4,200 feet northeast of the D-Zone site in 2006. Other proximate occurrences have been one to two miles north of the Gateway and D-Zone sites in 2006.

Importantly, prior to developing the D-Zone site, Steve Boland of Sundance Biology trapped the D-Zone tank site and adjacent areas to the north for Mohave ground squirrel in 2010, and during that 15-day effort, failed to capture any. Even though that effort was 11 years ago, habitats are more degraded now than then, a new tank site has been constructed and the site disturbed, so it is highly unlikely that Mohave ground squirrels occur at this or the other three sites.

Mohave ground squirrel has been reported between 550 meters (1,800 feet) and 1,710 meters (5,620 feet) elevation from a wide range of habitats including creosote bush scrub, saltbush scrub, Joshua tree woodland, juniper woodland, and Mohave mixed woody scrub (U.S. Bureau of Land Management 2005). Although the sites are well within the known elevational range of the species, there are no suitable habitats on any of the subject tank sites to support the species (particularly the Gateway site where there are no perennial shrubs). Most sites have been historically disturbed and some of them recently, but in all cases, there are compacted soils and artificially bermed areas that are unsuitable and highly degraded, respectively.

Finally, contiguous lands range from being developed and therefore unsuitable (i.e., adjacent areas north and west of the D-Zone site and north and east of the Gateway site) to being mountainous and rocky (all but the Gateway site), which are not ideal for resident Mohave ground squirrels. There are open, undeveloped areas south and west of the Gateway site; south of the D-Zone site; north, south, and west of the C-Zone site; and south and west of the College site where Mohave ground squirrels may occur. Even so, there is little incentive for them to immigrate onto any of these sites, which would require them to leave more suitable habitats for marginal, if any, habitats.

Given the above information, CMBC concludes that the Mohave ground squirrel is absent from all four sites.

3.3. Other Protected Biological Resources.

3.3.1. *Stream Courses*. Stream courses provide relatively important resources to animals and plants. In dry years, and particularly during prolonged drought, annual plants may only germinate in the vicinity of washes where the water table is relatively near the surface. Perennial shrubs adjacent to washes are often the only plants that produce flowers and fruit, which in turn are important to insects and the avian predators that feed on them. Shrubs also tend to be somewhat taller and denser alongside washes, which provides cover for medium and larger sized animals that may use them as travel corridors. Biodiversity is generally enhanced by washes, and there are often both annual and perennial plants that are either restricted to or mostly associated with wash margins. There are both anecdotal accounts and published literature on washes being important to tortoises, which use them as travel corridors and access to nearby annual forage. There are no stream courses on any of the sites.

3.3.2. *Protected Plant Species*. At the State level, the 1998 Food and Agricultural Code, Division 23: California Desert Native Plants Act, Chapter 3: Regulated Native Plants, Section 80073 states: The following native plants, or any parts thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing:

(a) All species of the family Agavaceae (century plants, nolinas, yuccas).

(b) All species of the family Cactaceae (cacti), except for the plants listed in subdivisions (b) and (c) of Section 80072 (i.e., saguaro and barrel cacti), which may be harvested under a permit obtained pursuant to that section.

(c) All species of the family Fouquieriaceae (ocotillo, candlewood).

(d) All species of the genus *Prosopis* (mesquites).

(e) All species of the genus *Cercidium* (palo verdes).

(f) *Senegalia (Acacia) greggii* (catclaw acacia).

(g) *Atriplex hymenelytra* (desert holly).

(h) *Dalea (Psorothamnus) spinosa* (smoke tree).

(i) *Olneya tesota* (desert ironwood), including both dead and live desert ironwood.

As shown in Figure 2b, there is one silver cholla (*Cylindropuntia echinocarpa*) near the southwest corner of the site along the fence line. Construction within this site will not affect the perimeter fence, so there is no risk of removing this plant.

4.0. Conclusions and Recommendations

4.1. Impacts to Agassiz's Desert Tortoise and Proposed Mitigation. Based on the absence of tortoise sign onsite and in adjacent areas, and available information reviewed for this habitat assessment, CMBC concludes that tortoises are absent from the subject properties. As such, no impacts are anticipated. Even so, the following applicable mitigation measures, which are already being implemented by IWVWD, are recommended:

1. While accessing the four sites, a 15-mph speed limit should be implemented along dirt roads not posted with speed limits. This is one of a dozen protective measures already required of IWVWD staff for operations and maintenance in several CDFW incidental take permits. Rather than reiterate them here, all applicable measures, which are routinely emphasized to fieldworkers in annual education programs (the most recent program was administered on 7/28/2021), must be implemented.
2. Perhaps more importantly, all contractors working for the IWVWD on these four sites also need to be cognizant of and committed to implementing these protective measures. CMBC has developed an educational brochure[1] that should be given to each construction worker, who should be required to sign the associated sign-up sheet[2] indicating they will comply with the protective measures. It is preferable that a knowledgeable IWVWD staff member emphasize some of the more important protective measures – particularly checking beneath parked vehicles – at the time these brochures are distributed.
3. Though not identified in any existing incidental take permits, it is essential that all IWVWD staff and contractors working at these sites keep the gates closed while onsite. This is particularly important at the D-Zone site where at least one tortoise has already been observed within the perimeter fence. The gates must be closed to preclude tortoises from entering the sites.

[1] https://www.dropbox.com/s/43361zkxc4ag6mw/IWVWDEdu.2021.pdf?dl=0
[2] https://www.dropbox.com/s/gi7ft0qwlvk7cun/IWVWDEduSign-upSheet.2021.pdf?dl=0

4. In addition to closing gates, it is advisable that all construction workers park all work-related heavy equipment and personal vehicles inside the fenced sites throughout project construction. If any vehicles cannot be accommodated within a given site, it is essential that workers check beneath their vehicles for tortoises prior to moving the vehicle. If a tortoise is observed, it cannot be handled, and a biologist should be called to the site to determine the appropriate actions. Alternatively, the tortoise should be allowed to leave on its own accord.
5. It is standard practice for Dr. Renee Morquecho to serve as the Field Contact Representative (FCR) for all permits issued to the IWVWD authorizing take of desert tortoises and Mohave ground squirrel. Among her many duties, if either of these species is encountered during development of these four sites, the incidence(s) should be reported to Dr. Morquecho, who will take necessary precautions to ensure no take occurs.
6. Three of the four sites have been fitted with 1 x 2-inch hardware cloth attached to the chain-link perimeter fence to preclude tortoises, including hatchlings, from entering the sites. The College site is the only one that has not been fenced with this mesh materials (see Exhibit 9 for a gap in the fence on the north side of this site). It is recommended that this site be retrofitted with hardware cloth as soon as possible, preferably before heavy equipment enters the site for construction.

4.2. Impacts to Other Biological Resources and Proposed Mitigation.

4.2.1 *Other Special Status Species.* Based on the field surveys and habitat assessments, CMBC concludes that none of the following special status species reported from the region will be adversely affected by site development: Mohave ground squirrel, burrowing owl, loggerhead shrike, or Cooper's hawk. As such, no adverse impacts have been identified and no mitigation measures are recommended.

4.2.2. *Other Protected Biological Resources.*

4.2.2.b. Protected Plants. It is advisable that the silver cholla mapped in Figure 2b be flagged or otherwise marked so that construction impacts can be avoided. If it cannot be avoided, salvage and replanting into a safe zone are the preferred alternative.

4.2.2.c. Bird Nests. Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests, including raptors and other migratory nongame birds (As listed under the Migratory Bird Treaty Act). Typically, CDFW requires that vegetation not be removed from a project site between March 15 and September 15 to avoid impacts to nesting birds. If it is necessary to commence project construction between March 15 and September 15, a qualified biologist should survey all shrubs and structures within the project site for nesting birds, prior to project activities (including construction and/or site preparation).

Surveys should be conducted at the appropriate time of day during the breeding season, and surveys would end no more than three days prior to clearing. CDFW is typically notified in writing prior to the start of the surveys. Documentation of surveys and findings should be submitted to the CDFW within ten days of the last survey. If no nesting birds were observed project activities may begin. If an active bird nest is located, the plant in which it occurs should be left in place until the birds leave the nest. No construction is allowed near active bird nests of threatened or endangered species.

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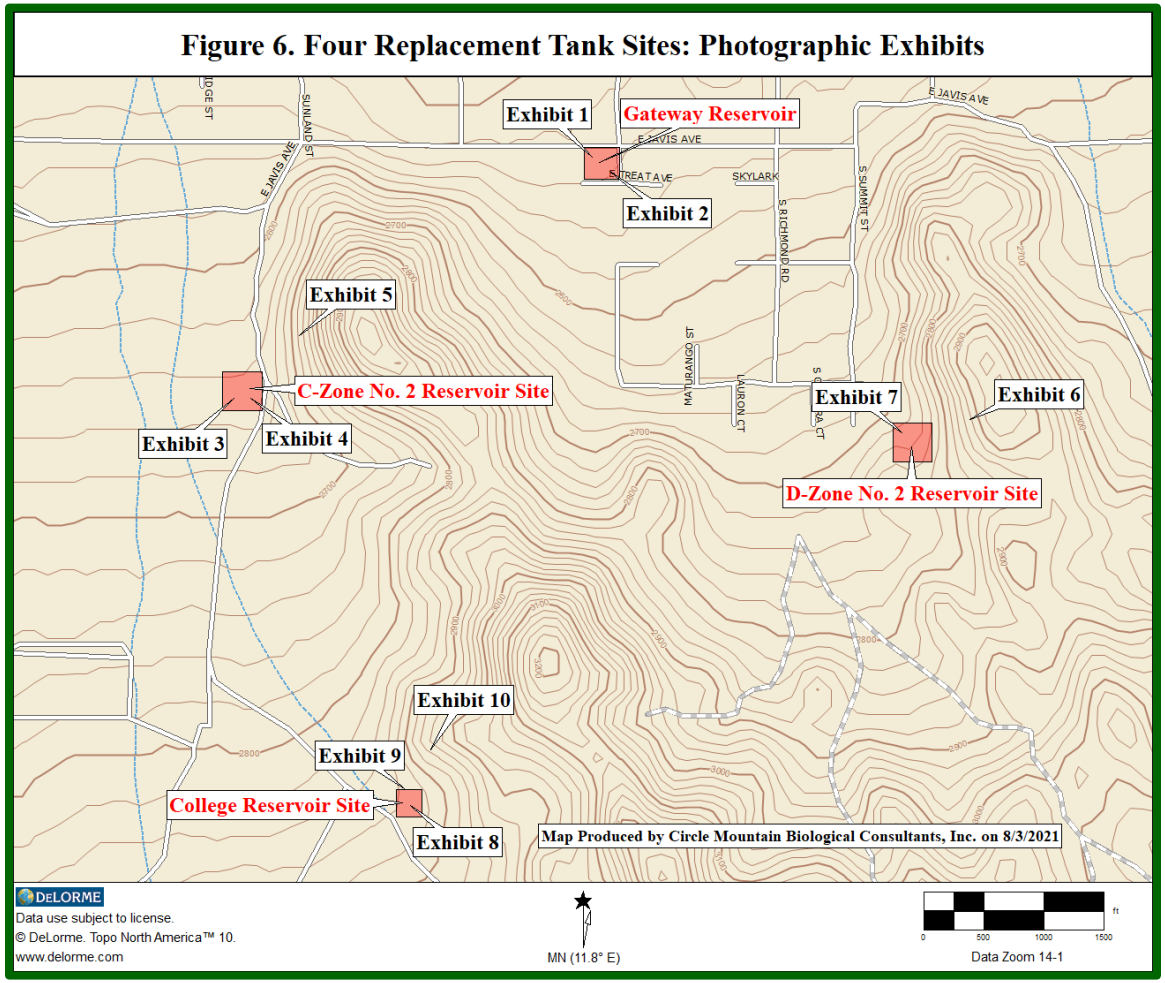
Appendix A. Photographic Exhibits

Figure 6. Four Replacement Tank Sites: Photographic Exhibits



Locations of the 10 photographic exhibits on the next 5 pages are depicted in Figure 6.

Exhibit 1. Gateway Site: View from the northwest corner of the parcel, facing southeast (see Figure 6 for locations and directions of photographs).

Exhibit 2. Gateway Site: View from the southeast corner of the parcel, facing northwest.

Exhibit 3. C-Zone Site: View from the southwest corner of the parcel, facing northeast.

Exhibit 4. C-Zone Site: View from the southeast corner of the parcel, facing northwest.

Exhibit 5. C-Zone Site: Overview from the northeast, facing southwest.

Exhibit 6. D-Zone Site: Overview from the northeast, facing southwest.

Exhibit 7. D-Zone Site: View from the northwest corner, facing southeast.

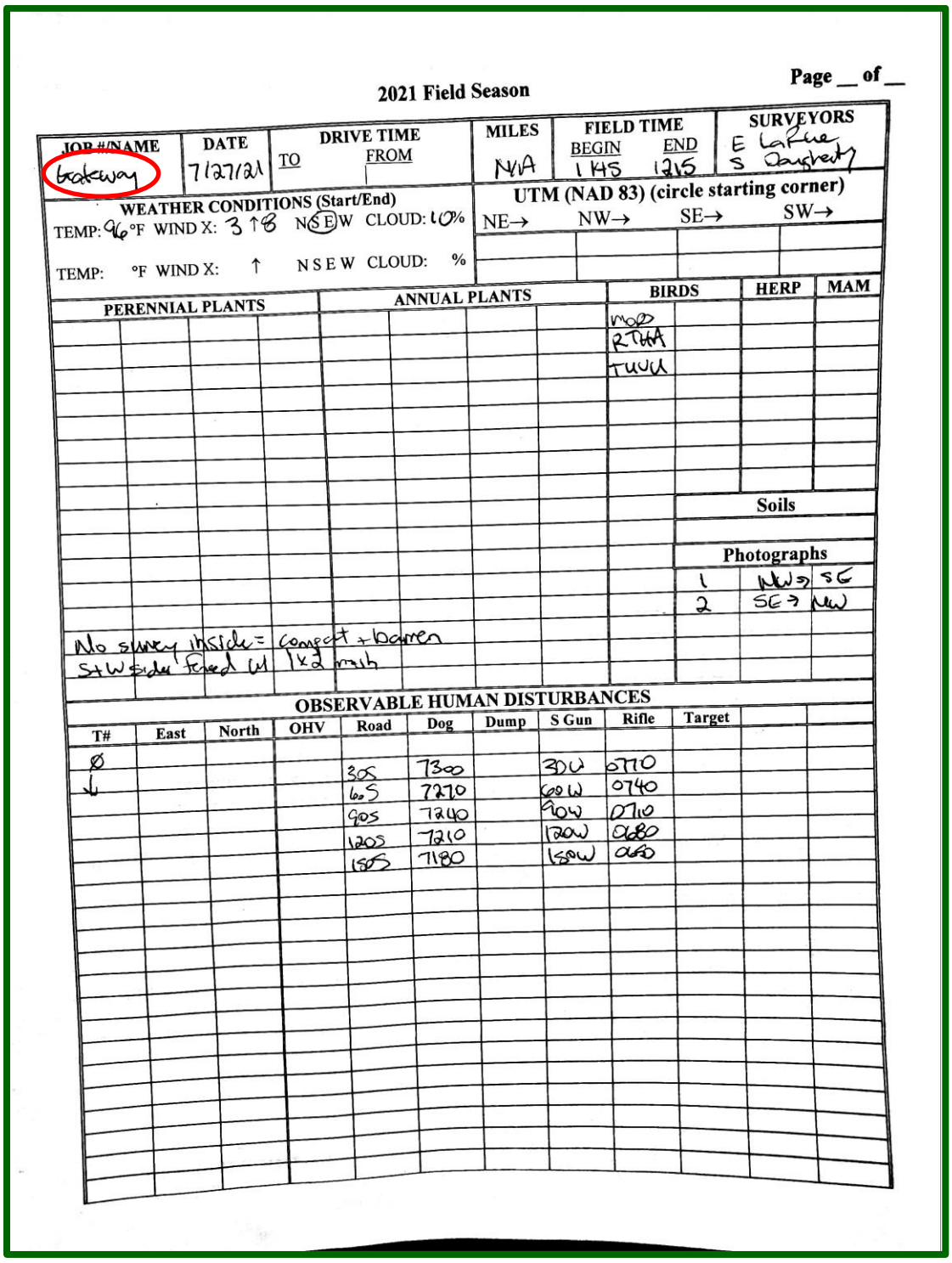
Exhibit 8. College Site: View from the southeast corner of the site, facing northwest.

Exhibit 9. College Site: Gap under the north side of the perimeter fence.

Exhibit 10. College Site: Overview from northeast of the site, facing southwest.

Appendix B. Field Data Sheets Completed on 27 & 28 July 2021

The USFWS recommends that consultants include copies of the data collected in the field from which the results and conclusions given in their reports are derived. As such, copies of the four data sheets completed by Ed LaRue on 27 & 28 July 2021 follow.



2021 Field Season

Page __ of __

JOB #/NAME	DATE	DRIVE TIME TO	DRIVE TIME FROM	MILES	FIELD TIME BEGIN	FIELD TIME END	SURVEYORS
Gateway	7/27/21			N/A	1145	1215	E LaRue S Daugherty

WEATHER CONDITIONS (Start/End)

TEMP: 96 °F WIND X: 3 ↑8 N (S) E W CLOUD: 10%

TEMP: °F WIND X: ↑ N S E W CLOUD: %

UTM (NAD 83) (circle starting corner)

NE→	NW→	SE→	SW→

PERENNIAL PLANTS | ANNUAL PLANTS | BIRDS | HERP | MAM

BIRDS: MODO, R-THA, TUVU

Soils

Photographs

1 NW→SE

2 SE→NW

No survey inside = compact + barren

S+W side fenced in 1x2 mesh

OBSERVABLE HUMAN DISTURBANCES

T#	East	North	OHV	Road	Dog	Dump	S Gun	Rifle	Target
∅									
↓				305	7300		30W	0710	
				605	7270		60W	0740	
				905	7240		90W	0710	
				1205	7210		120W	0680	
				1505	7180		150W	0650	

illion@iwvwd.org

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2021 Field Season

7/26 → 0755 + 0825

JOB #/NAME	DATE	DRIVE TIME TO	DRIVE TIME FROM	MILES	FIELD TIME BEGIN	FIELD TIME END	SURVEYORS
C-Bore No 2	7/27/21		N/A	7/27 →	0820	0940	E Cafue, S Daugherty

WEATHER CONDITIONS (Start/End)

TEMP: 86°F WIND X: 1 ↑ 2 N(S)E(W) CLOUD: 0 %

TEMP: 88°F WIND X: 3 ↑ 6 N(S)E(W) CLOUD: 10 % Sparse

UTM (NAD 83) (circle starting corner)

NE→	NW→	SE→	SW→
	439885		
	3936850		

PERENNIAL PLANTS				ANNUAL PLANTS				BIRDS		HERP	MAM
SrAm								AnHu		SBLI	AWRA
AmbSal								BTSP		WHTA	
LarTri								CoRA		SPRS(S)	
CylEch	9908/	6752						Chukar		Chuckwalla	
								GAQU		DETO(S)	
								VERD			
								RTHA			
								MoDo			
								(LOSH)	SE corner Soils		
								HOFI			
									Photographs		
									1	9080	6940 arc
									2	SE →	NW
									3	SW →	NE
* DT fence on this chain link											

OBSERVABLE HUMAN DISTURBANCES

T#	East	North	OHV	Road	Dog	Dump	S Gun	Rifle	Target		
1	9885	6850									
3	9905	6840			30W	9860E		30S	6720		
5	9885	6830			60W	9830		60S	6690		
7	9985	6820			90W	9800		90S	6660		
9	9885	6810			120W	9770		120S	6630		
→ 11	9985	6800			150W	9740		150S	6600		
13	9885	6790									
15	9985	6780			30E	0020		30N	6880		
17	9885	6770			60E	0050		60N	6910		
19	9985	6760			90E	0080		90N	6940		
(21)	9885	(6750)			120E	0110		120N	6970		
					150E	0140		150N	7000		

2021 Field Season

JOB #/NAME	DATE	DRIVE TIME TO	DRIVE TIME FROM	MILES	FIELD TIME BEGIN	FIELD TIME END	SURVEYORS
D-Zone No 2 Reservoir	7/27/21		NA	N/A	1000	1140	E LaRue, S Dougherty

WEATHER CONDITIONS (Start/End)

TEMP: 88 °F WIND X: 1 ↑ 3 N S E W CLOUD: 0 %

TEMP: °F WIND X: ↑ N S E W CLOUD: %

UTM (NAD 83) (circle starting corner)

NE→	NW→	SE→N	SW→
		441690	
		3936610	

PERENNIAL PLANTS	ANNUAL PLANTS	BIRDS	HERP	MAM
LarTri		AMHU	SBLI	AGS
AmbRum		MORO	Phrynosoma	AMCO
AtrLen		Oriole	DEHo(S)	DURA
EriFas		CORA		
AmbSal		BTSP		Botta
SenAm		GAQU		
KylTet		TUVU		
		HOFI		
		GREE	**Soils**	
		ROWR		
		(Lost) SW corner	**Photographs**	
			1	NW → SE
			2	1785 / 6715

* Has DT mesh on chainlink

T's @ 5-m intervals ↓ **OBSERVABLE HUMAN DISTURBANCES**

T#	East	North	OHV	Road	Dog	Dump	S Gun	Rifle	Target		
1	1690	6610									
3	1680	6710			30S	6580 N		30E	1720		
5	1670	6610			60S	6550		60 E	1750		
7	1660	6710			90S	6520		90 E	1780		
9	1650	6610			120S	6490		120E	1810		
11	1640	6710			150S	6460		150E	1840		
13	1630	6610									
15	1620	6710									
17	1610	6610									
19	1600	6710									
20	1595	6610									

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2021 Field Season

JOB #/NAME	DATE	DRIVE TIME TO	DRIVE TIME FROM	MILES	FIELD TIME BEGIN	FIELD TIME END	SURVEYORS
College Heights Reservoir	7/27/21	0600	0815	115	0630	0810	E Carter, S Dougherty

WEATHER CONDITIONS (Start/End)

TEMP: 74°F WIND X: Calm N S E W CLOUD: 0%

TEMP: °F WIND X: ↑ N S E W CLOUD: %

UTM (NAD 83) (circle starting corner)

(NE) → S	NW→	SE→	SW→
440385			
393 5800			

PERENNIAL PLANTS	ANNUAL PLANTS	BIRDS		HERP	MAM
↑ HymSal		MODO		SBLI	DUNRA ☒
↓ CorThi		CORA		Chuck	
AmbDum		MOFL			
SenArm		BTSP			
		(LOSH)	0280/5630		
		HOFI			

Soils

Photographs

1	SE→	NW	
2	0342	5792	Gap
3	NW →	SE	
4	0410 →	5890	Overlook

c 5m intervals

OBSERVABLE HUMAN DISTURBANCES

T#	East	North	OHV	Road	Dog	Dump	S Gun	Rifle	Target		
1	0385	5800		30N	5830	0385	30W	0290	~~5690~~		
3	0375	5720		60N	5860		60W	0260	~~5660~~		
5	0365	5800		90N	5890		90W	0230			
7	0355	5720		120N	5920		120W	0200			
9	0345	5800		150N	5950		150W	0170			
11	0335	5720									
13	0325	5800		30S	5690N		30E	~~0355E~~	0410E		
(14)	0320	5720		60S	5660		60E	~~0365~~	0440		
				90S	5630		90E	0470			
				120S	5600		120E	0500			
				150S	5570		150E	0520			

No DT found on dam tank

Ø MTS (B) inside

APPENDIX C

AIR QUALITY CALCULATIONS

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs

Mojave Desert AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
	1.00		8.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	30
Climate Zone	9			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate a total of 8 acres to be disturbed during project construction.

Construction Phase - Construction is estimated to take approximately 6 months per reservoir, with the total construction period estimated at February 1, 2022 through January 31, 2024.

Off-road Equipment - Based on estimated construction equipment needed for demolition of two tanks being replaced and construction of four new tanks.

Grading - Less than 20 acres will be graded as part of the project.

On-road Fugitive Dust - Assume that 90% of areas driven on as part of the project are paved.

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.0236	20.9023	15.9569	0.0314	7.2742	0.9418	8.2160	3.4756	0.8664	4.3420	0.0000	3,052.0586	3,052.0586	0.9332	4.4500e-003	3,076.7152
Maximum	**2.0236**	**20.9023**	**15.9569**	**0.0314**	**7.2742**	**0.9418**	**8.2160**	**3.4756**	**0.8664**	**4.3420**	**0.0000**	**3,052.0586**	**3,052.0586**	**0.9332**	**4.4500e-003**	**3,076.7152**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.0236	20.9023	15.9569	0.0314	7.2742	0.9418	8.2160	3.4756	0.8664	4.3420	0.0000	3,052.0586	3,052.0586	0.9332	4.4500e-003	3,076.7152
Maximum	**2.0236**	**20.9023**	**15.9569**	**0.0314**	**7.2742**	**0.9418**	**8.2160**	**3.4756**	**0.8664**	**4.3420**	**0.0000**	**3,052.0586**	**3,052.0586**	**0.9332**	**4.4500e-003**	**3,076.7152**

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	2/1/2022	2/28/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**7.0826**	**0.9409**	**8.0234**	**3.4247**	**0.8656**	**4.2903**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0750	0.0472	0.6842	1.7700e-003	0.1916	9.2000e-004	0.1925	0.0508	8.5000e-004	0.0517		180.0122	180.0122	4.3500e-003	4.4500e-003	181.4468
Total	**0.0750**	**0.0472**	**0.6842**	**1.7700e-003**	**0.1916**	**9.2000e-004**	**0.1925**	**0.0508**	**8.5000e-004**	**0.0517**		**180.0122**	**180.0122**	**4.3500e-003**	**4.4500e-003**	**181.4468**

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**7.0826**	**0.9409**	**8.0234**	**3.4247**	**0.8656**	**4.2903**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0750	0.0472	0.6842	1.7700e-003	0.1916	9.2000e-004	0.1925	0.0508	8.5000e-004	0.0517		180.0122	180.0122	4.3500e-003	4.4500e-003	181.4468
Total	**0.0750**	**0.0472**	**0.6842**	**1.7700e-003**	**0.1916**	**9.2000e-004**	**0.1925**	**0.0508**	**8.5000e-004**	**0.0517**		**180.0122**	**180.0122**	**4.3500e-003**	**4.4500e-003**	**181.4468**

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.530590	0.056931	0.174803	0.137616	0.029294	0.007692	0.006155	0.022126	0.000483	0.000158	0.027801	0.000928	0.005423

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs - Mojave Desert AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs

Mojave Desert AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
	1.00		8.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	30
Climate Zone	9			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimate a total of 8 acres to be disturbed during project construction.

Construction Phase - Construction is estimated to take approximately 6 months per reservoir, with the total construction period estimated at February 1, 2022 through January 31, 2024.

Off-road Equipment - Based on estimated construction equipment needed for demolition of two tanks being replaced and construction of four new tanks.

Grading - Less than 20 acres will be graded as part of the project.

On-road Fugitive Dust - Assume that 90% of areas driven on as part of the project are paved.

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0201	0.2091	0.1584	3.1000e-004	0.0727	9.4200e-003	0.0821	0.0348	8.6600e-003	0.0434	0.0000	27.5452	27.5452	8.4700e-003	4.0000e-005	27.7697
Maximum	**0.0201**	**0.2091**	**0.1584**	**3.1000e-004**	**0.0727**	**9.4200e-003**	**0.0821**	**0.0348**	**8.6600e-003**	**0.0434**	**0.0000**	**27.5452**	**27.5452**	**8.4700e-003**	**4.0000e-005**	**27.7697**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0201	0.2091	0.1584	3.1000e-004	0.0727	9.4200e-003	0.0821	0.0348	8.6600e-003	0.0434	0.0000	27.5452	27.5452	8.4700e-003	4.0000e-005	27.7697
Maximum	**0.0201**	**0.2091**	**0.1584**	**3.1000e-004**	**0.0727**	**9.4200e-003**	**0.0821**	**0.0348**	**8.6600e-003**	**0.0434**	**0.0000**	**27.5452**	**27.5452**	**8.4700e-003**	**4.0000e-005**	**27.7697**

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**2-1-2022**	**4-30-2022**	0.2292	0.2292
		Highest	0.2292	0.2292

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	2/1/2022	2/28/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003	0.0000	26.0548	26.0548	8.4300e-003	0.0000	26.2654
Total	**0.0195**	**0.2086**	**0.1527**	**3.0000e-004**	**0.0708**	**9.4100e-003**	**0.0802**	**0.0343**	**8.6600e-003**	**0.0429**	**0.0000**	**26.0548**	**26.0548**	**8.4300e-003**	**0.0000**	**26.2654**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.2000e-004	5.7100e-003	2.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4905	1.4905	4.0000e-005	4.0000e-005	1.5043
Total	**6.5000e-004**	**5.2000e-004**	**5.7100e-003**	**2.0000e-005**	**1.8800e-003**	**1.0000e-005**	**1.8900e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.4905**	**1.4905**	**4.0000e-005**	**4.0000e-005**	**1.5043**

IWVWD 1.0 MG B-Zone, 1.0 MG C-Zone, 0.1 MG D-Zone, and 0.55 MG E-Zone Reservoirs - Mojave Desert AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003	0.0000	26.0547	26.0547	8.4300e-003	0.0000	26.2654
Total	**0.0195**	**0.2086**	**0.1527**	**3.0000e-004**	**0.0708**	**9.4100e-003**	**0.0802**	**0.0343**	**8.6600e-003**	**0.0429**	**0.0000**	**26.0547**	**26.0547**	**8.4300e-003**	**0.0000**	**26.2654**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5000e-004	5.2000e-004	5.7100e-003	2.0000e-005	1.8800e-003	1.0000e-005	1.8900e-003	5.0000e-004	1.0000e-005	5.1000e-004	0.0000	1.4905	1.4905	4.0000e-005	4.0000e-005	1.5043
Total	**6.5000e-004**	**5.2000e-004**	**5.7100e-003**	**2.0000e-005**	**1.8800e-003**	**1.0000e-005**	**1.8900e-003**	**5.0000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.4905**	**1.4905**	**4.0000e-005**	**4.0000e-005**	**1.5043**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.530590	0.056931	0.174803	0.137616	0.029294	0.007692	0.006155	0.022126	0.000483	0.000158	0.027801	0.000928	0.005423

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation