

## **INITIAL STUDY**

**RANCHO CALIFORNIA WATER DISTRICT  
VAIL DAM SEISMIC AND HYDROLOGIC REMEDIATION PROJECT  
PROJECT NO. D1911  
RIVERSIDE COUNTY, CALIFORNIA**



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June 2020

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PROJECT NO. D1911  
RIVERSIDE COUNTY, CALIFORNIA**

Submitted to:

Rancho California Water District  
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Project No. RCW1902

June 2020

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## LIST OF ABBREVIATIONS AND ACRONYMS

AAQS	ambient air quality standards
AB	Assembly Bill
ac-ft	acre-feet
AQMP	Air Quality Management Plan
BMPs	Best Management Practices
California Register	California Register of Historical Resources
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
County	County of Riverside
CWA	Clean Water Act
cy	cubic yard(s)
DSOD	(California Department of Water Resources) Division of Safety of Dams
EIR	Environmental Impact Report
FGC	California Fish and Game Code
ft	foot/feet
GHG	greenhouse gas
H:V	horizontal to vertical (ratio)
I-15	Interstate 15
MBTA	Migratory Bird Treaty Act
NCCP/HCP	Natural Communities Conservation Plan/Habitat Conservation Plan
MCE	Maximum Credible Earthquake
MSHCP	Multiple Species Habitat Conservation Plan
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
PMF	Probable Maximum Flood
PMP	Probable Maximum Precipitation
PRC	Public Resources Code
Project	Vail Dam Seismic and Hydrologic Remediation Project
RCC	Roller Compacted Concrete
RCWD	Rancho California Water District
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SHPO	State Historic Preservation Officer
SR-79	State Route 79
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
VDC	Valle De Los Caballos
VMT	vehicle miles traveled
WQMP	Water Quality Management Plan
WRC RCA	Western Riverside County Regional Conservation Authority



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## 1.0 INTRODUCTION

In accordance with the California Environmental Quality Act (CEQA), the *State CEQA Guidelines*, and Rancho California Water District (RCWD)'s *CEQA Guidelines 2019: Local Guidelines for Implementing the California Environmental Quality Act*, this Initial Study has been prepared for the proposed Vail Lake Seismic and Hydrologic Remediation Project (Project) in unincorporated Riverside County. Pursuant to Section 15063(a) of the *State CEQA Guidelines*, RCWD is required to undertake the preparation of an Initial Study to determine whether the proposed action will have a significant effect on the environment. The purposes of this Initial Study are to: (1) identify potential environmental impacts, (2) provide the Lead Agency with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or Negative Declaration, (3) enable the Lead Agency to modify the Project (through mitigation of adverse impacts), (4) facilitate assessment of potential environmental impacts early in the design of the Project, and (5) provide documentation for the potential finding that the Project will not have a significant effect on the environment or can be mitigated to a level of insignificance (*State CEQA Guidelines*, Section 15063[c]). This Initial Study is also an informational document providing an environmental basis for subsequent discretionary actions that could be required from other Responsible Agencies.

This Initial Study evaluates the potential environmental impacts that may result from development of the Project. Consistent with *State CEQA Guidelines* Section 15050, RCWD is the Lead Agency under CEQA, and it is responsible for adoption or certification of the environmental document and approval of the Project.

### 1.1 PROJECT INFORMATION

**Project Title:**

Vail Dam Seismic and Hydrologic Remediation Project (Project No. D1911)

**Lead Agency:**

Rancho California Water District  
42135 Winchester Road  
Temecula, California 92590

**Contact Person:**

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## 1.2 PROJECT DESCRIPTION

### 1.2.1 Regional Location and Setting

Vail Dam and Vail Lake are located in unincorporated southwestern Riverside County, east of the City of Temecula, in Southern California (see Figures 1-1 and 1-2). Vail Dam spans Temecula Creek, a northwesterly draining tributary of the Santa Margarita River that drains the north side of Palomar Mountain. The watershed for Vail Lake is approximately 318 square miles. Vail Lake is a reservoir fed by Temecula Creek, Wilson Creek, Kolb Creek, and Arroyo Seco.

RCWD acquired approximately 7,700 acres of the Vail and Sundance Ranch properties surrounding Vail Lake in 2014 (RCWD 2016). Including Vail Lake, RCWD land holdings total 8,444 acres in the vicinity of Vail Lake; this area is referred to as the Vail Property in the Property Guidance Document prepared by RCWD in 2016.<sup>1</sup> The Vail Property is located approximately 3 miles east of the City limits of Temecula and approximately 7 miles east of Interstate 15 (I-15). State Route 79 (SR-79) South traverses the southern portion of the property.

In addition to the reservoir, the terrain includes nearly flat stream valleys, step-like alluvial fan and terrace deposits, canyons, steep-sided river gorges, and moderate-to-steep mountain slopes. The topography slopes in all directions from various peaks and canyons in the vicinity of the reservoir. Vail (Oak) Mountain is located on the western portion of the property, and the area generally separates the Lancaster and Aguanga Valleys on the east from the Pauba and Temecula Valleys on the west.

Vegetation and wildlife are diverse in the area, with scrub communities (inland sage scrub, chamise chaparral, and alluvial fan scrub) dominant. Woodland vegetation is limited but present, including both oak and riparian woodland communities. Native and non-native grasslands occur, along with freshwater marsh and semi-aquatic plant communities. The area supports several rare, threatened, and endangered species.

Land uses on the RCWD property include the following (RCWD 2016):

- The Vail Lake Village and RV Resort, which contains campsites, numerous associated buildings, maintenance facilities, sports courts, pools, boat and RV storage, and electrical, water, and sewer facilities;
- The Vail Lake Marina facilities, including associated buildings, boat launch, fields, RV and boat storage, and similar facilities (the boat launch is presently closed due to low lake levels);
- Numerous hiking, equestrian, and mountain biking trails located within the property; and
- Vail Dam facilities including pipelines and other appurtenances.

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<sup>1</sup> Rancho California Water District. (RCWD). 2016. *Vail Property and Sundance Ranch Property, Final Guidance Document* (Property Guidance Document). Volume I, February 2016.

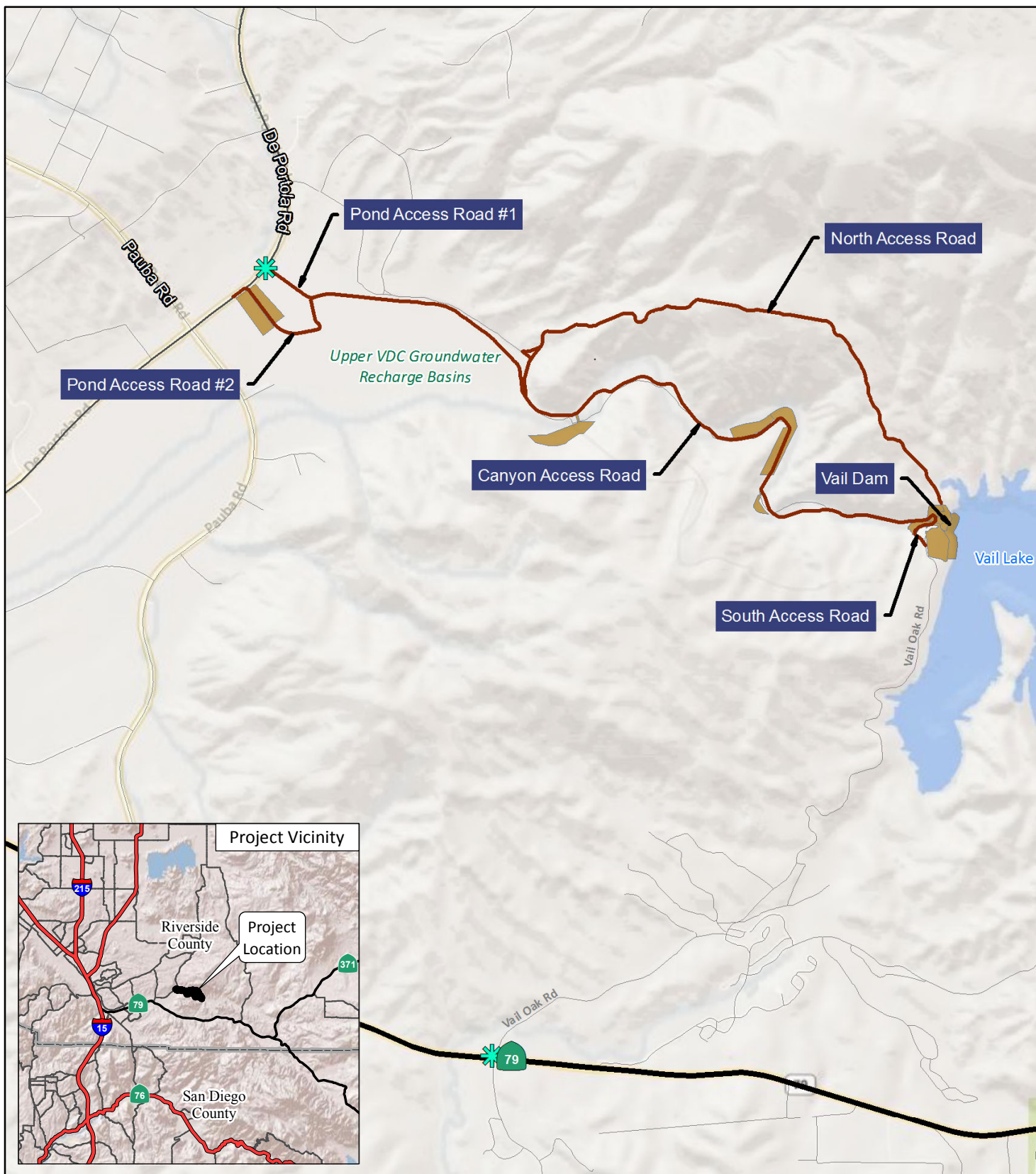


FIGURE 1-1

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LEGEND

- Project Feature Access Roads
- Project Feature Areas
- ✱ Site Access Point



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SOURCE: Bing Maps (2018); AECOM (1/2020)

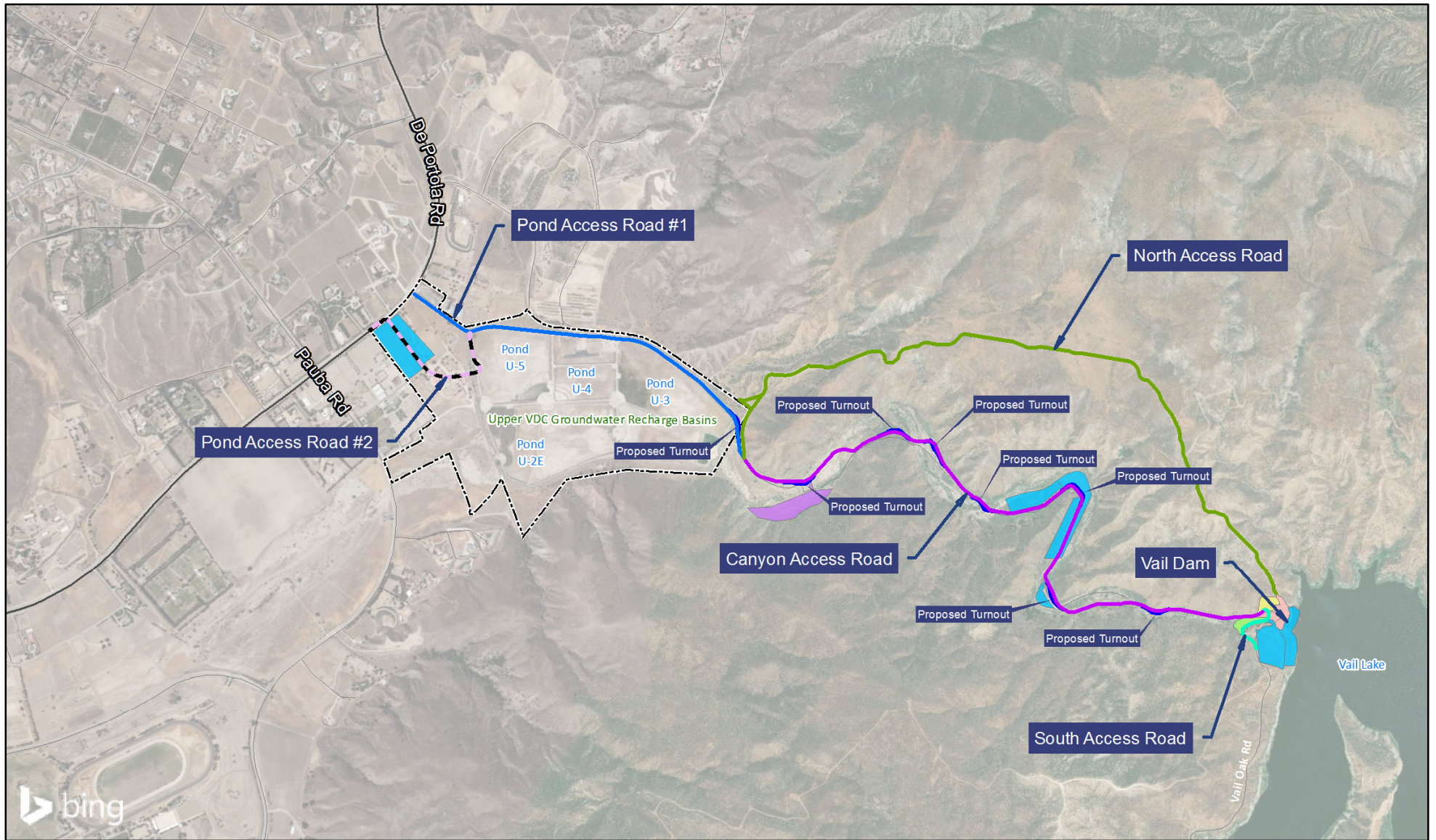
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Vail Dam Seismic and Hydrologic  
Remediation Project  
Project Vicinity

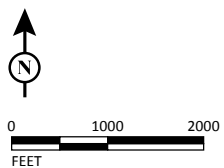


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SOURCE: Bing Maps (2018); AECOM (1/2020)  
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#### LEGEND

- |   |   |
|---|---|
| <span style="color: magenta;">—</span> Canyon Access Road                                   | <span style="border-bottom: 1px dashed black;">---</span> Property Boundary   |
| <span style="color: green;">—</span> North Access Road                                      | <span style="background-color: pink; width: 20px; height: 10px; display: inline-block;"></span> Dam Construction Area                     |
| <span style="color: blue;">—</span> Pond Access Road #1                                     | <span style="background-color: purple; width: 20px; height: 10px; display: inline-block;"></span> Disposal Area                           |
| <span style="color: black; border-bottom: 1px dashed black;">---</span> Pond Access Road #2 | <span style="background-color: lightgreen; width: 20px; height: 10px; display: inline-block;"></span> South Access Road Construction Area |
| <span style="color: cyan;">—</span> South Access Road                                       | <span style="background-color: lightblue; width: 20px; height: 10px; display: inline-block;"></span> Staging and Laydown Area             |
| <span style="color: blue;">—</span> Proposed Truck Turnout                                  | <span style="background-color: yellow; width: 20px; height: 10px; display: inline-block;"></span> Temporary Construction Area             |

FIGURE 1-2

*Vail Dam Seismic and Hydrologic  
Remediation Project  
Project Location*



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Land uses and land use designations surrounding Vail Lake can be characterized as follows (see Figure 1-3).

- To the north, the area generally consists of undeveloped property with a County of Riverside (County) land use designation of rural mountainous (10-acre minimum lot size) or Bureau of Land Management conservation property with a County land use designation of open space – conservation.
- To the west (beyond the canyon below Vail Dam), the area generally consists of developed ranch property within the Valle De Los Caballos (VDC) Policy Area, with a County land use designation of rural residential (5-acre minimum), undeveloped property with a land use designation of agricultural, and RCWD's Upper VDC Groundwater Recharge Basins.
- To the south, the area consists primarily of recreational/campground uses, Cleveland National Forest, a variety of ranch and agricultural properties, and vacant undeveloped properties. The County land use designations for this area are rural residential (5-acre minimum), rural mountainous (10-acre minimum), open-space conservation, open-space habitat, and open-space recreation.
- To the east, the area generally consists of developed property associated with the Sundance Meadows private membership campground with a County land use designation of rural residential (5-acre minimum) or vacant undeveloped property with a land use designation of rural mountainous (10-acre minimum).

### 1.2.2 Vail Dam Construction History

Vail Lake was created through the construction of the existing Vail Dam by the Vail Company in 1948 and 1949, in order to store local runoff for the purpose of irrigation and water supply. Vail Dam and Vail Lake were acquired by RCWD in 1978 and have been used since that time for water supply and replenishment of RCWD's groundwater basins.

Since initial construction of Vail Dam, modifications have included the following:

- In the 1980s, the training wall near the left<sup>2</sup> abutment gravity section was extended and raised to address erosion concerns during spill events.
- In 1987, modifications to the outlet works to prevent cavitation in the outlet pipe were completed.

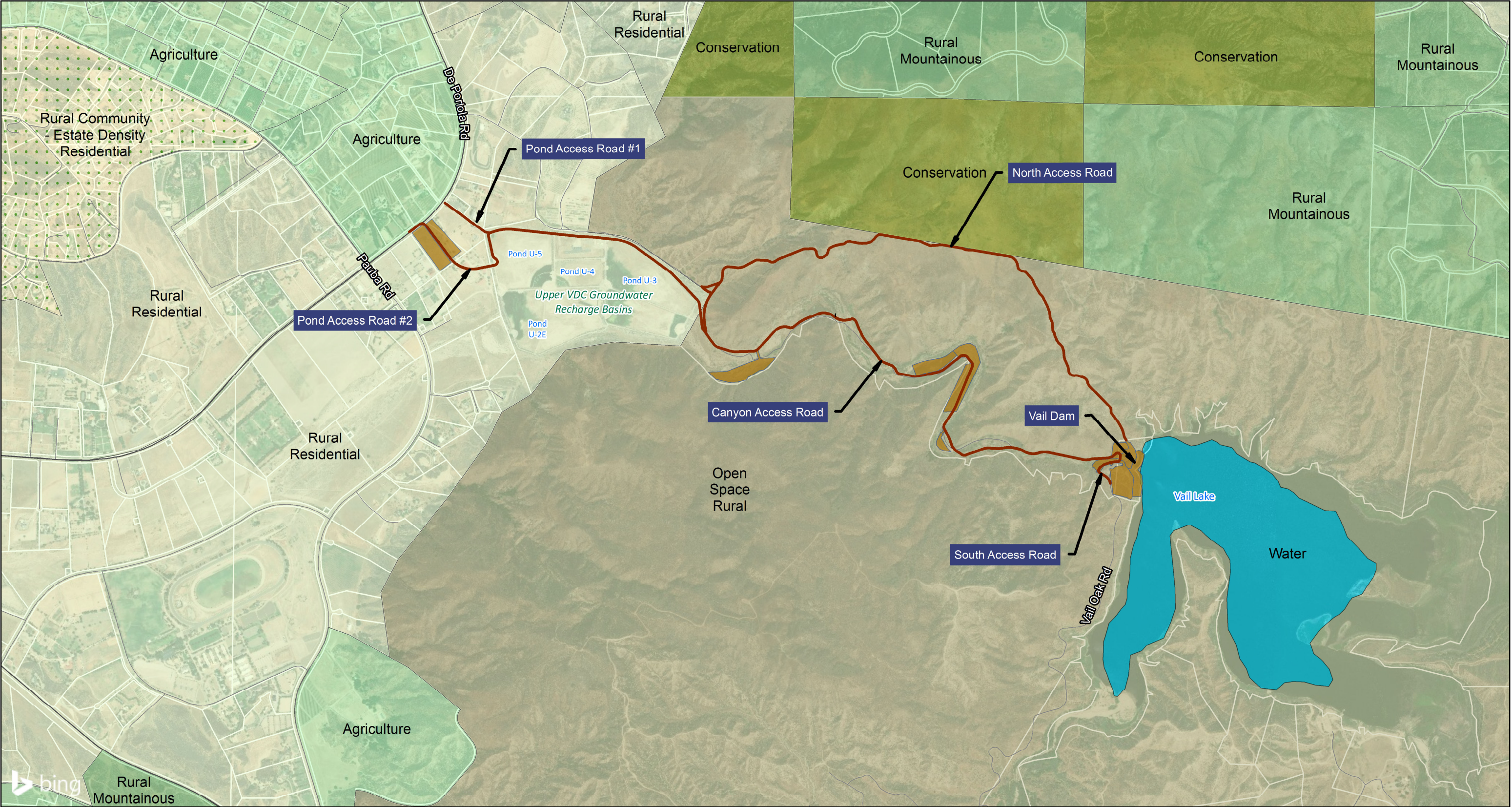
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<sup>2</sup> Left or right side refers to the view when facing downstream.



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LEGEND

- Project Feature Access Roads
- Project Feature Areas

Surrounding Land Use

- Rural Community - Estate Density Residential
- Rural Residential
- Rural Mountainous

- Agriculture
- Conservation
- Open Space Rural
- Water



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SOURCE: Bing Maps (2018); AECOM (1/2020); Riverside County Transportation and Land Use Management Agency (2012)

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FIGURE 1-3

Vail Dam Seismic and Hydrologic  
Remediation Project  
Surrounding Land Use





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- In 2007, rehabilitation of the outlet works was completed. The repairs included replacement of the intake gates and associated trash racks, including the gate operators, stems, and stem guides. The rehabilitation also included replacement of portions of the conduit from Intake No. 8 pipe, and replacement of the 24-inch discharge conduits downstream of the dam, as well as replacement of several conduit connections.
- In 2009, a new transmission main pipe was constructed that connects Vail Dam to the Upper VDC percolation ponds located downstream of the dam at the mouth of the canyon.

### 1.2.3 Rancho California Water District

RCWD's service area is located in southwestern Riverside County and includes the City of Temecula, portions of the City of Murrieta, and unincorporated areas of the County. RCWD has two divisions: the Rancho Division and the Santa Rosa Division. Vail Lake is located in the Rancho Division. As of November 2019, RCWD's current service area represents 100,000 acres, and RCWD has 970 miles of water mains, 39 storage reservoirs, five storage reservoirs (recycled water), five wet weather storage ponds (recycled water), one surface reservoir (Vail Lake), 48 groundwater wells, and 45,000 service connections (RCWD 2019). More than 150,000 people are served by RCWD.

### 1.2.4 Existing Conditions

#### 1.2.4.1 Vail Dam

Vail Dam is a concrete arch dam spanning concrete and rock abutments, approximately 120 feet (ft) high in the middle. The dam's maximum height is 152 ft from the dam crest to the lowest point in the foundation, with a 3.5 ft high concrete parapet wall extending above the upstream dam crest. The crest length, including the right and left abutment concrete gravity blocks, is 790 ft. The dam thickness varies from a maximum of 15 ft to a minimum of 4.5 ft, and is thicker in the lower portion and thinner closer to the crest.

The dam has eight outlets, including a low-level outlet. An at-grade meter vault is located approximately 100 ft downstream, and a stream release valve building is located approximately 200 ft downstream of the dam.

The spillway<sup>3</sup> is located beyond the left abutment and connects to the left abutment<sup>4</sup> gravity block at a right angle. The spillway is comprised of a 119 ft long ogee<sup>5</sup> weir<sup>6</sup>, a 343 ft long flat-crested weir, and a 65 ft long concrete overpour weir. A concrete pier separates the flat-crested weir from the overpour weir. The flat-crested weir includes a 5 ft wide concrete sill along its length. The concrete overpour weir is approximately 20 ft high and was constructed across a saddle in the ridge line. Figure 1-4 illustrates the existing arch dam and spillway.

<sup>3</sup> A spillway is a structure used to provide the controlled release of flows from a dam or levee into a downstream area.

<sup>4</sup> Abutment refers to the substructure at each end of the dam.

<sup>5</sup> Ogee refers to the weir shape. An ogee is a curve shape similar to the letter S, consisting of two arcs that curve in opposite directions.

<sup>6</sup> A weir is a dam across the width of a river or stream that raises the water level or diverts its flow.



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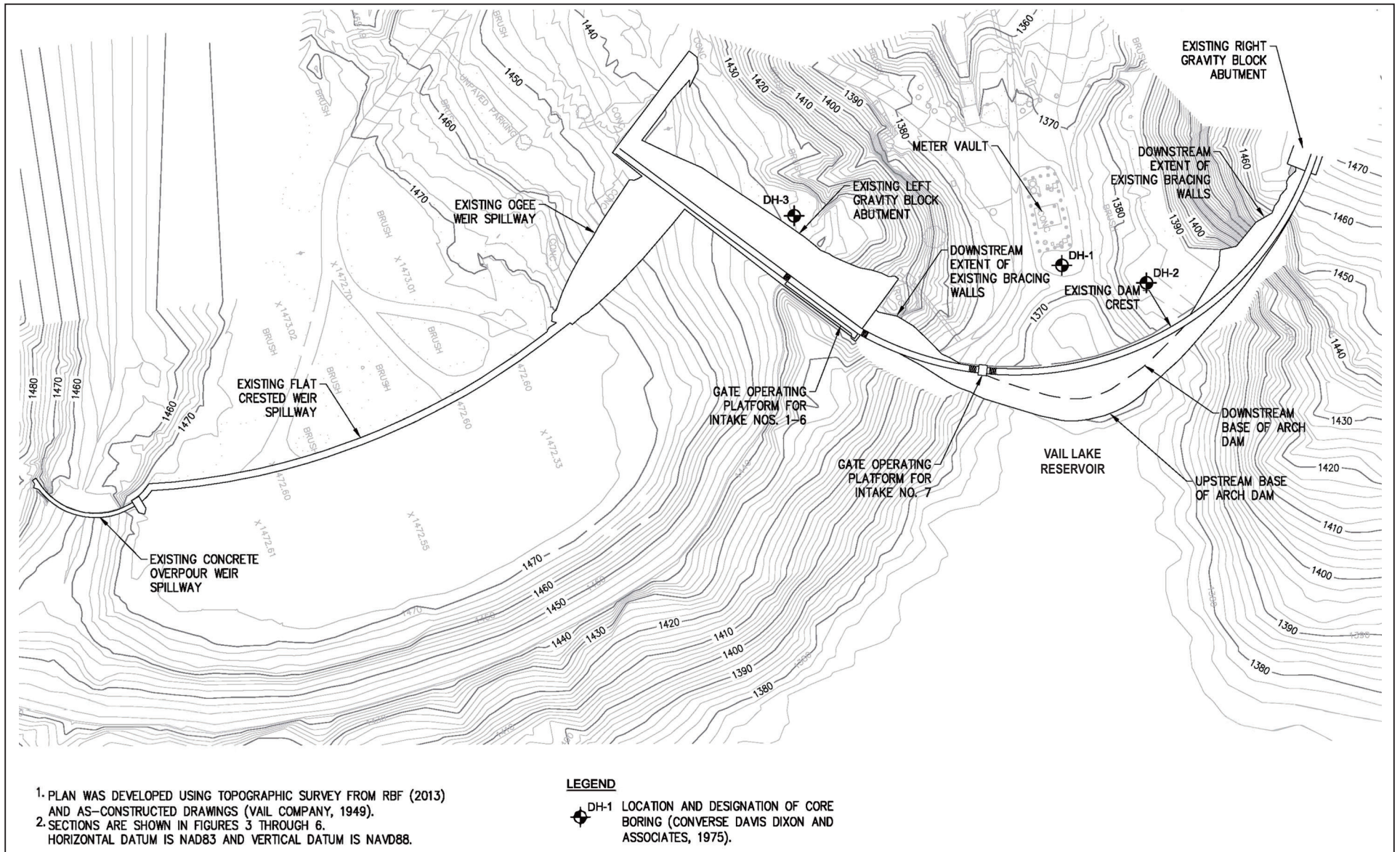
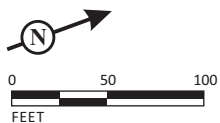


FIGURE 1-4

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\* For further information, refer to Figure 2 in the Seismic Structural Analyses - Phase 3.1 Vail Dam (DSOD Dam No. 2028) by URS Corporation (December 2015)



SOURCE: URS 2015

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Vail Dam Seismic and Hydrologic  
 Remediation Project  
 Existing Vail Dam and Spillway



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Access to the dam is currently available from De Portola Road via the Upper VDC Pond Access Road, and from that point, along the Canyon Access Road or North Access Road, or from SR-79 south via Vail Oak Road and the South Access Road (refer to Figure 1-1).

#### 1.2.4.2 Reservoir

Vail Lake impounds up to 42,680 acre-feet (ac-ft) of water with the reservoir at the spillway crest. The reservoir is currently used primarily for water supply but historically has been utilized for recreation also. As noted previously, the Vail Lake Village and RV Resort, Vail Lake Marina, and numerous trails are the primary recreational resources. The reservoir and surrounding areas provide vital upland and riparian habitats for plants and wildlife and include Core and Linkage areas identified in the *Western Riverside County Multiple Species Habitat Conservation Plan* (Riverside County Transportation and Land Management Agency, 2003). The reservoir has a 318-square-mile drainage area, which rapidly fills the reservoir in wet years. Water released from Vail Lake is typically re-stored in the Pauba Valley groundwater basin via the Upper VDC Recharge Basins.

The spillway crest of Vail Dam is located at 1,472.6 ft NAVD88.<sup>7</sup> In 1966, Vail Dam was approved by the California Department of Water Resources Division of Safety of Dams (DSOD) to impound water to an elevation of 1,470.0 ft NAVD88. Prior to RCWD acquiring the land surrounding Vail Lake in 1978, RCWD had an agreement with the surrounding land owners to restrict the reservoir level to at least a minimum level of 1,437 ft for recreational use. Figure 1-5 shows both the existing and the proposed dam and spillway with elevations indicating water levels under the various scenarios; Figure 1-6 shows the aerial extent of Vail Lake at different water levels.

As discussed in the *Interim Operation Restriction Plan* (URS 2014), DSOD restricts the maximum reservoir elevation until the hydrologic and seismic deficiencies are remediated. In June 2015, DSOD established an interim restriction level of 1,457.6 ft NAVD88, which is 15 ft below the spillway crest. Although DSOD typically restricts the highest level at which a reservoir can operate with a deficient dam, additional studies conducted by DSOD also indicated that lower reservoir levels exacerbate the seismically induced stresses on Vail Dam. Therefore, the *Interim Operation Restriction Plan* also included a restriction for the lowest level at which the reservoir should operate, 1,437.6 ft NAVD88. The average water level from 1978 (the year during which RCWD took ownership of Vail Dam) through May 2020 has been 1,445.1 ft NAVD88 as is indicated in Figure 1-7. RCWD is required to balance operating water demands to meet the water restriction level. The operating level of the reservoir is dependent on a variety of factors, including restrictions on pumping into the reservoir to prevent the introduction of quagga mussel, requirements to recharge groundwater to reduce evaporation of stored water, mandated releases between May and October to maintain water flow in the creek, and the amount of precipitation.

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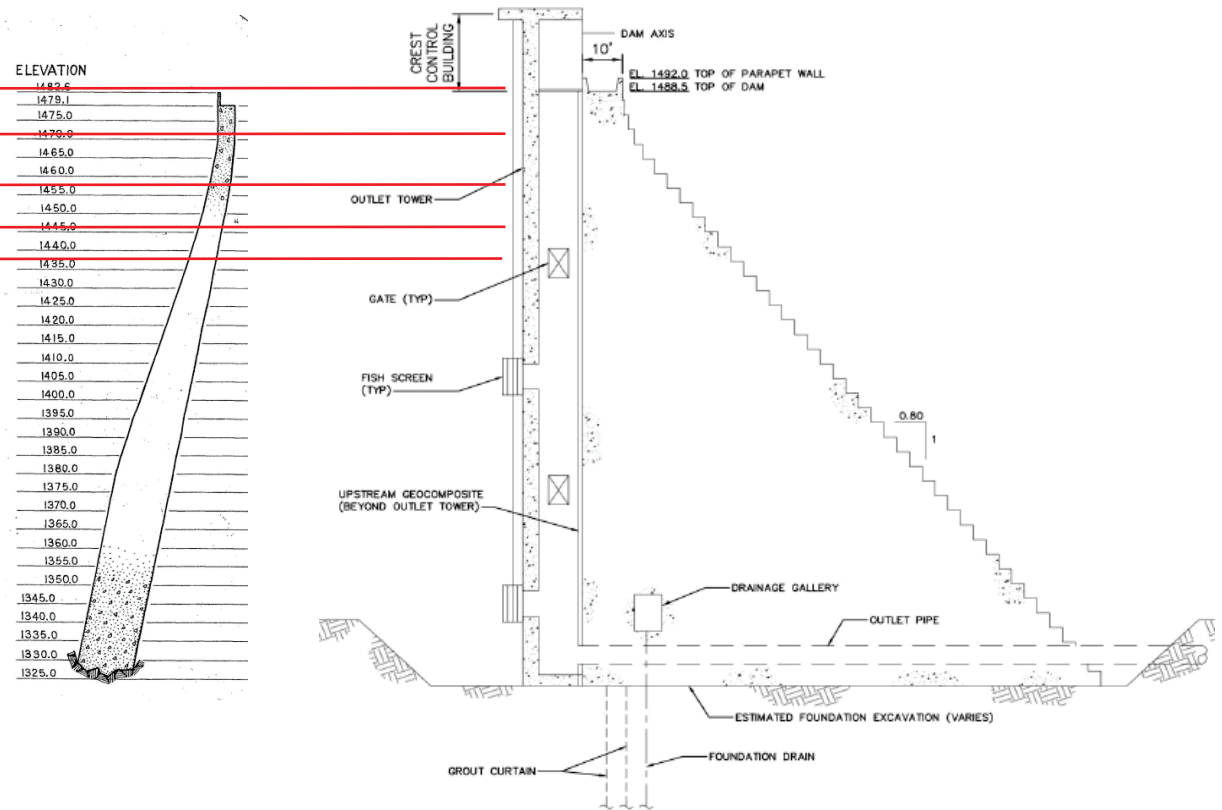
<sup>7</sup> NAVD88 = North American Vertical Datum of 1988



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Elev.  
(ft NAVD88)

- 1491.1 Peak PMF Level
- 1472.6 Spillway Crest
- 1457.8 Interim Operations Plan Maximum Water Level
- 1445.2 Average Water Level
- 1437.6 Interim Operations Plan Minimum Water Level



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FIGURE 1-5

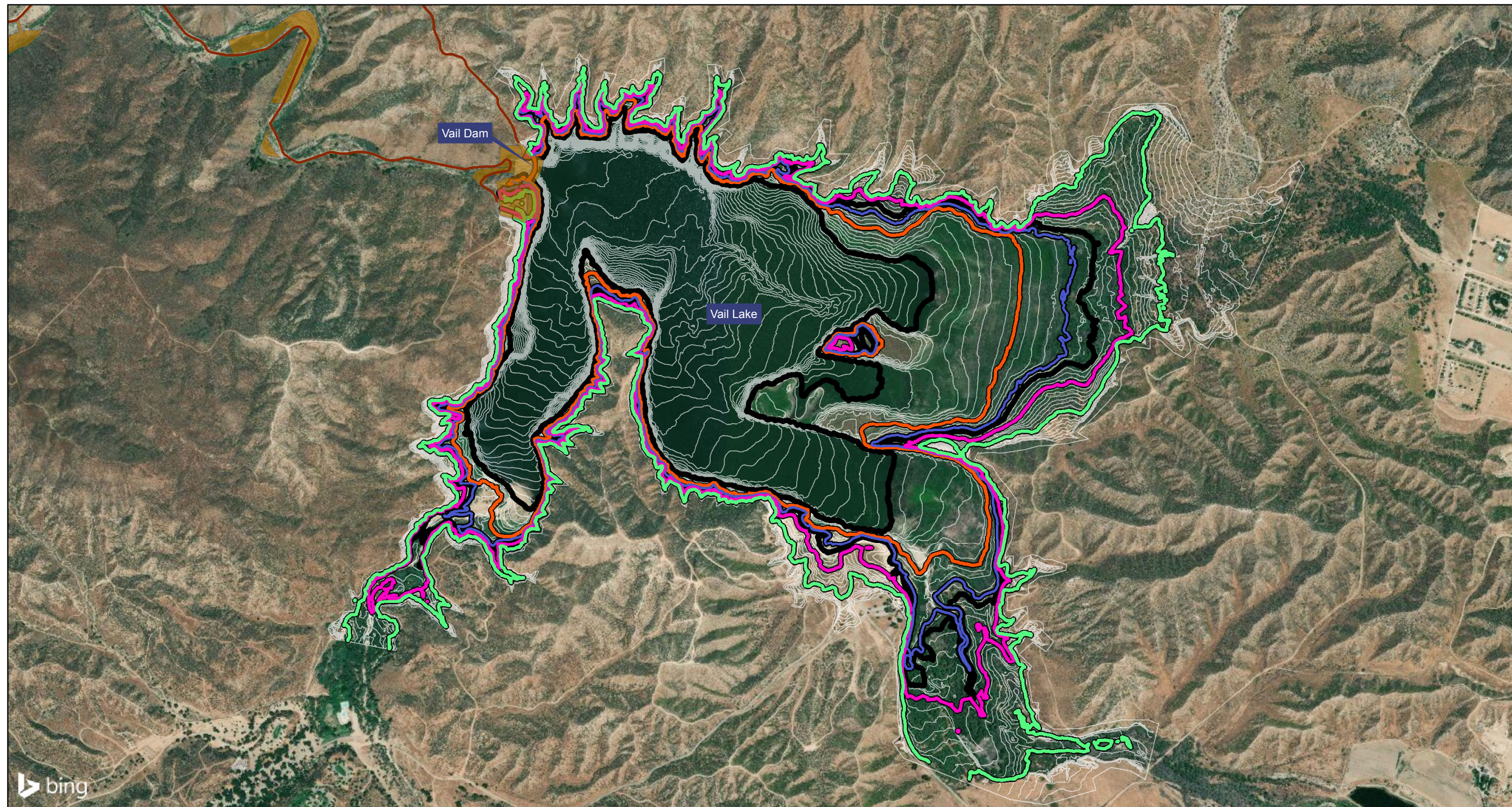
Vail Dam Seismic and Hydrologic  
Remediation Project

Existing and Proposed Dam Cross Section with Elevation



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LEGEND

- Project Feature Access Roads
- Project Feature Areas
- Spillway Crest (1472.6' NAVD88)
- Interim Operations Plan Maximum Water Level (1457.6' NAVD88)
- Average Historic Water Level 1978-2020 (1445.1' NAVD88)
- Interim Operations Plan Minimum Water Level (1437.6' NAVD88)

SOURCE: Bing (2018); AECOM (10/2019)

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FIGURE 1-6

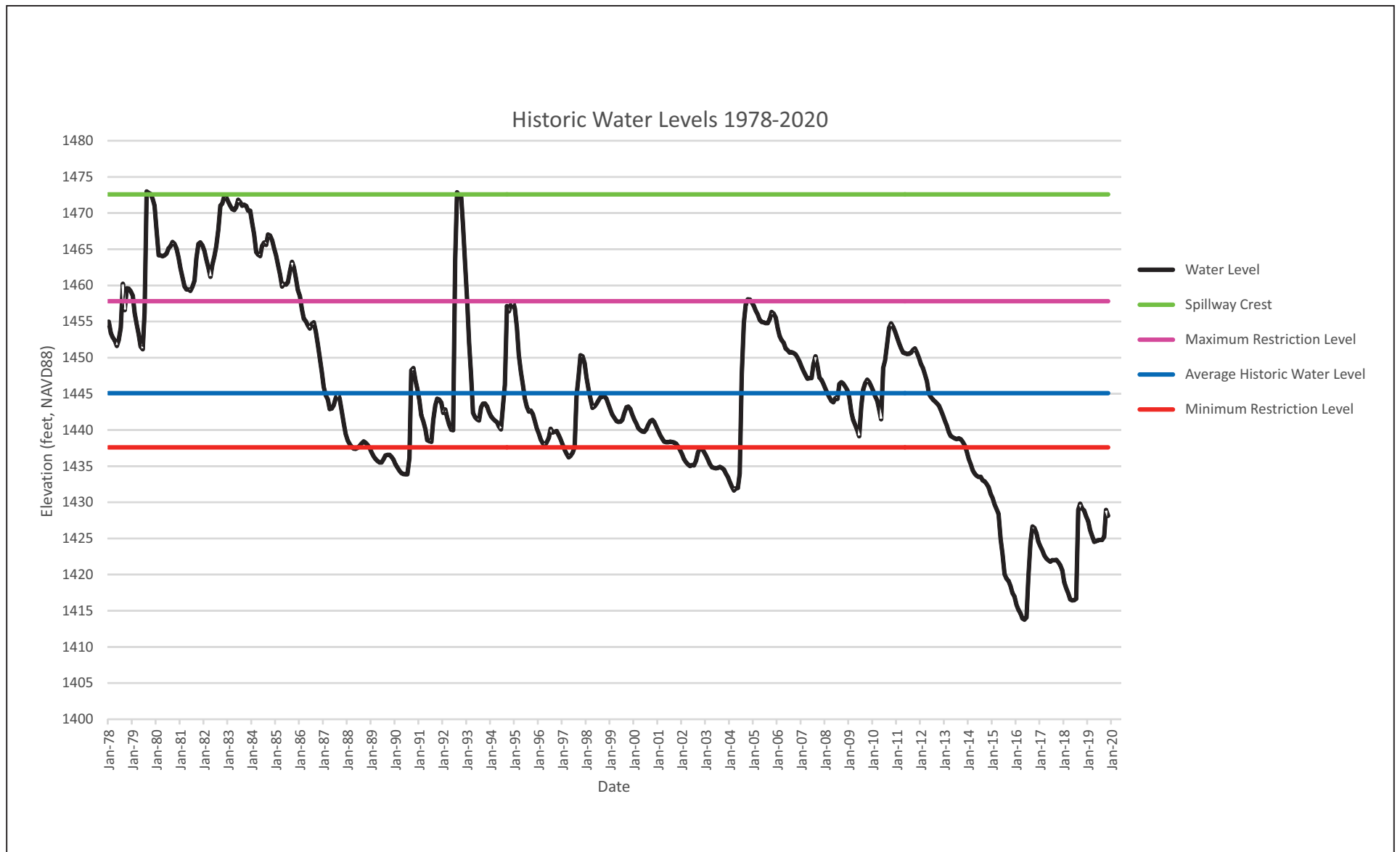
Vail Dam Seismic and Hydrologic  
Remediation Project  
Vail Lake Inundation Area





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FIGURE 1-7

SOURCE: USGS

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Vail Dam Seismic and Hydrologic  
Remediation Project  
Vail Lake Historic Water Levels



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#### 1.2.4.3 Seismic and Hydrologic Deficiencies

California Department of Water Resources DSOD performed seismic stability and hydrologic analyses to evaluate potential hazards to the safety of Vail Dam and identified several deficiencies. RCWD conducted seismic and hydrologic analyses and flood routing studies for the dam and reservoir in 2014, 2015, and 2016 to evaluate these concerns.

**Seismic Evaluations.** DSOD conducted independent seismic stability analyses of Vail Dam and issued a *Memorandum of Design Review, Seismic Evaluation of Vail Dam* in 2012. DSOD determined at that time that the dam is seismically deficient in its current state. RCWD conducted dynamic seismic analyses of the existing dam, which indicate that the stresses induced by strong ground shaking during an earthquake would exceed the dam's allowable tensile strengths on the downstream face of the arch dam. The extent and duration of the overstress would be such that a failure of the dam could occur during the Maximum Credible Earthquake (MCE). The analyses also indicate that sliding instabilities exist at the base of some of the dam blocks (URS 2016).

**Hydrologic Evaluations.** DSOD performed the hydrologic analysis of Vail Dam and issued its *Memorandum of Hydrologic Review* (2012), mentioned above, which concluded that the dam would overtop by 3.4 ft during the Probable Maximum Flood (PMF). The DSOD memorandum recommended that RCWD should take measures to address erosion that would result from overtopping the dam, or prevent overtopping during the PMF altogether. RCWD conducted an independent hydrologic analysis to calculate the Probable Maximum Precipitation (PMP) and PMF to verify whether Vail Dam would overtop during the PMF. It was determined in URS Corporations' 2013 *Hydrologic Report* that the General Storm PMF would overtop the Vail Dam parapet wall by 4.0 ft.

**Emergency Drawdown Analysis.** RCWD completed an emergency drawdown analysis to determine whether the Vail Dam outlet system is capable of lowering the maximum storage depth of the reservoir by 10 percent within 7 days and draining the full contents of the reservoir within 90 days as required by DSOD. The results of the analysis (URS 2013) showed that the existing outlet system is able to meet both criteria at a reduced level but does not meet both criteria at the maximum normal operating level (1,457.6 ft).

#### 1.2.5 Project Objectives

The project is intended to achieve the following primary objectives:

1. Ensure that Vail Dam will pass the PMF through the spillway without overtopping.
2. Ensure that Vail Dam will withstand the MCE without resulting in catastrophic dam failure.
3. Maintain the current capacity of Vail Lake to ensure adequate water supply and maintain reliability throughout RCWD's service area.
4. Utilize RCWD resources in a cost-effective and responsible manner.
5. Maintain a locally based and cost-effective water supply that continues to support local agriculture.



6. Provide a climate change buffer with both the ability to capture less frequent, but more intense, storms and act as a buffer against drought conditions.
7. Provide flood control for downstream Temecula Creek.

### 1.2.6 Proposed Project

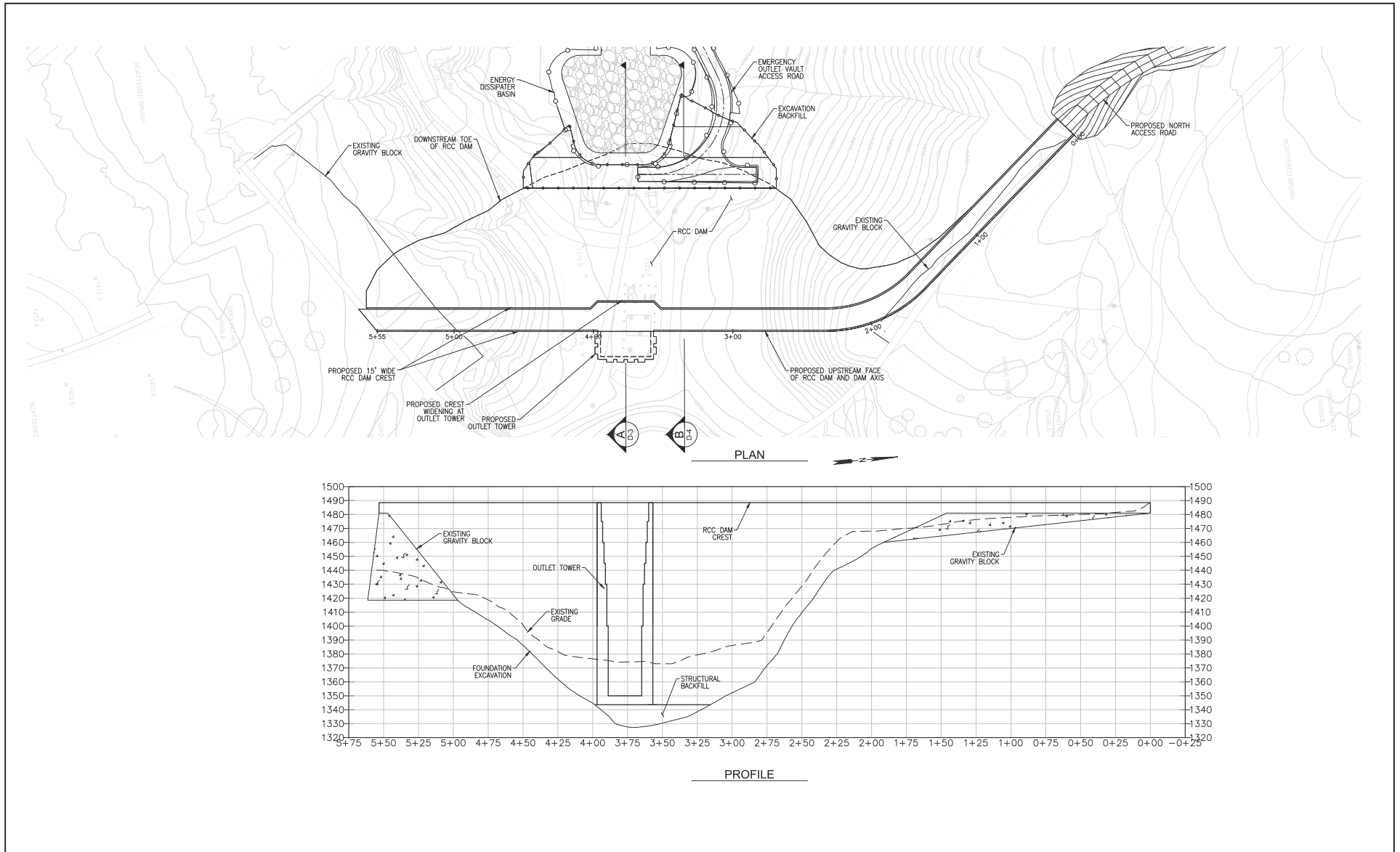
The Proposed Action (Proposed Project) includes construction of a straight-axis concrete gravity dam structure immediately downstream of the existing arch dam. The new dam would connect to the existing abutments. The parapet wall of the new gravity dam would extend to an elevation of 1,492.0 ft NAVD88, and the existing gravity blocks and parapet walls along the existing abutments would also be raised to this elevation. A downstream parapet wall would be constructed to serve primarily as a guardrail for vehicles traversing the crest. The downstream face of the dam would be stepped concrete. The new dam would include new outlet works that would be designed to meet the emergency reservoir drawdown requirements. Figure 1-8 shows the proposed gravity dam plan and profile, and Figure 1-9 shows a cross-section of the proposed gravity dam.

Construction materials and methods used for the Proposed Project would take into account local seismic activity. The added straight-axis concrete gravity structure would be constructed of Roller Compacted Concrete (RCC), which would be vertical at the upstream face of the structure and at a slope of approximately 0.8 horizontal to 1 vertical (H:V), on the downstream side. The downstream face would be constructed using 4 ft high lifts and the crest would be 10 ft wide. These improvements would protect against catastrophic dam failure during an MCE. With this alternative, the reservoir capacity would remain at its current capacity of 42,860 ac-ft.

The *Preliminary Design Report (30% Design) Vail Dam Seismic and Hydrologic Remediation Project* (Preliminary Design Report) (AECOM 2019) provides the basis of design for the dam and appurtenant facilities for the Proposed Action. It includes detailed descriptions of the proposed dam configuration; inlet and outlet facilities; modifications required to existing facilities; the dam foundation; seepage control; RCC mix design and placement; electrical, mechanical, and instrumentation requirements of the new dam; site development needs; and construction methods. Appendix A of the Preliminary Design Report consists of the 30% Design Plans. The Proposed Project elements are presented below at a summary level appropriate for CEQA analysis; refer to the Preliminary Design Report and 30% Design Plans for specific details.

#### 1.2.6.1 Dam Layout

The new gravity dam would be constructed immediately downstream of the existing arch dam and abut the existing gravity abutments. The new gravity dam would be 6.8 ft higher than the original dam and route the PMF entirely through the existing spillway system. A 3.5 ft high parapet wall would be located on both sides of the crest. Reservoir water would not normally be against the upstream parapet wall, but the parapet wall would prevent overtopping of the dam during the PMF.



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\* For further information, refer to Sheet D-1 in the Vail Dam Seismic and Hydrologic Remediation Project 30% Design Submittal by AECOM (July 2019)

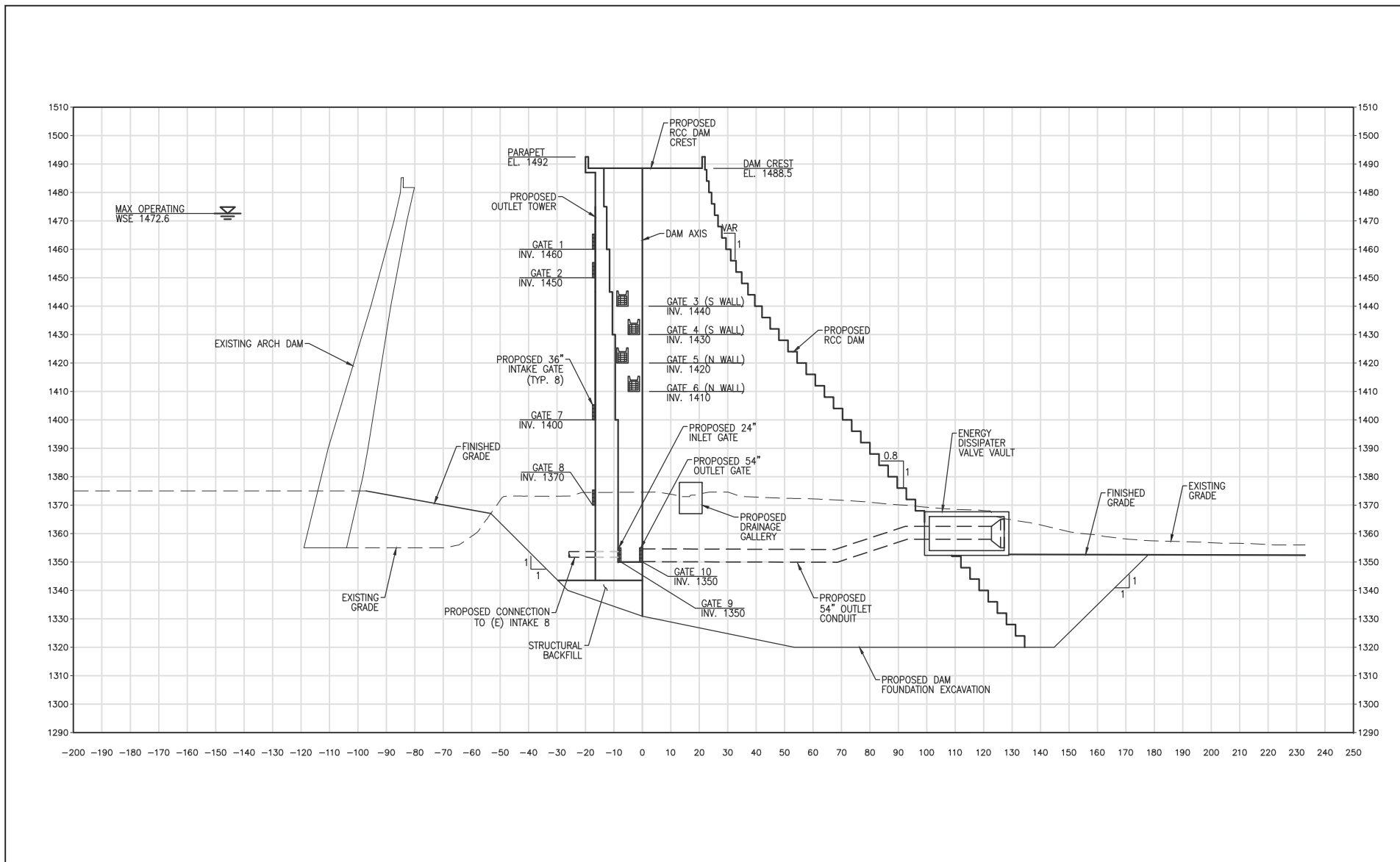
FIGURE 1-8



Vail Dam Seismic and Hydrologic  
Remediation Project  
Proposed Gravity Dam Plan and Profile



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\* For further information, refer to Sheet D-3 in the Vail Dam Seismic and Hydrologic Remediation Project 30% Design Submittal by AECOM (July 2019)

FIGURE 1-9



SOURCE: AECOM 2019

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Vail Dam Seismic and Hydrologic  
Remediation Project  
Proposed Gravity Dam Section



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The width of the dam crest (between parapet walls) would be 15 ft to 20 ft. The crest width would allow vehicular access for construction and maintenance of the dam structure. Vehicular access would be provided by wrapping the dam around the existing right gravity abutment and providing access from the North Access Road. The existing left gravity abutment downstream of the new dam would also need to be raised.

The upstream face of the new gravity dam would be vertical. The downstream face of the dam would generally be inclined at 0.8:1 H:V, extending from the upstream edge at the crest elevation down to the downstream toe. This inclination would be steeper in the upper part of the dam. The downstream face would be formed using steps with vertical faces of 4 ft.

#### 1.2.6.2 Inlet/Outlet Facilities

As stated previously, the existing arch dam has eight outlets, including a low-level outlet. A reinforced concrete outlet tower would be constructed on the upstream side of the new dam. The tower would have nine intake gates and one outlet gate. The new facilities would retain RCWD's capability to store imported water in the reservoir by filling through the existing 48-inch diameter transmission pipeline that comes up the canyon from the Upper VDC Recharge Basins. The new outlet facilities would also have the capability for emergency releases that meet regulatory requirements.

Downstream control facilities would provide for releases to Temecula Creek and valves and meters would control and measure reservoir inflows and outflows. These facilities include an energy dissipater valve vault, an energy dissipater stilling basin and outlet channel for the creek releases, and a meter vault to measure reservoir inflows and outflows.

#### 1.2.6.3 Modifications to Existing Facilities

**Relocation of Pipelines.** There are a number of pipelines that currently service the existing dam that cross the footprint of the new dam foundation excavation. The water pipelines would be replaced with a temporary single 60-inch diameter pipeline that would connect to energy dissipater valves temporarily located downstream of the dam foundation excavation.

**Existing Dam Demolition.** Portions of the existing arch dam would be partially demolished to allow for hydraulic connection of the reservoir with the new outlet tower. As shown in Figure 1-10, the five upper blocks of the existing dam would be removed. A berm would be constructed upstream of the existing dam to support a crane, which would be used for demolition of the existing dam.

Demolition of the existing gravity abutments would also occur where the new dam contacts those abutments. This would consist of hydroblasting and removing 2–3 inches of concrete on the sloping downstream faces of the abutments and removing the upper 6 inches of the crests of both the right and left gravity abutments.

**Spillway Modifications.** The existing spillway would be used as the spillway for the new gravity dam. Grouted riprap from the dam foundation excavation or dam demolition concrete would be utilized to armor the area below the ogee and overpour weirs.



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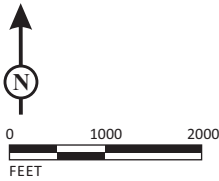
PHOTOGRAPH OF ARCH DAM DOWNSTREAM FACE  
NTS

**GENERAL NOTES**

1. REMOVE THE UPPER PORTIONS OF THE EXISTING ARCH DAM BLOCKS AS INDICATED IN THE TABLE HEREON.
2. SEE AS-BUILT ARCH DAM DRAWINGS FOR THE LOCATION OF THE JOINTS BETWEEN BLOCKS.
3. SEE SHEET X-4 FOR JOINT DETAILS AND ADDITIONAL INFORMATION.
4. SEE SHEET G-4 FOR AVAILABLE ACCESS AND STAGING AREAS.

DEMOLITION ELEVATIONS	
BLOCK	DEMOLITION REQUIREMENTS
A	PROTECT-IN-PLACE
B	PROTECT-IN-PLACE
C	REMOVE TO EL. 1455'
D	REMOVE TO EL. 1425'
E	REMOVE TO EL. 1410'
F	REMOVE TO EL. 1425'
G	REMOVE TO EL. 1455'
H	PROTECT-IN-PLACE

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SOURCE: AECOM 2019  
I:\RCW1902\G\Demolition.cdr (1/8/2020)

**LEGEND**

- Portion of Dam to be Demolished

\* For further information, refer to Sheet X-5 in the Vail Dam Seismic and Hydrologic Remediation Project 30% Design Submittal by AECOM (July 2019)

FIGURE 1-10

Vail Dam Seismic and Hydrologic  
Remediation Project  
Existing Dam Partial Demolition



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#### 1.2.6.4 Dam Foundation

Preparation of the new gravity dam foundation includes excavation to slightly weathered or fresh rock and then treatment of the excavated surface. Shallow consolidation grouting of the rock would increase the stiffness of the foundation. Dewatering of the excavation would also be required.

#### 1.2.6.5 Seepage Control

Seepage through the dam foundation would be controlled by foundation grouting, which would include a grout curtain, possibly stitch grouting, and foundation drains. Seepage through the dam would be controlled by the upstream facing of the dam, the internal dam drains, and water stops at the concrete joints.

#### 1.2.6.6 RCC Mix Design

Prior to dam construction, the RCC mix, which is comprised of aggregate, cement, and fly ash, would be designed and tested. A concrete batch plant would be located at the staging area near De Portola Road (see Figure 1-11). The objective of the RCC mix design is to develop an efficient mix that does not segregate, is easy to compact, and provides engineering properties that are consistent with the design loading.

It is currently estimated that dam construction would require approximately 81,600 cubic yards (cy) of RCC, which would require approximately 147,000 tons of aggregate that would need to be imported and stored on site prior to use. However, this volume would increase if additional foundation excavation is required to enhance the seismic response of the dam. Refer to Figure 1-8 for the location of the aggregate storage areas. Potential quarries for aggregate include a quarry located in the community of Fallbrook east of I-15 along SR-76, approximately 25 miles from the Project site, as well as a quarry located in the City of Corona. Concrete and cement would also be imported from the City of Victorville. Fly ash, a byproduct of coal power generation, would be imported from out of state, likely from Arizona.

#### 1.2.6.7 Electrical, Mechanical, and Instrumentation for the Dam

The existing dam facilities have overhead electrical service provided by Southern California Edison (SCE). The existing overhead service would need to be rerouted to accommodate the footprint of the new dam and outlet works facilities. New power poles would be provided to route the existing service up the downstream side of the right abutment to the new Dam Control Building. All new electrical utility facilities would be designed per SCE standards. Power is used for lighting, security cameras, gate actuators, trash rack hoists, and monitoring and control systems.

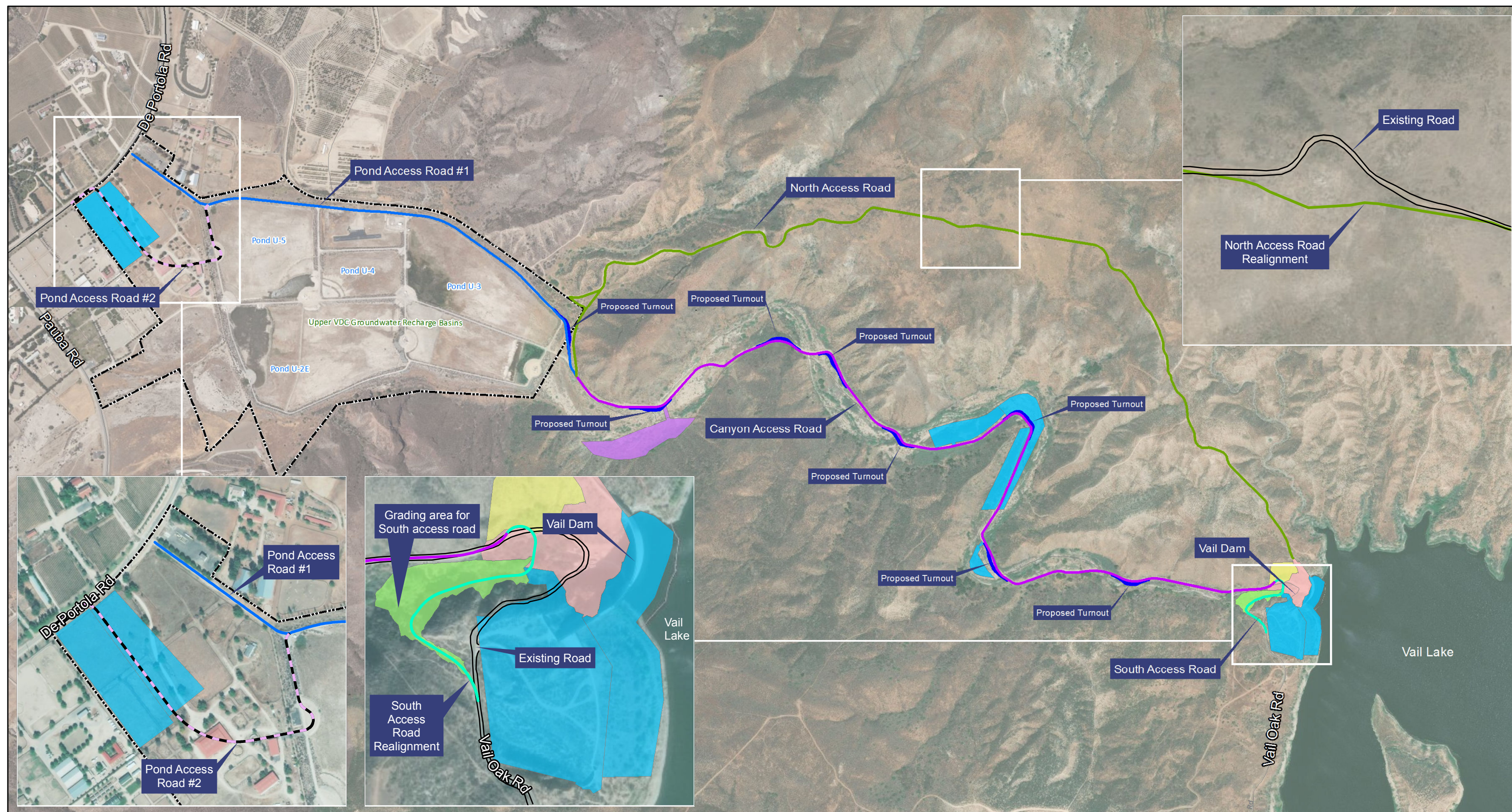
#### 1.2.6.8 Site Development

The Project site would need to be further developed to support construction and operation of the new dam. This would include improvements to access roads, provision for construction staging and material disposal areas, and partial demolition of the existing dam.



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SOURCE: Bing Maps (2018); AECOM (1/2020)

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# LEGEND

- Canyon Access Road
- North Access Road
- Pond Access Road #1
- - - Pond Access Road #2
- South Access Road
- Proposed Truck Turnout
- - - Property Boundary
- Dam Construction Area
- Disposal Area
- South Access Road Construction Area
- Staging and Laydown Area
- Temporary Construction Area

FIGURE 1-11

Vail Dam Seismic and Hydrologic  
Remediation Project  
Staging and Disposal Areas and Access Roads





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**Construction Access Roads.** Improvements would be required to existing access roads to accommodate construction traffic. These include Pond Access Road #1, the access road from De Portola Road (an existing, paved road) to the mouth of the canyon, the North Access Road, the Canyon Access Road, and the South Access Road (which connects to SR-79 South) (see Figure 1-11). Pond Access Road #2 is a proposed alternate access point from De Portola Road, connecting to Pond Access Road #1 at the edge of the Upper VDC Recharge Basins.

**North Access Road.** There is an existing unimproved North Access Road that traverses approximately 2 miles from the northeast corner of the Upper VDC percolation ponds to the right abutment of the existing dam. This access road would be improved to provide vehicular access to the crest of the new dam (Figure 1-11). The North Access Road would be the primary access route to the new dam. Vehicular access is not feasible from the left abutment due to the height of the existing left gravity abutment.

The improvements would include gravel surfacing and improvement of drainage. Material from excavation of the dam foundation may be reused to improve the North Access Road. The road would remain a single lane road. Realignment would be needed where the road is outside of the property boundary and where excavation through a rock knob would be required.

**Canyon Access Road.** The existing unpaved access road through the canyon below the dam is approximately 2 miles long and is currently a single lane bound on both sides by vegetation with limited sight lines (Figure 1-11). This access road would need to be widened to two lanes (25 ft total width) for construction traffic, with several turnouts to allow vehicles to pass. Widening would be accomplished through removal of the existing vegetation on both sides of the current roadway (no physical widening would be required). This widening would be only for the purpose of construction, and the access road would be revegetated and restored to a single lane after construction of the dam is complete. Other improvements to the Canyon Access Road would include gravel surfacing. The existing five Arizona type crossings of the creek would remain; however, temporary culverts may be required during construction at the five Arizona crossings to provide construction vehicle crossings.

**Pond Access Roads.** Initially, site access will be provided via an existing unpaved access road and along the north side of the Upper VDC recharge basins (Pond Access Road #1) (refer to Figure 1-11). Pond Access Road #2 is a short segment that would connect Pond Access Road #1 to De Portola Road, and would be constructed within property owned by RCWD, south of the future Upper VDC Regional Pump Station and Chlorine Contact Tank Project (RCWD Project No. D1903), avoiding conflict with that project. Pond Access Road #2 would provide for two-way traffic (25 ft total width), and include gravel surfacing and would also provide access to one of the construction staging areas. Once Pond Access Road #2 has been completed, the majority of construction access for the Project area would be provided along that route. The existing access for Pond Access Road #1 at De Portola Road would provide a secondary access point when required.

**South Access Road.** The current South Access Road would need to be relocated as it is within the footprint of the foundation excavation of the new dam. A new roadway embankment will be constructed along the north facing slope of the canyon, approximately 150 ft downstream of the existing access road. The alignment of the new South Access Road is shown on Figure 1-11. This



location was selected to provide access from the spillway area and to provide an area immediately downstream of the new dam for construction staging.

It is anticipated that the South Access Road embankment would be constructed using materials excavated from the new dam foundation. This road would also have gravel surfacing and drainage improvements. The South Access Road would be inundated whenever the reservoir spills; therefore, during operation, major erosion would need to be repaired on this road after spill events.

**Construction Staging and Disposal Areas.** The site development would include staging areas to support construction and demolition activities. Material disposal areas are also planned for placement of excess foundation excavation spoils.

**Staging Areas.** Limited area is available immediately adjacent to the proposed dam and downstream due to the narrow width of this portion of the canyon. Therefore, staging areas have been identified in various locations, including the relatively level area downstream of the spillway, wider portions of the canyon downstream of the dam, and within a vacant portion of RCWD's property adjacent to De Portola Road. The proposed staging areas are shown on Figure 1-11. Staging areas include aggregate stockpile areas, laydown areas, and access and staging areas. It is anticipated that the contractor would determine the optimal locations within the staging areas for each activity. Staging areas would be required to provide the following:

1. **RCC Mix Plant Area:** This area will contain a portable concrete mix plant with silos of cement and fly ash and stockpiles of aggregate in 3 to 4 sizes. This mix plant area is anticipated to require the larger of the staging areas and would likely be located near De Portola Road, as all materials will be brought in from off-site locations. The RCC would be hauled from the mix plant to the dam site with off-road trucks.
2. **Foundation Grout Mix Plant:** This area will contain a small mix plant for the grout used in the foundation grouting. This grout mix plant will be located adjacent to the dam site.
3. **Crushing Plant:** This area will contain a portable rock crushing plant for crushing materials excavated from the dam foundation. Because of the limited space available adjacent to the dam, it is likely that the crushing plant will be located in a mid-canyon area.
4. **Contractor Trailers:** Both the contractor's and engineer's field offices will be located within staging areas.
5. **Laydown Areas:** These areas will provide material laydown/storage areas and space for activities such as fabricating rebar and assembling concrete forms, etc.

**Disposal Areas.** As discussed previously, approximately 58,400 cy of materials (including the previous foundation spoils, alluvium, fill, and moderately weathered rock) would be generated for excavation for the dam foundation. Most of this material would be used to grade the new alignment of the South Access Road, and a limited quantity of the less weathered rock would be used as riprap for spillway armoring. The balance of the excavation materials would require



removal from the dam area and subsequent disposal. RCWD currently plans to keep the excess materials on its property for possible future re-use. Disposal areas have been identified near the mouth of the canyon as shown on Figure 1-11. Off-site disposal, if needed, would be at a nearby licensed landfill. Prior to revegetation, the disposal materials may need to be buried under soil in order to allow for plant establishment.

#### 1.2.6.9 Construction Schedule

Construction of the new dam is anticipated to be initiated in the fall of 2022 and completed in the spring of 2025. It is anticipated that the new dam and outlet works would be substantially complete in approximately 23 months. The existing dam would then be partially demolished after completion of the tower, and it is expected that construction would be complete in approximately 29 months (AECOM 2019).

#### 1.2.6.10 Haul Routes

Materials and equipment will be brought to the site from contractor offices and yards and from one or more offsite aggregate quarries. In addition, fly ash will be imported from offsite. As the contractor, quarry, and fly ash source have not been selected, the exact haul routes are not known. However, it is anticipated that the fly ash would be obtained from Arizona and transported via rail to either Fontana or National City, California, and then delivered to the Project site via truck. From Interstate 15 or other areas west of the site, materials and equipment would likely travel on Temecula Parkway/SR 79 South, head north on Anza Road, and then west on De Portola Road to Pond Access Road #1 or Pond Access Road #2. Materials and equipment may also travel from Interstate 15 to Rancho California Road, then south on Anza Road and west on De Portola Road to Pond Access Road #1 or Pond Access Road #2. Materials and equipment going to the South Access Road would remain on Temecula Parkway/SR 79 South and turn north on Vail Oak Road, which connects to the South Access Road. Materials and equipment coming from east or southeast of the project site (or the eastern portion of northern San Diego County) could access SR 79 from SR 76.

#### 1.2.6.11 Construction Equipment

A variety of vehicles and equipment would be used during the project. Equipment used would differ by project phase, with the most intensive use occurring during RCC placement. Table 2.A presents a summary of the anticipated use of equipment and vehicles prepared in support of the Preliminary Design Report.

**Table 1.A: Summary of Anticipated Construction Equipment**

Equipment Description	Estimated Operating Hours <sup>1</sup>	Total Estimated Legal Load Highway Trips <sup>2</sup>
Excavator	3,280	
Front End Loader	8,320	
Tractor with Bulldozer	3,640	
Motor Grader	2,600	
Compactor	2,160	
Truck Articulated Off Highway	10,360	
Truck Trailer for Equipment/Materials <sup>3</sup>	3,680	920



**Table 1.A: Summary of Anticipated Construction Equipment**

Equipment Description	Estimated Operating Hours <sup>1</sup>	Total Estimated Legal Load Highway Trips <sup>2</sup>
Truck Trailer for Aggregates <sup>4,5</sup>	17,040	14,816
Truck Trailer for Cement or Flyash <sup>6</sup>	2,160	1,600
Truck Water	6,040	
Truck Service	8,080	
Truck Ready Mix Concrete <sup>7</sup>	1,364	682
Rock Drills	5,040	
Generator Sets	4,000	
Crane	5,800	
Crush and Screen Plant <sup>8</sup>	720	
Concrete Batch Plant	1,080	
Grout Mix and Pump	2,240	
Chipper	560	
Pickup	17,920	
<b>TOTALS</b>		<b>18,018</b>

Source: AECOM

Notes:

1. Estimated 40 hours/week except for RCC Placement where 90 hours/week was assumed.
2. Highway trips include inbound and outbound trips (e.g., one truck load requires two trips).
3. Highway trips estimated to bring in equipment and materials at 8 hours/load.
4. Highway trips are estimated assuming truck load of 13 cubic yards for 5,300 cubic yards of road aggregates.
5. Highway trips are estimated assuming truck load of 21 tons for 147,000 tons of RCC aggregates.
6. Highway trips are estimated assuming truck load of 20 tons for 16,000 tons of cement and flyash.
7. Highway trips are estimated assuming 8 cubic yard ready mix trucks and concrete quantities in 30% ordinary Portland cement based concrete (OPCC).

#### 1.2.6.12 Vail Lake Water Storage

The replacement dam would be constructed so the resultant storage capacity and maximum reservoir level would be equal to the capacity and elevation prior to the water level restriction. Currently, water levels are restricted to between a high of 1,457.6 ft NAVD88 (15 ft below the spillway crest) and a low of 1,437.6 ft NAVD88. Remediation of seismic and hydrologic hazards at Vail Dam would allow for the removal of the water level restrictions. Specifically, the reservoir water level could be increased up to the spillway elevation (1,472.6 ft NAVD88). However, RCWD would not manually fill the reservoir to more than 1,457.6 ft NAVD88 (15 ft below the spillway crest) to allow capacity for rainfall inflow.

As stated previously, the operating level of the reservoir is dependent on a variety of factors, including restrictions on pumping into the reservoir to prevent introduction of quagga mussel, requirements to recharge groundwater to reduce evaporation of stored water, and the amount of precipitation. As such, the reservoir would continue to be subject to semiregular fluctuations in water level. Figure 1-7 depicts the location of the reservoir margin when the water is at the spillway elevation.

#### 1.2.7 Required Permits and Approvals

The dam construction would require approvals from local agencies and from federal, State, and local regulatory agencies.





Additionally, Project improvements would affect resources subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board (RWQCB), and have the potential to affect threatened or endangered species and historic resources. Table 1.B indicates the anticipated permits and authorizations required for this Project.

**Table 1.B: Anticipated Permits and Authorizations**

<b>Agency</b>	<b>Permit/Authorization</b>
U.S. Army Corps of Engineers (USACE)	<ul style="list-style-type: none"> <li>● CWA 404 Individual Permit</li> <li>● Rivers and Harbors Act Section 10 Permit</li> </ul>
California Department of Fish and Wildlife (CDFW)	<ul style="list-style-type: none"> <li>● FGC Section 1600 Lake or Streambed Alteration Agreement</li> </ul>
Regional Water Quality Control Board (RWQCB)	<ul style="list-style-type: none"> <li>● CWA 401 Water Quality Certification</li> <li>● Waste Discharge Requirements <b>[TBD]</b></li> </ul>
State Water Resources Control Board	<ul style="list-style-type: none"> <li>● Construction General Permit</li> </ul>
Western Riverside County Regional Conservation Authority (WRC RCA)	<ul style="list-style-type: none"> <li>● Certificate of Inclusion and Incidental Take Statement</li> </ul>
State Historic Preservation Officer (SHPO)	<ul style="list-style-type: none"> <li>● NHPA Section 106 Consultation</li> </ul>
California Department of Water Resources, Division of Safety of Dams	<ul style="list-style-type: none"> <li>● Approval of Plans and Specifications for the Construction or Enlargement of a Dam and Reservoir</li> </ul>
County of Riverside	<ul style="list-style-type: none"> <li>● Encroachment Permit for new driveway off DePortola Road</li> </ul>

CWA = Clean Water Act

FGC = California Fish and Game Code

NHPA = National Historic Preservation Act



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## 2.0 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 in Chapter 3.0.

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Aesthetics                           | <input type="checkbox"/> Agriculture and Forestry Resources  | <input checked="" type="checkbox"/> Air Quality                        |
| <input checked="" type="checkbox"/> Biological Resources      | <input checked="" type="checkbox"/> Cultural Resources       | <input checked="" type="checkbox"/> Energy                             |
| <input checked="" type="checkbox"/> Geology/Soils             | <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials      |
| <input checked="" type="checkbox"/> Hydrology/Water Quality   | <input checked="" type="checkbox"/> Land Use/Planning        | <input type="checkbox"/> Mineral Resources                             |
| <input checked="" type="checkbox"/> Noise                     | <input type="checkbox"/> Population/Housing                  | <input checked="" type="checkbox"/> Public Services                    |
| <input checked="" type="checkbox"/> Recreation                | <input checked="" type="checkbox"/> Transportation           | <input checked="" type="checkbox"/> Tribal Cultural Resources          |
| <input checked="" type="checkbox"/> Utilities/Service Systems | <input checked="" type="checkbox"/> Wildfire                 | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

### 2.1 DETERMINATION

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 Impact” or “Potentially Significant Unless Mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ 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 ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

Signature

June 18, 2020

Date



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### 3.0 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 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 Section XVII, "Earlier Analyses," 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.



### 3.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### *a. Would the project have a substantial adverse effect on a scenic vista?*

**Less Than Significant Impact.** The Proposed Project consists of constructing a gravity dam downstream of the existing arch dam. Public views of Vail Dam include the abutments and parapet walls and portions of the dam that are above the current water level that are visible along the edges of Vail Lake and the recreational trails surrounding Vail Lake. The Proposed Project would replace an existing dam and would not impede or obstruct existing views from Vail Lake or the surrounding recreational trails. The faces of both the existing arch dam and the proposed gravity dam would be primarily visible from the canyon below the dam, which is not accessible to the public. The area surrounding the Project site is undeveloped, and the face of the existing dam is not visible from residential or commercial areas. Therefore, the proposed gravity dam would not result in a substantial change to a scenic vista.

Remediation of seismic and hydrologic hazards would allow RCWD to increase the reservoir level up to the spillway elevation (1,472.6 ft NAVD88). Vail Lake is used for recreational purposes and is visible from public areas. The increase in lake water levels would have the potential to inundate features along the existing lake margins; however, this would not substantially degrade the scenic quality of public views as the overall scene would remain the same: a lake surrounded primarily by open space areas, with some recreational amenities. Therefore, the Proposed Project would not result in a significant adverse impact on a scenic vista. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

#### *b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

**No Impact.** The Project area is neither located within nor visible from a State Scenic Highway. The nearest highways are State Route 79 (SR-79) and Interstate 15 (I-15), which are not eligible or



designated State scenic highways. The Riverside County General Plan identifies SR-79 as an Eligible County Scenic Highway; however, the Project area is not visible from SR-79, and the proposed Project would have no impacts to scenic resources along SR-79. Therefore, no significant impacts to scenic resources would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

- c. In non-urbanized areas, would the project 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?*

**Less Than Significant Impact.** The Project is located within a non-urbanized area. As noted in Response 3.1.a, above, the dam would have extremely limited visibility from public areas and would not result in a substantial change to the visual character of the area. The change in lake water levels has the potential to inundate features along the existing lake margin; however, this would not substantially degrade the character or quality of public views as the overall visual character and quality of public views would remain the same. The Project would not introduce obstructions to the view or result in the construction of substantially different or incompatible elements that would contrast with the existing features. Therefore, impacts associated with degradation of the existing visual character or quality of public views would be less than significant. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

- d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

**Less Than Significant Impact.** Similar to existing conditions, the Project would include security lighting as appropriate at the dam facilities. The Project site is located within Zone A of the Mount Palomar Lighting Zone (areas within 0 to 15 miles of the Palomar Observatory). Security lighting would be selected and installed in accordance with County of Riverside Ordinance No. 655 “Regulating Light Pollution” regulations applicable to Zone A. Security lighting would be directed downward and/or would be appropriately shielded and would not result in visible glare in the surrounding areas. Security lighting would be similar to existing conditions and would therefore not be anticipated to affect wildlife. Therefore, the Proposed Project would not result in a significant impact related to light and glare. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**





### 3.2 AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. 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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*a. 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?*

**No Impact.** There is no designated Farmland on the Project site; however, Farmland of Local Importance and Grazing Lands are designated to the east of Vail Lake. The Project would not result in land use changes on or off the Project site. Designated farmland and grazing lands east of Vail Lake would not be affected by the construction of the gravity dam or the potential increase in lake levels. As a result, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

*b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

**No Impact.** The Project is not located within an area zoned for agricultural use or subject to a Williamson Act contract.<sup>8</sup> The Project would not affect off-site agricultural land use. As a result, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

<sup>8</sup> Riverside County Information Technology (RCIT). Map My County 8.1. Website: [https://gis.countyofriverside.us/Html5Viewer/?viewer=MMC\\_Public](https://gis.countyofriverside.us/Html5Viewer/?viewer=MMC_Public) (accessed December 13, 2019).



- 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))?*

**No Impact.** The Project is not located within an area zoned as forest land, timberland, or Timberland Production areas, according to County of Riverside zoning or General Plan Land Use designations. The Project would not affect off-site forest land use. As a result, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

- d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

**No Impact.** No forest or timberland exists at the Project site or in the surrounding area. Increases in lake water levels have the potential to affect vegetation along the reservoir margins; however, these areas do not include forest lands. Therefore, the Project would not result in the loss of forest land or the conversion of forest land to non-forest use. As a result, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

- 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?*

**No Impact.** The Project would not involve changes to the existing environment that would otherwise affect Farmland or forest land. The Project has the potential to improve water supply quality and reliability, which would be a benefit to agricultural lands within RCWD's service area. As a result, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**



### 3.3 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
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. 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 standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### *a. Would the project conflict with or obstruct implementation of the applicable air quality plan?*

**Potentially Significant Impact.** An Air Quality Management Plan (AQMP) describes air pollution control strategies to be undertaken by a city or county in a region classified as a nonattainment area to meet the requirements of the federal Clean Air Act. The main purpose of an AQMP is to bring an area into compliance with the requirements of federal and State ambient air quality standards (AAQS). For a project to be consistent with the AQMP adopted by the South Coast Air Quality Management District (SCAQMD), the pollutants emitted from project operation should not exceed the SCAQMD daily threshold or cause a significant impact on air quality, or the project must already have been included in the AQMP projection. Because the AQMP is based on local General Plans, projects that are deemed consistent with a specific General Plan are usually found to be consistent with the AQMP.

Implementation of the Proposed Project would include demolition of portions of the existing dam, extensive site preparation and construction of a new gravity dam, transportation of materials from an off-site quarry, and improvements to access roads. The Project would result in short-term construction emissions of pollutants as a result of the use of heavy equipment and construction-related traffic. Long-term emissions are anticipated to be similar to existing conditions, as the frequency and nature of dam operation and maintenance activities would not substantially change. Additional analysis is needed to determine whether the Project would exceed the SCAQMD daily thresholds or cause a significant impact on air quality. **This topic will be analyzed in the EIR, and mitigation, if needed, will be developed and included in the EIR to address potentially significant adverse Project effects related to consistency with the AQMP.**



- 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 standard?*

**Potentially Significant Impact.** Refer to Response 3.3.a, above. The South Coast Air Basin is designated as non-attainment for the pollutants ozone and particulate matter. The Project would result in short-term construction emissions and long-term operational emissions. As part of the Project, an Air Quality and Greenhouse Gas (GHG) Emissions Assessment will be conducted to assess potentially significant adverse impacts for short- and long-term, project-related air quality effects. The findings of the air quality analysis and recommended mitigation will be described in the EIR. **This topic will be analyzed in the EIR, and mitigation will be included in the EIR, if necessary, to address potentially significant adverse impacts for short- and/or long-term, project-related air quality effects.**

- c. Would the project expose sensitive receptors to substantial pollutant concentrations?*

**Potentially Significant Impact.** Refer to Response 3.3.a, above. Sensitive receptors are persons defined as more sensitive to the potential unhealthful effects of air emissions. Sensitive receptors can include children and the elderly. The Project site is surrounded primarily by open space, and no nearby sensitive receptors have been identified; however, haul routes may be located within commercial and residential areas. Project construction, and in particular, the truck trips associated with importing aggregate material from the off-site quarry, could expose sensitive receptors along the haul routes to project-related air emissions. Additionally, the access roads are in the vicinity of several horse ranches near De Portola Road. Construction vehicles driving on the access roads would generate dust and other emissions. Evaluation of project-related emissions will be conducted in the Air Quality and GHG Emissions Assessment to assess whether the Project would result expose sensitive receptors to substantial pollutant concentrations. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to exposure of sensitive receptors to substantial pollutant concentrations.**

- d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

**Less Than Significant Impact.** According to the SCAQMD CEQA Air Quality Handbook (1993, currently being revised), land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Objectionable odors may be generated during the operation of diesel-powered construction equipment and/or asphalt paving during Project construction; however, these would not affect a substantial number of people due to the remote location of Vail Dam. Those odors would be temporary, would not result in long-term odor impacts, and would not affect a substantial number of people. The proposed uses associated with the Project are not anticipated to generate objectionable odors during operation. Therefore, the Project would not result in permanent impacts related to odors on nearby sensitive receptors (e.g., residential uses). Impacts related to odors would be less than significant, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**



### 3.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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 Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. 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 Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*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 Game or U.S. Fish and Wildlife Service?*

**Potentially Significant Impact.** The Project is located within an area that supports sensitive species and habitat. Some of the habitat within and adjacent to the Project site includes mitigation areas for prior projects, such as the Vail Lake Transmission Main and Pump Station Project. Construction of the new gravity dam, including within the dam footprint, along access roads, and within staging and disposal areas, would result in the direct loss of habitat through permanent and temporary impacts. Indirect impacts from construction activities such as increased noise, dust, and air emissions would also occur in habitat adjacent to access roads, staging and disposal areas, and the Project site. The changes in lake water levels would result in habitat modifications including inundation of areas currently along the reservoir margins and changes to adjacent upland habitat from a potentially higher water table. Therefore, Project construction and operation could have potentially significant impacts either directly or through habitat modification to 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 (CDFW) or the United States Fish and Wildlife Service (USFWS). Therefore, the improvements associated with the Project could significantly affect sensitive biological resources. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse impacts to species identified as a candidate, sensitive, or special-status species.**

*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 Game or U.S. Fish and Wildlife Service?*

**Potentially Significant Impact.** Refer to Response 3.4.a, above. Project construction would result in the permanent loss of riparian habitat and sensitive natural communities, including portions of mitigation areas for previous projects, within and adjacent to the dam footprint and temporary impacts within staging and disposal areas and along access roads. Additional impacts may occur to habitat surrounding Vail Lake as a result of inundation from changes in lake water levels. Project construction and operation could have potentially significant impacts on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations or by the CDFW or USFWS. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse impacts to riparian habitat or other sensitive natural communities.**

*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?*

**Potentially Significant Impact.** Refer to Response 3.4.a, above. Project construction would result in the loss of federally protected wetlands within and adjacent to the dam footprint and temporary impacts within staging and disposal areas and along access roads. Additional impacts may occur to habitat surrounding Vail Lake as a result of inundation from the changes in lake water levels. Project construction and operation could have potentially significant impacts on federally protected wetlands and waters of the United States as defined by Section 404 of the Clean Water Act. Therefore, the improvements associated with the Project could potentially affect wetlands. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse impacts to federally protected wetlands.**

*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?*

**Potentially Significant Impact.** Refer to Response 3.4.a, above. The Project would not result in long-term impediments to wildlife movement. The movement of fish and amphibian species would be similar to existing conditions following construction of the gravity dam. Construction activities may temporarily affect movement of local wildlife; however, as the area is surrounded by open space, these impacts are not anticipated to be significant.



Areas within and surrounding Vail Lake and downstream of the dam provide habitat for breeding wildlife, including native birds, mammals, amphibians, fish, reptiles, and invertebrates. The Project would permanently impact areas within the dam footprint, and construction activities (including temporary construction areas) would have the potential to disrupt breeding wildlife. Nesting birds are protected under the federal Migratory Bird Treaty Act (MBTA) (Title 33, United States Code [USC], Section 703 et seq.; see also Title 50, Code of Federal Regulations [CFR], Part 10) and Section 3503 of the California Fish and Game Code. Implementation of the Project would be subject to the provisions of these regulations that prohibit disturbing or destroying active nests. Regardless, the improvements associated with the Project would potentially affect sensitive biological resources. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse impacts to movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors.**

*e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

**Potentially Significant Impact.** The Project is located within areas identified for conservation under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), and has the potential to result in the loss of mature trees and vegetation. Therefore, the Project may conflict with a plan, policy, or ordinance relating to the protection of biological resources. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse impacts as a result of the Project's conflict with a plan, policy, or ordinance relating to the protection of biological resources.**

*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?*

**Potentially Significant Impact.** Refer to Responses 3.4.a and 3.4.b, above. Impacts to sensitive species, habitat, and riparian areas may conflict with the provisions of the MSHCP. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse impacts as a result of any potential conflicts with the adopted Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP).**



### 3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

**Potentially Significant Impact.** CEQA defines a “historical resource” as a resource that meets one or more of the following criteria: (1) is listed in, or determined eligible for listing in, the California Register of Historical Resources (California Register); (2) is listed in a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k); (3) is identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (4) is determined to be a historical resource by a project’s Lead Agency (PRC Section 21084.1 and *State CEQA Guidelines* Section 15064.5[a]). The Project has the potential to affect resources as a result of ground-disturbing construction activities associated with the gravity dam and access road improvements, demolition of portions of the existing dam, and inundation of areas surrounding Vail Lake as a result of changes in lake water levels. Significant historical resources have the potential to occur within the impact areas. Therefore, the Project has the potential to result in significant impacts related to historic resources. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR to address potentially significant adverse Project impacts related to historical resources.**

*b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

**Potentially Significant Impact.** Refer to Response 3.5.a, above. Significant archaeological resources have the potential to occur within the impact areas. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR to address potentially significant adverse Project impacts related to archaeological resources.**

*c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?*

**Potentially Significant Impact.** Refer to Response 3.5.a, above. No known human remains are interred on the Project site. In the unlikely event that human remains are encountered during Project grading, the proper authorities would be notified and standard procedures for the respectful handling of human remains during the earthmoving activities would be adhered to in compliance with State Health and Safety Code Section 7050.5 and PRC Section 5097.98. **Precautionary mitigation may be included in the EIR to address any potentially significant impacts related to unknown remains that**



**might be uncovered at the time of grading. This topic will be addressed in the EIR, and mitigation will be included if necessary.**



### 3.6 ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*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?*

**Potentially Significant Impact.** Operation of the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Due to the magnitude of construction activities associated with the gravity dam, including the transport of aggregate materials from an off-site quarry, Project construction has the potential to result in inefficient or unnecessary consumption of energy resources. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project impacts related to wasteful, inefficient, or unnecessary consumption of energy resources.**

*b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

**Potentially Significant Impact.** Refer to Response 3.6.a, above. Construction of the Project has the potential to conflict with goals for energy efficiency. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project impacts related to wasteful, inefficient, or unnecessary consumption of energy resources.**





### 3.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

- 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?*

**Potentially Significant Impact.** The Project site is in southern California, which is a seismically active region. The Project is located in an area with known earthquake faults, including the Agua Tibia Mountain Fault. Strong seismic ground shaking is possible. Liquefaction hazards within the area range from very low to moderate. The purpose of the Project is the remediation of seismic and hydrologic hazards to Vail Dam; therefore, it is anticipated that it would be beneficial in terms of reducing the risk of loss, injury, or death associated with such risks. Further analysis is needed to determine construction-related risks associated with these factors. **This topic will be analyzed in the EIR, and**



mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project impacts related to earthquake fault zones, strong seismic ground shaking, seismic-related ground failure, and landslide potential.

*b. Would the project result in substantial soil erosion or the loss of topsoil?*

**Potentially Significant Impact.** During Project construction, soil on the Project site would be exposed and there would be an increased potential for soil erosion compared to existing conditions. In addition, during a storm event, soil erosion could occur at an accelerated rate. The potential for erosion during Project operations would be minimal because temporary impact areas on the Project site would be stabilized through revegetation or other means, and there would not be areas of exposed/disturbed soil. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project impacts related to erosion during construction.**

*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?*

**Potentially Significant Impact.** Refer to Response 3.7.a, above. While it is anticipated that it would be beneficial in terms of reducing the risk of loss, injury, or death associated with such risks, further analysis is needed to determine the potential for hazards associated with landslide, lateral spreading, subsidence, liquefaction, or collapse. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project impacts related to unstable geologic units.**

*d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?*

**Potentially Significant Impact.** The Project site may contain expansive soils, thereby potentially creating a substantial risk to life or property. While the Project will be designed consistent with the relevant Uniform Building Code and California Building Code seismic standards, the Project could have a potentially significant impact related to expansive soils. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to expansive soils.**

*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?*

**No Impact.** The Project would not include the use of septic tanks or alternative methods for disposal of wastewater into subsurface soils. No on-site sewage disposal systems (e.g., septic tanks) are planned. Operation of the dam would not involve wastewater generation; as a result, no alternative waste disposal systems would be constructed as part of the project. Therefore, the Project would not result in any impacts related to septic tanks or alternative wastewater disposal methods. No



mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

*f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

**Potentially Significant Impact.** The paleontological sensitivity for Project site and surrounding areas is designated as low, high, and undetermined.<sup>9</sup> As such, the Project has the potential to affect paleontological resources and geologic features as a result of ground-disturbing construction activities. In addition, several rock outcroppings are located within the area that may be affected during construction. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project impacts related to unique paleontological resources sites and unique geologic features.**

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<sup>9</sup> Riverside County Information Technology (RCIT). Map My County 8.1. Website: [https://gis.countyofriverside.us/Html5Viewer/?viewer=MMC\\_Public](https://gis.countyofriverside.us/Html5Viewer/?viewer=MMC_Public) (accessed December 13, 2019).



### 3.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of greenhouse gases?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

**Potentially Significant Impact.** The Project would generate greenhouse gas (GHG) emissions during construction and operation. Greenhouse Gas (GHG) emissions associated with Project construction would consist primarily of emissions from equipment exhaust, particularly related to importing aggregate materials to the Project site from an off-site quarry. Long-term emissions are anticipated to be similar to existing conditions, as the frequency and intensity of dam operation and maintenance activities would not substantially change. An Air Quality and GHG Emissions Assessment will be prepared to address Project effects related to or as a result of GHG emissions, and a discussion of GHGs and their potential effects on global climate change will be included in the EIR. Potential cumulative global climate change impacts associated with the Project will be evaluated. Emissions of carbon dioxide equivalents will be calculated and compared to the area emission levels. If necessary, mitigation measures will be identified to ensure that both short-term and long-term GHG impacts will be reduced to the extent possible. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to GHG emissions.**

*b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

**Potentially Significant Impact.** Refer to Response 3.8.a, above. Regulatory requirements on GHG emissions will be identified, and the Project's compliance with applicable plans and policies will be discussed. Emissions of carbon dioxide, a key GHG identified in Assembly Bill (AB) 32, and other major GHGs (e.g., methane and nitrous oxide) from direct and indirect project-related sources will be calculated. The Project's emissions will be evaluated for consistency with the goals and emission projections in SCAQMD's Final 2016 AQMP to determine whether Project emissions will cause or delay the timely attainment of State and federal AAQS, as well as meet the emission reduction goals of AB 32, the California Global Warming Solutions Act of 2006, Senate Bill (SB) 32, and related climate change legislation. Standard requirements for construction activities recommended by SCAQMD will be identified. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to conflicts with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.**



### 3.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

**Potentially Significant Impact.** The EIR will incorporate and address the conclusions of a Phase I Environmental Site Assessment to evaluate whether hazardous materials or other adverse environmental conditions are present due to past or present uses of the Project site and/or properties in the vicinity of the Project site, including staging and disposal areas. The assessment will identify whether the Project site is located on or within: (1) a former hazardous waste disposal site (and whether the wastes have been removed); (2) a hazardous substance release site identified by the State Department of Health Services; or (3) a site containing one or more pipelines that carry hazardous substances, acutely hazardous substances, or hazardous wastes, except a natural gas line. Potential land use safety and hazard conflicts related to existing land uses in the vicinity of the Project site will also be addressed.

Public or environmental exposure to hazardous materials could occur through improper handling or use of hazardous materials or hazardous wastes, a transportation accident, environmentally unsound disposal methods, fire, explosion, or other emergency. The severity of potential exposure hazards would vary due to factors such as the type of activity being conducted, the concentration and types of hazardous material or waste, and the proximity to sensitive receptors. Given the Project's proximity





and relation to the drinking water supply, potential exposure hazards could be significant. The greatest risk of exposure to hazardous materials associated with the Project would be expected to occur during construction activities. The routine transport, use, or disposal of hazardous materials on the Project site would be similar to existing conditions following construction activities, and would be limited to materials associated with the operation and maintenance of dam facilities and equipment. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to hazards to the public or the environment through the routine transport, use, or disposal of hazardous material.**

*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?*

**Less Than Significant Impact.** Refer to Response 3.9.a, above. During construction of the Project, there is potential for the accidental release of hazardous materials, which could adversely affect the public and/or environment. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to the accidental release of hazardous materials into the environment.**

*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?*

**No Impact.** Refer to Response 3.9.a, above. Vail Dam and its appurtenant structures are not located within 0.25 mile of an existing or proposed school. Construction areas including access roads and staging and disposal areas are likewise not located within 0.25 mile of an existing or proposed school. The nearest schools are Crowne Elementary School and Tony Tobin Elementary School, which are located over 3 miles to the west of the Project access point from De Portola Road and the staging and disposal areas within the VDC Recharge Basins. As a result, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

*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?*

**Potentially Significant Impact.** Refer to Response 3.9.a, above. The Phase I Environmental Site Assessment will include a records search to determine if any hazardous materials on or near the Project site could pose a potential environmental concern to the surrounding area and to identify any environmental violations associated with activities conducted at the Project site. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to hazardous waste sites.**



- e. Would the project be 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?*

**No Impact.** The Project is not located within an airport land use plan or within 2 miles of a public airport or public use airport. No impacts are anticipated with respect to the recreational use of the Temecula Valley Flyers Remote Control Airplane Club flying field within the Project area. Therefore, no impacts would result, and no mitigation is required. **This topic will not be covered in the EIR unless related issues not covered here are identified during the scoping process.**

- f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

**Potentially Significant Impact.** The Project would allow RCWD to increase the amount of water stored in Vail Lake by increasing the reservoir level to the spillway elevation. Updates to the emergency response plan may be required to address the expansion of the potential inundation area in the event of catastrophic dam failure. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to adopted emergency response and evacuation plans.**

- g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

**Potentially Significant Impact.** The Project is located within an area of moderate to very high fire risk, but would not introduce new structures that would be substantially at risk of loss from fire. Project construction activities would use vehicles and machinery that have the potential to spark a fire in the area. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to adopted emergency response and evacuation plans.**



### 3.10 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Result in substantial erosion or siltation on- or off-site;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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; or	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv. Impede or redirect flood flows?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

**Potentially Significant Impact.** Implementation of the Project would include demolition of portions of the existing dam, extensive site preparation and construction of the new gravity dam, transportation of materials from an off-site quarry, and improvements to access roads. The Project site includes Vail Lake and portions of Temecula Creek. As a water provider for the area, RCWD operates and maintains Vail Dam, the Upper VDC Recharge Basins, and Vail Lake with one goal of preserving and improving the quality of surface and groundwater.

Construction of the Project has the potential to introduce additional pollutants into the storm drain system. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. In addition, chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via storm runoff into receiving waters. Operation and maintenance of the dam and associated facilities would be similar to existing conditions following construction; therefore, the potential for violation of water quality standards or waste discharge requirements or the degradation of water quality would not appreciably change. The



EIR will evaluate the Project's potential for pollutants of concern in stormwater runoff to result in violation of water quality standards and waste discharge requirements.

Project construction would comply with the requirements of the Construction General Permit, including preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of Construction Best Management Practices (BMPs). A preliminary Water Quality Management Plan (WQMP) will be prepared for the Project, which will detail the operational BMPs to be included in the Project to reduce pollutants of concern in stormwater runoff. Compliance with the applicable permits and the proposed BMPs will be considered in the evaluation of potential water quality impacts in the EIR. **This topic will be analyzed further in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to water quality standards and waste discharge requirements.**

*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?*

**Potentially Significant Impact.** The Project would not result in changes to the current groundwater recharge practices of RCWD, nor would it decrease groundwater supply. RCWD manages both Vail Lake surface water and groundwater in the aquifers below the VDC Recharge Basins. However, temporary dewatering of construction areas during site preparation and construction of the gravity dam and related features would be required, which could result in temporary impacts to groundwater recharge. **This topic will be analyzed further in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to water quality standards and waste discharge requirements.**

*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:*

- 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; or*
- iv. Impede or redirect flood flows?*

**Potentially Significant Impact.** The Project would affect the topography and runoff patterns in the vicinity of the gravity dam and the existing arch dam. The Project is the construction of a gravity dam, which is designed to impede and redirect flood flows; this is consistent with existing conditions with the exception that additional water storage would be possible within Vail Lake following construction by increasing lake water levels to the spillway elevation. Project construction includes ground-disturbing activities that would expose the topsoil and could also increase stormwater runoff that could result in downstream erosion and siltation. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to changes in drainage patterns and associated erosion and siltation.**



*d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?*

**Less Than Significant Impact.** Seiching is a phenomenon that occurs when seismic ground shaking induces standing waves (seiches) inside water retention facilities such as reservoirs and water tanks. Such waves can cause retention structures to fail and subsequent flooding of downstream properties. Vail Lake is a relatively large body of water and has the potential for seiching; however, this has a low likelihood of occurring during construction, and it is not anticipated that substantial pollutant release would occur.

Tsunamis are generated ocean wave trains generally caused by tectonic displacement of the seafloor associated with shallow earthquakes, seafloor landslides, rockfalls, and exploding volcanic islands. The Project is not in a tsunami inundation area. The risk associated with tsunamis, therefore, is not considered a potential hazard or a potentially significant impact, and no mitigation is required.

The Project site includes areas within identified flood hazard zones associated with Vail Lake and Temecula Creek. Flooding downstream of Vail Dam during construction is highly unlikely with the current restrictions on lake water levels and with RCWD's ability to release water to reduce lake water levels and avoid overtopping of the spillway.

Because BMPs would reduce the potential for pollutants to occur on the site, and because any hazardous materials used on site would be properly stored and contained, impacts related to the release of pollutants in the event of inundation from flooding, tsunami, or seiche would be less than significant. No mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potential impact is presented during the scoping process.**

*e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

**Potentially Significant Impact.** Refer to Responses 3.10.a and 3.10.b, above. The project is within the jurisdiction of the San Diego RWQCB. The San Diego RWQCB adopted a Water Quality Control Plan (i.e., Basin Plan) (September 1994, with amendments effective on or before May 2016), which designates beneficial uses for all surface and groundwater within its jurisdiction and establishes the water quality objectives and standards necessary to protect those beneficial uses. The project would comply with the applicable National Pollutant Discharge Elimination System (NPDES) permits and implement construction and operational BMPs to reduce pollutants of concern in stormwater runoff. Compliance with the applicable permits and the proposed BMPs will be considered in the evaluation of potential water quality impacts in the EIR.

The Project supports RCWD's management of surface and groundwater in the area and would not conflict with RCWD's 2014 *Upper Santa Margarita Watershed Integrated Regional Water Quality Management Plan Update*. However, temporary dewatering of construction areas during site preparation and construction of the gravity dam and related features would be required, which could result in temporary impacts to groundwater recharge. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to changes in drainage patterns and associated erosion and siltation.**





### 3.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*a. Would the project physically divide an established community?*

**No Impact.** The Project site is located entirely within undeveloped areas. Vail Dam, where the majority of construction would occur, is surrounded by open space and undeveloped areas. Project construction activities within and adjacent to the VDC Recharge Basins would not affect the rural residential community to the west of De Portola Road. As a result, the Project would not result in physical divisions in any established community. No mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

*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?*

**Potentially Significant Impact.** Construction of the gravity dam associated with the Project would result in impacts to sensitive habitat and special-status species, which may conflict with the provisions of the MSHCP. Changes to lake water levels may also affect habitats around the reservoir margin. Further analysis is needed to determine consistency with the MSHCP. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to consistency with the MSHCP.**



### 3.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- 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?*

**Less Than Significant Impact.** The Project is the remediation of seismic and hydrologic hazards at the existing Vail Dam through construction of a new gravity dam. The Project will not appreciably change land use or resource availability on the Project site. Construction of the new gravity dam will require approximately 147,000 tons of aggregate that would be imported from an existing off-site quarry, using known mineral resources for dam construction. Quarries with available aggregate materials have already completed environmental analysis and obtained appropriate permits for the extraction of resources. The use of this aggregate for seismic and hydrologic hazard remediation at Vail Dam would benefit the region and residents of the State by reducing the risk of losses and financial impact caused in the event of a catastrophic dam failure at Vail Lake, and would not restrict future use of the quarry sites for further mineral extraction. Therefore, impacts would not be significant. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

- b. Would the project 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?*

**Less Than Significant Impact.** Refer to Response 3.12.a, above. There are no active quarries on the Project site and the site is not used for mineral extraction. These quarries may include locally-important mineral resource recovery sites; however, they have already completed environmental analysis and obtained appropriate permits for the extraction of resources, and the Project would not restrict future use of the sites for further mineral extraction. Therefore, impacts would not be significant. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**



### 3.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

**Potentially Significant Impact.** Project construction would require the use of heavy machinery, construction equipment, and some blasting on the Project site. Additionally, transporting aggregate material from the off-site quarry would require large trucks to use haul routes through urban and developed areas. The majority of noise-generating activities would occur in remote areas surrounded by open space and undeveloped areas. Additionally, a staging area and access roads are in the vicinity of several horse ranches near De Portola Road. Construction vehicles and the RCC Mix Plant would generate noise in the vicinity of these ranches. Special-status wildlife within the area would be indirectly affected by noise generated by Project construction. No changes to permanent noise levels are anticipated following Project construction, as operation and maintenance activities at the dam would remain similar to existing conditions. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to temporary increases in ambient noise levels due to truck noise along haul routes and Project construction noise in adjacent sensitive habitat.**

- b. *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

**Potentially Significant Impact.** Refer to Response 3.13.a, above. Blasting and construction activities at the dam site are expected to generate substantial groundborne vibration and noise. These impacts would be limited to the Project site and surrounding undeveloped areas, and impacts would be limited to sensitive biological resources. No changes to permanent vibration levels are anticipated following Project construction, as operation and maintenance activities at the dam would remain similar to existing conditions. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects related to temporary generation of groundborne vibration and noise.**



- 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?*

**No Impact.** The Project is not located within 2 miles of a public airport or public use airport, and would not expose people residing or working in the area to excessive noise levels. As a result, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**



### 3.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- 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 roads or other infrastructure)?*

**No Impact.** The Project is the remediation of seismic and hydrologic hazards at the existing Vail Dam. It does not include construction of new homes or businesses and does not include extension of roads or other infrastructure. As a result, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

- b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

**No Impact.** The Project is the remediation of seismic and hydrologic hazards at the existing Vail Dam. It does not require the displacement of any people or housing. As a result, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**





### 3.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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:				
i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Parks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*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:*

- i. Fire protection?*
- ii. Police protection?*
- iii. Schools?*

**Less Than Significant Impact.** The Project is the remediation of seismic and hydrologic hazards at the existing Vail Dam. It does not include construction of governmental facilities, new homes, or businesses, does not include extension of roads or other infrastructure, and it is not anticipated to affect the population within the area. The Project would not introduce new facilities requiring fire protection, as the gravity dam would be constructed immediately downstream of the existing arch dam. No additional police protection would be required as RCWD provides security on site and public access is limited. No additional schools, parks, or other public facilities would be required as no changes in area population would occur as a result of the Project. Therefore, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

- iv. Parks?*
- v. Other public facilities?*

**Potentially Significant Impact.** The Vail Lake Resort (Temecula/Vail Lake KOA) is located on RCWD-owned property along the southern shore of Vail Lake, in the vicinity of the confluence of Arroyo Seco Creek and Vail Lake. This property is operated as a recreational amenity by Kampgrounds Enterprises



Incorporated (KEI) under contract to RCWD. Project construction would not result in direct impacts to this area; however, following construction, changes in lake water levels could affect facilities such as docks, boat launches, fishing areas, and other amenities, which could be inundated if the reservoir level is increased to the spillway elevation. If inundation of facilities is anticipated, RCWD may elect to relocate or otherwise alter the recreational facilities to accommodate the higher lake levels. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project impacts due to the potential need to modify recreational facilities to accommodate increases in lake water levels.**



### 3.16 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*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?*

**No Impact.** Refer to Response 3.15.a, in Section 3.15, Public Services, above. The Project would not alter population in the area or increase the use of existing parks, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

*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?*

**No Impact.** Refer to Response 3.15.a, in Section 3.15, Public Services, above, for a discussion of facilities at the Vail Lake Resort. The Project does not include recreational facilities or require the construction or expansion of recreational facilities. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**



### 3.17 TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3 <sup>10</sup> or will conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*a. Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

**Potentially Significant Impact.** The Project does not include the construction or removal of public roads or other circulation system features. No changes to transit, bicycle, or pedestrian facilities would be required, and no impacts would result from Project operation. Truck trips associated with importing aggregate materials from the off-site quarry would utilize existing public roadways and non-public access roads during construction. This has the potential to affect the circulation system. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project impacts due to construction-related impacts to the circulation system.**

*b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 or will conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?*

**Potentially Significant Impact.** Section 15064.3 of the *State CEQA Guidelines* codifies that project-related transportation impacts are typically best measured by evaluating the project's vehicle miles traveled (VMT). Specifically, Subdivision (b) focuses on specific criteria related to transportation analysis and is divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. Subdivision (b)(1) provides guidance on determining the significance of transportation impacts of land use projects using VMT; projects within 0.5 mile of a

<sup>10</sup> *State CEQA Guidelines* Section 15064.3(c) provides that a lead agency "may elect to be governed by the provisions" of the section immediately; otherwise, the section's provisions apply July 1, 2020. Here, the City has not elected to be governed by Section 15064.3. Accordingly, an analysis of vehicles miles traveled (VMT) is not necessary to determine whether a proposed project will have a significant transportation impact.



major transit stop/high-quality transit corridor should be considered to have a less than significant impact. Subdivision (b)(2) addresses VMT associated with transportation projects and states that projects that reduce VMT, such as pedestrian, bicycle, and transit projects, should be presumed to have a less than significant impact. Subdivision (b)(3) acknowledges that Lead Agencies may not be able to quantitatively estimate VMT for every project type; in these cases, a qualitative analysis may be used. Subdivision (b)(4) stipulates that Lead Agencies have the discretion to formulate a methodology that would appropriately analyze a project's VMT. The provisions of *State CEQA Guidelines* Section 15064.3 become applicable statewide beginning July 1, 2020.

The Project is neither a land use project nor a transportation project. It would not result in any long-term changes to traffic or circulation and would not contribute to traffic congestion within the area, as operation and maintenance activities associated with Vail Dam would not appreciably change in intensity or frequency. During construction, additional truck trips would be added on the on-site access roads and haul routes between the Project site and the off-site quarry, which would have the potential to increase congestion and result in a temporary increase in daily VMT. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project impacts due to increases in congestion on public roads during Project construction.**

*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)?*

**Less Than Significant Impact.** The Project includes improvements to access roads that traverse steep terrain as well as the canyon bottom to allow construction-related vehicles and equipment to access the site. These access roads may include sharp curves, creek crossings, and steep grades; however, as these features would be limited to RCWD's privately owned roads and would not be accessible to the public, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

*d. Would the project result in inadequate emergency access?*

**Less Than Significant Impact.** The Project is the construction of a gravity dam to remediate seismic and hydrologic hazards associated with the current arch dam. Site access to Vail Dam is presently limited to the existing North Access Road and Canyon Access Road from De Portola Road through the VDC Recharge Basins, and the South Access Road from SR-79. Access along one or more routes may be temporarily unavailable as access road improvements are under construction; however, construction would be phased such that emergency access to the dam is always available via at least one route. Therefore, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**





### 3.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
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), or	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*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), or*
- 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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

**Potentially Significant Impact.** Chapter 532, Statutes of 2014 (i.e., AB 52), requires that Lead Agencies evaluate a project's potential to impact "tribal cultural resources." Such resources include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are eligible for inclusion in the California Register or included in a local register of historical resources (PRC, Section 21074). AB 52 also gives Lead Agencies the discretion to determine, supported by substantial evidence, whether a resource falling outside the definition stated above nonetheless qualifies as a "tribal cultural resource."



Also per AB 52 (specifically PRC Section 21080.3.1), as Lead Agency, RCWD must consult with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the Project and have previously requested that the Lead Agency provide the tribe with notice of such projects.

In compliance with AB 52, letters were distributed in June 2020 to local Native American tribes that have previously requested to be notified of future projects proposed by RCWD. The letters have provided each tribe of the opportunity to request consultation with RCWD regarding the Project. In compliance with AB 52, tribes typically have 30 days from the date of receipt of notification to request consultation on the Project. However, Executive Order N-54-20 was issued by Governor Newsom on April 22, 2020 and suspends the timeframes from which tribes must request consultation and the lead agency must begin the consultation process for 60 days. Information provided through tribal consultation will inform the assessment as to whether tribal cultural resources are present, and the significance of any potential impacts to such resources. **This topic will be analyzed in the EIR and, if necessary, mitigation will be developed and included in the EIR to address potentially significant adverse Project effects to tribal historic resources.**



### 3.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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 construction or relocation of which could cause significant environmental effects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

**Potentially Significant Impact.** The Project is the remediation of seismic and hydrologic hazards at the existing Vail Dam through construction of a new gravity dam and appurtenant facilities. Changes will be required to local electric power lines and potentially telecommunications facilities serving the site. No changes to water, wastewater treatment, stormwater drainage, or natural gas facilities are proposed, and no impacts would occur with respect to these systems. **Potential impacts related to electric power and telecommunications facilities will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project impacts due to impacts from ancillary facilities.**

- 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?*

**No Impact.** The Project is the remediation of seismic and hydrologic hazards at the existing Vail Dam and will support RCWD's management of surface and groundwater resources. Dam operation would not contribute to demands on water supply. Therefore, no impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**



- 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?*

**No Impact.** The Project is the remediation of seismic and hydrologic hazards at the existing Vail Dam and will not affect demands on wastewater treatment providers. Therefore, no impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

- 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?*

**Potentially Significant Impact.** Project construction will include substantial site preparation activities and partial demolition of the existing Vail Dam. These activities are anticipated to generate waste materials that are not suitable for reuse in the construction of the gravity dam. RCWD proposes to stockpile waste materials on its property and reuse them on other projects requiring fill; however, it is uncertain whether all waste materials would be suitable for reuse. In the event that waste materials must be transported off site for disposal, the Project could affect regional landfills. Operation of the Project would not appreciably change solid waste generation compared with existing conditions, as the nature and frequency of operation and maintenance activities at the dam would be similar for the gravity dam as for the existing arch dam. **This topic will be analyzed in the EIR and, if necessary, mitigation will be developed and included in the EIR to address potentially significant adverse Project effects related to the capacity of regional landfills servicing the site for any waste materials not stored on site.**

- e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

**Potentially Significant Impact.** Refer to Response 3.19.d, above. The Project would be required to comply with federal, State, and local statutes and regulations related to solid wastes, and potential project-related impacts will be assessed in the EIR. **This topic will be analyzed in the EIR and, if necessary, mitigation will be developed and included in the EIR to address potentially significant adverse Project effects related to solid waste regulations.**



### 3.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

**Less Than Significant Impact.** The Project area and its immediate surroundings are classified as very high to high fire hazard severity zones. The Project would allow RCWD to increase the amount of water stored in Vail Lake by increasing the reservoir level to the spillway elevation, and updates to the emergency response plan may be required to address the expansion of the potential inundation area in the event of catastrophic dam failure (refer to Response 3.9.f in Section 3.9, Hazards and Hazardous Materials, for a discussion of consistency with emergency plans). Project construction and operation would not introduce new barriers or constraints on emergency response or evacuation, as the dam access roads would not typically be used for evacuation except for RCWD and construction personnel. The Project would not require or result in any long term or permanent lane closures on roadways adjacent to the site. Therefore, no significant impacts would occur, and no mitigation is required. **This topic will not be analyzed further in the EIR unless new information identifying it as a potentially significant impact is presented during the scoping process.**

*b. Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

**Potentially Significant Impact.** Refer to Response 3.9.g in Section 3.9, Hazards and Hazardous Materials. The Project is the remediation of seismic and hydrologic hazards at Vail Dam. Construction would substantially alter topography at the site of the new gravity dam; however, this is not anticipated to affect prevailing winds or otherwise exacerbate wildfire risks. During construction, additional workers would be within areas classified as high to very high fire hazard severity zones. It is anticipated that workers would not remain in the area in the event of a fire, and that they would





not be exposed to wildfire-related pollutants. The Project is located within an area of moderate to very high fire risk, but would not introduce new structures that would be substantially at risk of loss from fire. Project construction activities would use vehicles and machinery that have the potential to spark a fire in the area, which could expose workers and residents in neighborhoods to the west of the Project site to fire-related pollutants. **This topic will be analyzed in the EIR, and mitigation will be developed and included in the EIR, if necessary, to address potentially significant adverse Project effects.**

- 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?*

**Potentially Significant Impact.** The Project would require modifications to existing power line infrastructure to provide electricity to the new gravity dam facilities. Above-ground power lines would have the potential to exacerbate fire risks associated with sparking in the event of damage to the lines or transformers. During and following construction, Vail Lake would remain available as an emergency water source. No new fuel breaks are proposed. Modifications to access roads are included in the Project Description and will be addressed as appropriate in the EIR. **This topic will be analyzed in the EIR and, if necessary, mitigation will be developed and included in the EIR to address potentially significant adverse Project effects related to increased fire risk from above-ground power lines.**

- d. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

**Potentially Significant Impact.** Refer to Section 3.9, Hazards and Hazardous Materials, regarding changes to flooding risks due to the increase in water storage in Vail Lake. With respect to fire-related flooding and landslides, operation of the Project would not affect the exposure of people or structures to risks associated with runoff, post-fire instability, or drainage changes. As noted in Response 3.20.a, above, construction activities associated with the Project have the potential to increase the risk of wildfire in the area. In such an event, there would be a risk of post-fire instability in the affected areas. **This topic will be analyzed in the EIR and, if necessary, mitigation will be developed and included in the EIR to address potentially significant adverse Project effects related to construction-generated wildfire.**



### 3.21 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*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?*

**Potentially Significant Impact.** CEQA specifies that certain findings, if found to be affirmative, require that a determination of significant impact be made. As discussed in Section 3.4, Biological Resources, the Project has the potential to degrade the quality of the environment, have a significant impact on habitats of fish or wildlife species or cause a fish or wildlife population to drop below self-sustaining levels, and/or threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. As discussed in Section 3.5, Cultural Resources, the Project may result in significant impacts to archaeological resources. **This topic will be analyzed in the EIR and, if necessary, mitigation will be developed and included in the EIR to address potentially significant adverse Project effects.**

*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)?*

**Potentially Significant Impact.** A significant impact may occur if the Project, in conjunction with related projects, would result in impacts that are less than significant when viewed separately but would be significant when viewed together. Due to the potentially significant impacts identified in various sections (including Sections 3.1, Aesthetics; 3.3, Air Quality; 3.4, Biological Resources;



3.5, Cultural Resources; 3.6, Energy; 3.7, Geology and Soils; 3.8, Greenhouse Gas Emissions; 3.9, Hazards and Hazardous Materials; 3.10, Hydrology and Water Quality; 3.11, Land Use and Planning; 3.13, Noise; 3.16, Recreation; 3.17, Transportation; 3.18, Tribal Cultural Resources; and 3.19, Utilities and Service Systems), cumulatively considerable impacts could result from implementation of the Project. **This topic will be analyzed in the EIR and, if necessary, mitigation will be developed and included in the EIR to address potentially significant adverse Project effects.**

*c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

**Potentially Significant Impact.** A significant impact may occur if environmental effects related to the Project could cause substantial direct or indirect adverse impacts to human beings as described in the checklist responses. Refer to Response 3.21.b, above, for a reference to all sections contained in this Initial Study that are anticipated to have a potentially significant impact as a result of the Project. **This topic will be analyzed in the EIR and, if necessary, mitigation will be developed and included in the EIR to address potentially significant adverse Project effects.**



## 4.0 REFERENCES

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Subsidence. Website: [https://gis.countyof\\_riverside.us/Html5Viewer/?viewer=MMC\\_Public](https://gis.countyof_riverside.us/Html5Viewer/?viewer=MMC_Public) (accessed December 13, 2019).

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