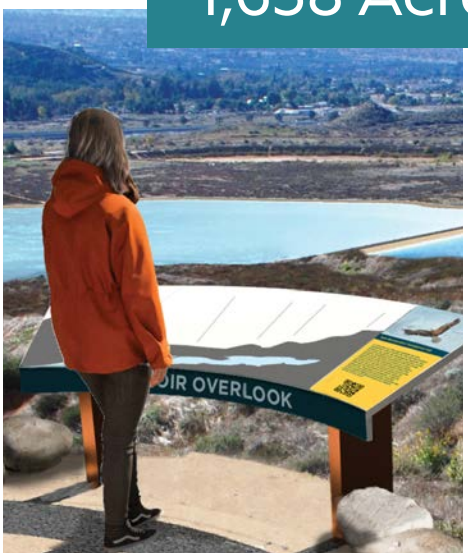
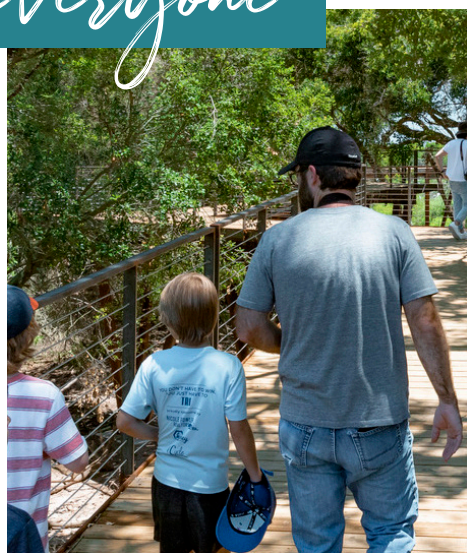
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT

Sunrise Ranch

DRAFT MASTER PLAN

1,658 Acres of Opportunity for *everyone*





Message from the Board of Directors

Since 1954, San Bernardino Valley Municipal Water District (San Bernardino Valley) has worked to secure a reliable and sustainable water supply while embracing its role as a regional leader in water and watershed management. Sunrise Ranch, a 1,658-acre property situated at the confluence of the Santa Ana River and Mill Creek, presents a unique opportunity to continue that legacy, with potential opportunities for new water infrastructure which strengthens our mission. Just as the Santa Ana River and Mill Creek come together near the site, Sunrise Ranch brings together the opportunities for water supply, environmental stewardship, and public engagement to benefit the entire region.

The Sunrise Ranch property holds great potential to support San Bernardino Valley's mission through the evaluation of potential facilities that will enhance storage, reliability, and resilience in our water supply. At the same time, the site provides opportunities for habitat conservation and mitigation values to meet water project permit requirements, protection of open space at the wildland-urban interface, and additional community benefit projects, such as a place for public recreation and environmental education. This vision integrates water supply reliability with the preservation and enhancement of the watershed, ensuring that taxpayer investments are not only durable but also deliver multiple layers of public value.

The Sunrise Ranch Master Plan Report is intended to highlight possibilities as a framework for an intentional path forward. It identifies strategies for developing water infrastructure while also creating spaces for people to learn about their watershed, increasing the understanding of who we are as an agency, and engaging with the habitats and natural systems that sustain our region. The report is intended to be a living document that can be used as a tool for future decisions of the Board of Directors to ensure that Sunrise Ranch serves as a resource that supports water reliability, conservation, and community well-being for decades to come.

T. Milford Harrison
PRESIDENT

Gil J. Botello
VICE PRESIDENT

Susan Longville
DIRECTOR

Paul R. Kielhold
DIRECTOR

Jose Velasquez
DIRECTOR

Sunrise Ranch
DRAFT MASTER PLAN

Adopted
Month XX, Year

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Consultant Teams

SWA Los Angeles (Prime Consultant) — Planning, Landscape Architecture, Recreation
Pace Engineering — Engineering and Water Supply Infrastructure
Rincon — Biology, Mitigation, and Environmental Engineering
Lever — Architecture
WSC — Communications and Outreach
Cumming — Cost Estimation
Minds Illustrated — Technical Writing

SAN BERNARDINO VALLEY | A REGIONAL WATER AGENCY SINCE 1954

The *Sunrise Ranch* Master Plan presents opportunities to enhance the storage capacity, reliability, and resilience of our region's water supply while also providing protected spaces for our region's people and environment.

Thank you to the community and interested parties who helped create this vision for our future.

ACRONYMS AND ABBREVIATIONS

ac	Acre
AF	Acre-feet
AFY	Acre-feet per year
Board	San Bernardino Valley's Board of Directors
BVMWC	Bear Valley Mutual Water Company
CDFW	California Department of Fish and Wildlife
cfs	Cubic feet per second
cy	Cubic yards
DEIR	Draft Environmental Impact Report
DWR	California Department of Water Resources
DSOD	DWR Division of Safety of Dams
EBX	East Branch Extension
EIR	Environmental Impact Report
EVWD	East Valley Water District
HCP	Habitat Conservation Plan
LEED	Leadership in energy and environmental design (certification)
MGD	Million gallons per day
MSHCP	Multiple Species Habitat Conservation Plan
OCFCD	Orange County Flood Control District
PS	Pump station
RWQCB	Regional Water Quality Control Board
SART	Santa Ana River Trail
SBKR	San Bernardino kangaroo rat
SBVMWD or San Bernardino Valley	San Bernardino Valley Municipal Water District
SBVWCD	San Bernardino Valley Water Conservation District
SCE	Southern California Edison
SGPWA	San Gorgonio Pass Water Agency
SSC	Species of Special Concern
Sunrise Ranch	Property acquired by San Bernardino Valley that is the subject of this Master Plan
SWP	State Water Project
TBD	To be determined
TLMWC	Tres Lagos Mutual Water Company
USACE	U.S. Army Corps of Engineers
USGS	United States Geological Survey

SUNRISE RANCH MASTER PLAN

Contents

Introduction

In February 2022, San Bernardino Valley Municipal Water District (San Bernardino Valley) acquired a 1,658-acre property (referred to as Sunrise Ranch) from the Orange County Flood Control District (OCFCD) through a public auction.

When the Board of Directors made this purchase, it recognized a once-in-a-generation opportunity to shape the future of our watershed—an investment in lasting resilience for our region's people and environment. By securing this extraordinary property, which is perfectly situated to enhance regional water security, preserve rare habitats, and create new possibilities for public open space and beyond, the Board took a visionary step toward safeguarding our shared future.

The purchase of Sunrise Ranch was initially guided by two key objectives: (1) to support water supply reliability by providing high-elevation storage capacity that could enhance and expand San Bernardino Valley's existing water system, and (2) to generate significant economic value through protection of habitat suitable for mitigation, associated either with San Bernardino Valley's water infrastructure permitting requirements and/or through mitigation credit sales to outside parties.

Guided by these priorities, the property holds the promise of becoming a vibrant hub for community connection and learning—offering opportunities such as surface storage reservoir(s), scenic walking trails with educational signage, drought-tolerant demonstration gardens, and an inviting campus-style Agency Headquarters that welcomes the public and fosters a shared commitment to sustainability and discovery. Following initial discussions, the Board commissioned development of a planning-level document to guide future decisions regarding the property—a vision now realized in the Sunrise Ranch Master Plan (Master Plan).This document stands apart in its purpose and spirit. Drawing inspiration from the clarity and structure of formal government plans, it invites us to imagine what is possible for the Sunrise Ranch property before any single step is taken. More than a plan, it is a visioning tool—one that opens the door to creativity, thoughtful exploration, and strategic alignment. By presenting a range of opportunities for the site as a whole, it empowers the Board of Directors to establish clear direction, set priorities, and shape the future of Sunrise Ranch with purpose and intention.

MASTER PLAN *Chapters*

The Master Plan is presented in five Chapters:

Chapter 1. Water Supply Infrastructure Opportunities

Water Supply Infrastructure Opportunities represent the Board's highest priority, as they directly advance the Agency's mission to ensure a reliable and sustainable water supply. These opportunities include exploring potential new reservoirs and conveyance infrastructure to enhance system resilience and capacity and maximize the State Water Project water benefits.

Chapter 2. Habitat and Mitigation Opportunities

Habitat and Mitigation Opportunities include potential mitigation activities for sensitive species designed to produce credits applicable for water infrastructure permitting pursuant to the Upper Santa Ana River Habitat Conservation Plan, as well as the designation of acreage for a mitigation credit account available for sales to other entities.

Chapter 3. Public Recreation Opportunities

Public Recreation Opportunities describe potential features that could be developed further, while keeping water infrastructure and habitat conservation as top priorities. Through positive, self-guided activities—such as walking, observing nature, or enjoying scenic views—the site can offer the public opportunities to build a connection to the landscape, the watershed, and gain a deeper understanding of the work that San Bernardino Valley does to protect and manage public resources.

Chapter 4. Facilities Opportunities

Facilities Opportunities advance the Agency's long-term goals by strengthening operational efficiency, enhancing collaboration, and creating spaces that reflect our commitment to water supply, native habitat and watershed ecosystems, public engagement, and community value. Strategic investments—such as a modern Headquarters large enough to meet the Agency's staff and Board needs, a regional watershed-focused education center, or essential fire training facilities developed in partnership—will serve as key infrastructure to support the Agency's mission and regional leadership. These facilities will not only improve service delivery and staff coordination but also provide platforms for stakeholder and community engagement, education, and stewardship—showcasing how the San Bernardino Valley Municipal Water District sustains and enriches the region's natural and human resources.

Chapter 5. Next Steps

Next Steps describes a potential path from vision to reality, guiding the potential implementation of the concepts included in the Master Plan through development of an integrated site design and preliminary engineering, building strong partnerships and external funding opportunities, exploring sustainable finance strategies, securing durable mitigation credit value, and transparent communication.

The Master Plan does not prescribe how the property must be used in the future. Instead, it presents options identified so far within the broad categories described above, along with related evaluations, assessments, and findings for each category. The Master Plan is a planning-level document meant to guide the Board and staff as they consider future actions, approvals, and activities to further explore or implement individual opportunities.

The Master Plan provides a snapshot of what is possible at this point in time, based on the possibilities explored thus far. New opportunities may emerge as work continues, while some elements may later prove less feasible after further study. Many factors—such as available funding, permitting requirements, and successful partnerships—will all influence how and when opportunities move forward.

ABOUT
Sunrise Ranch

The Sunrise Ranch property sits at the foothills of the San Bernardino mountains, rising in elevation over 1,100 feet from west to east towards the entry of the San Bernardino National Forest.

The Orange County Flood Control District (OCFCD) originally acquired the property in 1997 for soil extraction to support construction of the Seven Oaks Dam. In 2010, a proposal was introduced to develop approximately 3,600 residential units on the site. However, the project was canceled in 2018, and OCFCD subsequently placed the property up for auction in 2019. The San Bernardino Valley Water District submitted the highest bid and purchased the property for $31.8M.

The property is well suited to advancing San Bernardino Valley's mission to reliably deliver water to its constituents. Sunrise Ranch possesses several key hydrologic and water resource attributes, including its strategic location at the confluence of the Santa Ana River and Mill Creek, as well as its relatively high elevation within the watershed. This higher elevation enables water from the State Water Project to be delivered to the site by gravity, stored in an on-site reservoir, and then distributed—again by gravity—to lower-elevation areas throughout the service area.

Water can also be delivered to higher elevations with the use of existing pumping facilities in the vicinity or new pumping facilities that could be built in the future, if needed.

Sunrise Ranch is bordered by Greenspot Road, Florida Avenue, Garnet Street, and Mill Creek Road to the south and west, and the San Bernardino National Forest to the north and east (**Figure 1**). The property lies within the City of Highland, adjacent to the unincorporated community of Mentone and the City of Yucaipa. The opportunities developed on the site are anticipated to serve communities across the region, both within and beyond San Bernardino Valley's service area.

Figure 1. *Sunrise Ranch Property Location*

MISSION-DRIVEN PLANNING PROCESS

Established in 1954, the San Bernardino Valley Municipal Water District was created as a regional agency to secure supplemental water supplies and support long-range water resource planning.

Today, the Agency imports water through the State Water Project (SWP) for both direct delivery and groundwater recharge. It also serves as co-watermaster for the Western–San Bernardino and Orange County Judgments and holds additional water rights to surface flows of the Santa Ana River. Beyond water management, the Agency leads regional efforts in water infrastructure permitting and provides essential environmental and technical support services to neighboring water agencies—all to enhance the quality of life for residents across its 353-square-mile service area.

The Board provided clear direction that the Master Plan should align and support the organization's established Mission, Vision, and Values. In April and July 2022, the Board and staff participated in collaborative workshops to develop the foundational concepts for the future Sunrise Ranch Master Plan.

MISSION STATEMENT

Work collaboratively to provide a reliable and sustainable water supply to support the changing needs of our region's people and environment.

The workshops culminated in a shared vision that prioritized the identification of the following types of opportunities:

Working alongside a team of specialized consultants, the Sunrise Ranch planning process included extensive research and data collection to explore a range of potential uses for the property. This foundational work will help guide the future actions based on the Board of Directors guidance.

From 2023 to 2024, San Bernardino Valley hosted four community workshops to share updates on the Master Plan progress and to gather valuable input from the community. In addition, feedback was encouraged at various community events and presentations.

Master Plan Overview

Chapters 1 through 4 of the Master Plan highlight the opportunities identified so far for Sunrise Ranch. These opportunities are organized into four main categories and cover all areas of the property, as shown in **Figure 2**.

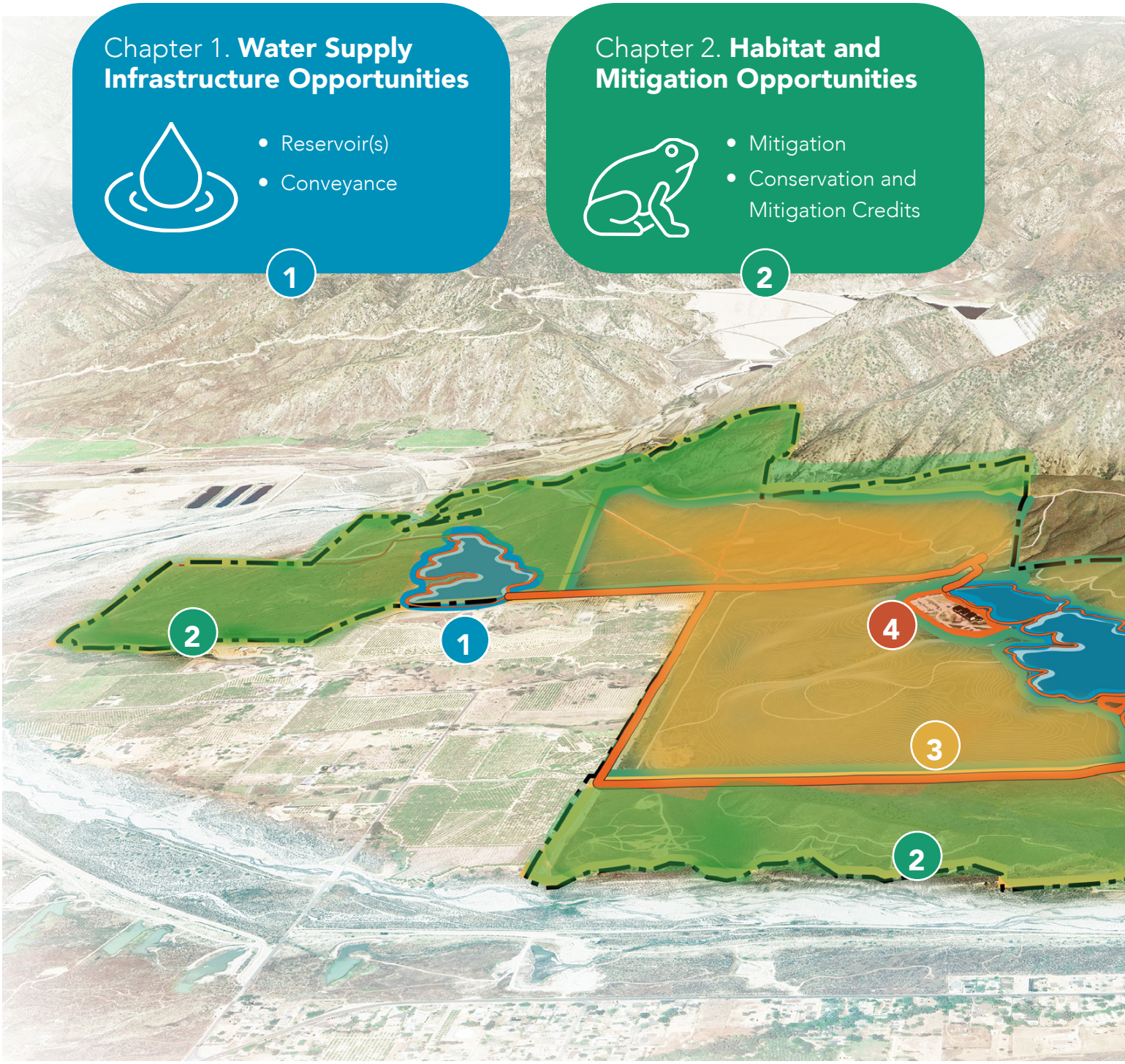
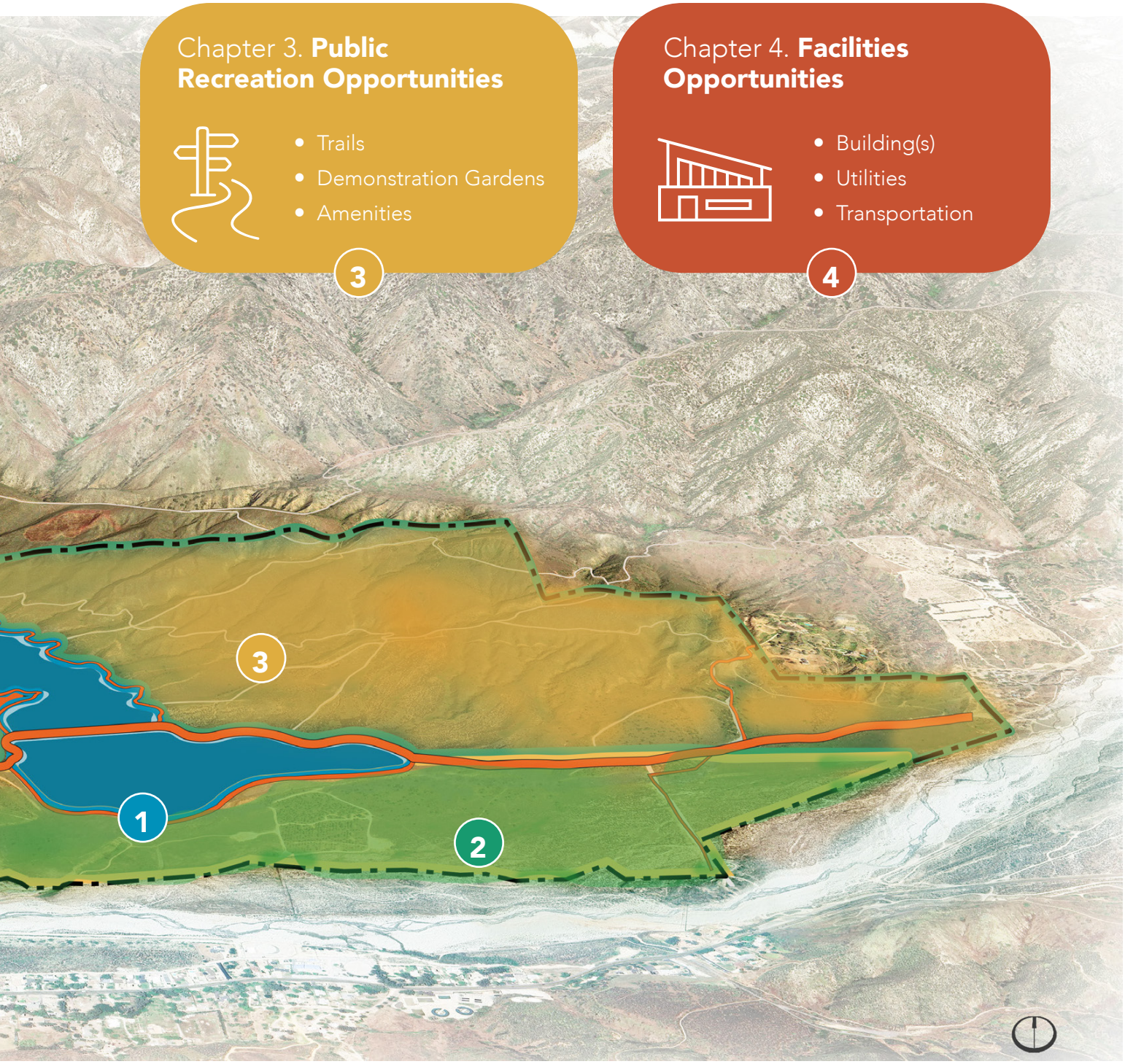


Figure 2. *Master Plan Opportunities by Chapter and Location*


Chapter 3. **Public Recreation Opportunities**
• Trails
• Demonstration Gardens
• Amenities
3
Chapter 4. **Facilities Opportunities**
• Building(s)
• Utilities
• Transportation
4
3
1
2

The Master Plan development represents the first step in exploring potential future projects for the Sunrise Ranch site (**Figure 3**). It offers an initial assessment of the opportunities identified so far. Before any specific project can move forward—such as beginning detailed planning and design, entering permitting, or securing funding—the Board of Directors must first review and approve the specific elements to move forward in the process.

Even after the Master Plan is adopted, the Board will continue to receive regular updates and specific action requests on all elements proposed to move forward, allowing the Board to provide guidance and adjust priorities as needed.

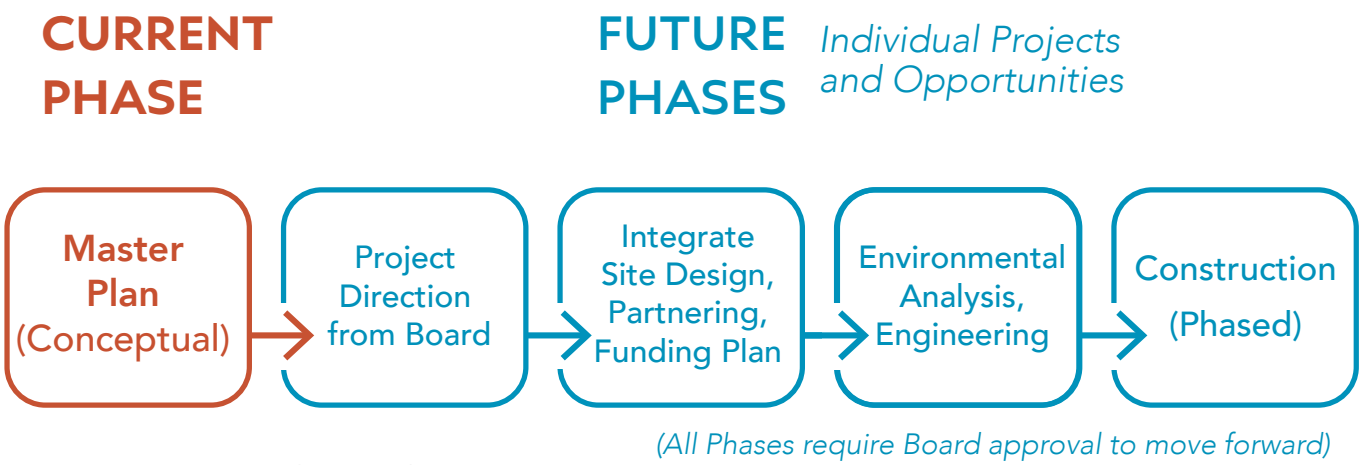
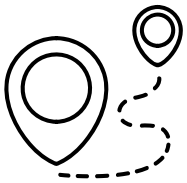


Figure 3. *Current and Future Phases*

Benefits

The opportunities outlined in the Sunrise Ranch Master Plan highlights ways the project could bring lasting value to the community and region.

Water and Environmental Benefits The Master Plan highlights potential to protect and enhance local natural resources. Potential projects may improve water supply reliability, enhance water management operations, restore native habitats, and promote long-term environmental sustainability.



Headquarters Benefits Locating a headquarters on the Sunrise Ranch site could provide space for modern, efficient facilities that strengthen the Agency's operational capabilities. A thoughtfully designed headquarters could improve coordination, accessibility, and service to the public while supporting the long-term needs for staff and Board.

Education Center Benefits A watershed-based education center at Sunrise Ranch could serve as a hub for community learning, offering programs and exhibits focused on water efficiency and conservation, environmental stewardship, and local ecology. It would provide opportunities for students, educators, and residents to engage with the Agency's mission.

Trails and Programs Benefits Plans identified within the Master Plan for public trails and community programs would create new opportunities for passive recreation and connection with nature centered around the watershed resources and function. These elements would encourage outdoor activity, wellness, and appreciation of the local landscape.

Economic Benefits The Master Plan could bring meaningful economic value by creating a new source of more than $150 million in estimated revenue to the Agency's General Fund from sale of mitigation credits. These financial resources could be used to fund local water projects and infrastructure.

These categories represent key themes but do not fully reflect the wide-range of benefits that could result from implementing the opportunities outlined in the Master Plan. Many of these benefits overlap- enhancing and supporting one another across categories. A summary of these interconnected benefits is provided in **Table 1** to help frame the context for the following opportunity chapters.

Table 1. *Sunrise Ranch Master Plan Opportunities Benefits*

Natural Resources Benefits	
Water Resources Benefits	**Environmental/Habitat Benefits**
• Increase water storage capacity in San Bernardino Valley's service area of Table A imported water • Reduce the need for new pump stations • Provide short-term, rapid-response emergency supply following earthquakes or other unexpected SWP interruptions • Provide redundancy for local storage facilities and store water during times of constrained supply • Serve as a flow equalization, peak shaving, and surface water/groundwater conjunctive use reservoir to reliably meet forecast growth • Enhance flexibility with two reservoirs operating in tandem • Provide water for firefighting and act as a large fire break • Provide additional storage to Santa Ana River and Mill Creek spreading grounds for local aquifer recharge to enhance water supply reliability • Provide operational redundancy to facilitate operations of the Santa Ana River – Mill Creek Cooperative Water Project Agreement, a.k.a., the Exchange Plan • Provide an additional settling location to improve the clarity and quality of turbid water diverted from Seven Oaks Dam during summer operations • Seasonal capture of stormwater run off during and immediately after rainstorms • Enhance the District's capacity to maximize the beneficial use of its full surface water right from the Santa Ana River • Maximize local groundwater storage • Provide an alternative to meet in-lieu water obligations to Bear Valley Mutual Water Company	• Provide 349 acres of the property to offset environmental impacts associated with San Bernardino Valley's and partner agencies' future projects, ensuring compliance with water infrastructure permits • Establish a Mitigation Credit Account for up to 900 acres to generate revenue through the sale of ecological credits, helping to fund the construction and operation of essential water infrastructure projects • Provide mitigation opportunities at Sunrise Ranch for Least Bell's vireo, California gnatcatcher, Western spadefoot, Santa Ana River woolly-star, and San Bernardino kangaroo rat • Support approximately 5.7 miles of streams, approximately 47.5 acres of stream and stream-dependent habitat, and 1.6 acres of seasonal wetland/vernal pool habitat • Maintain biodiversity, protect habitats of various wildlife species, and preserve critical ecological processes

Headquarters Benefits	Education Center Benefits	Trails/Programs Benefits	Economic Benefits
• Create a collaborative work environment that facilitates greater service and innovation • Allow team to be directly connected to the watershed landscape • Provide more functional space for all staff and Board to conduct their work • Exemplify and model commitment to climate resiliency • Offer flexible meeting and event spaces where regional partners, community organizations, and educational groups can gather for conferences, workshops, and collaborative initiatives • Meeting space to host regional events with over 150 attendees • Connects employees and visitors to the water resources and natural environment that sustain the region	• Provide educational opportunities to the community on local history and heritage • Foster community engagement and stewardship	• Provide venue for visitors, schools, and community groups to learn about water management, ecology, and conservation • Foster a sense of community and shared experience	• Streamlines the permitting process, reduces administrative burden, and speeds up project timelines • Maintain biodiversity, protect habitats of various wildlife species, and preserve critical ecological processes • Economically viable to implement high-quality conservation practices • Significant benefits to wildlife movement, water quality, and overall ecosystem health • Support improved environmental outcomes compared to those achievable under existing conditions • Provide greater than $150M estimated new revenue to the Agency

Sunrise Ranch Public Workshop

Community Engagement

A comprehensive community engagement process ensured that local residents, partner agencies, and other stakeholders near Sunrise Ranch had meaningful opportunities to share their input on future planning efforts. Areas of focus during the public workshop series included the following:

1. **Introduction to the Master Plan** – Introduced the community to the purpose of the Master Plan, its planning process, and the areas under consideration.
2. **Site History and Early Findings** – Provided an overview of the site's historical significance, critical habitat areas, initial findings related to potential water supply infrastructure, trail systems, and recreational programming opportunities.
3. **Concept Development and Environmental Considerations** – Explored conceptual water supply infrastructure, discussed potential mitigation credits, and examined how visitors might experience and interact with the site.
4. **Habitat and Site Design** – Focused on existing critical habitat and opportunities for enhancement and preservation, followed by a presentation of conceptual building designs that could be integrated into the site.

Events were held in a variety of locations and times to encourage a broad spectrum of participants. Community Workshops were open to the public and were publicized on social media and in local newspapers.

San Bernardino Valley and the City of Highland hosted a Trails Day in 2024 with activities, hiking, and a vendor event on the Sunrise Ranch Property. San Bernardino Valley had an information table to introduce the Master Plan, answer questions, generate a community list, and solicit initial ideas.

General Community Feedback

"The ability to conserve and preserve additional land is an exciting development for this city and surrounding communities."

"Considerations for something such as the development of a nature center could help draw people and families in from all surrounding areas."

"Allow for educational opportunities regarding preservation, species, history, and importance of the area for the community."

"Public access with hiking, biking, or walking trails would be such a benefit to our community."

"Open space, trees, trails, protection of land, park site—no home development!"

"We would love more places to enjoy the land and be outside with our kids."

"I would love to see public access trails and habitat restoration/species conservation most!"

Additional comments and data collected through community engagement are included in the Appendix.

Next Steps

Chapter 5 outlines the next steps, including potential actions to advance individual elements or projects and opportunities as directed by the Board.

Each project will require common elements such as environmental permitting and preliminary engineering (**Figure 4**). Developing an Integrated Site Design (Integrated Design) would unify these elements, improving coordination and efficiency while reducing both costs and project timelines.

Many of the projects and opportunities identified in the Master Plan could be strengthened through collaboration and partnerships with other agencies and organizations that share or align with San Bernardino Valley's values and goals. Building and maintaining strong partnership networks will be essential to advancing several opportunities within the Master Plan.

Developing a site-level financial strategy will be an important next step. This strategy—potentially structured as a Plan of Finance—would outline and coordinate funding opportunities for specific projects that move forward based on the Board's priorities. The Plan of Finance would identify available grants, programs, and other funding pathways to support project implementation efficiently and effectively.

Identifying specific acreage to support the permitting requirements of the Upper Santa Ana River Habitat Conservation Plan, along with additional areas for mitigation credit sales under San Bernardino Valley's Mitigation Credit Agreement with the state and federal Wildlife Agencies will help guide restoration and preservation efforts to meet the Agency's goals. These designations will also provide a clearer understanding of the potential revenue that could be generated from mitigation credit sales—funds that can be reinvested to support local projects and Agency priorities.

Figure 4. *Example Integrated Design Elements*

Next Steps at *Sunrise Ranch*

Water Supply

INFRASTRUCTURE OPPORTUNITIES

CHAPTER 1. WATER SUPPLY INFRASTRUCTURE OPPORTUNITIES

In alignment with San Bernardino Valley's Mission to provide a reliable and sustainable water supply for the region's people and environment, Water Supply Infrastructure Opportunities are the top priority for Sunrise Ranch.

The following features make Sunrise Ranch ideally suited for Water Supply Infrastructure Opportunities:

EXISTING INFRASTRUCTURE

There is substantial existing water supply infrastructure both on-site and off-site such as Greenspot Pipeline and Bear Valley High Line.

WATER SOURCES

Sunrise Ranch is located near significant local water sources such as the Santa Ana River and Mill Creek and can receive imported water supply from the State Water Project.

OPTIMAL LOCATION

The property is centrally located at an elevation above most of San Bernardino Valley's service area, allowing water conveyed from the property to primarily flow by gravity to its destination.

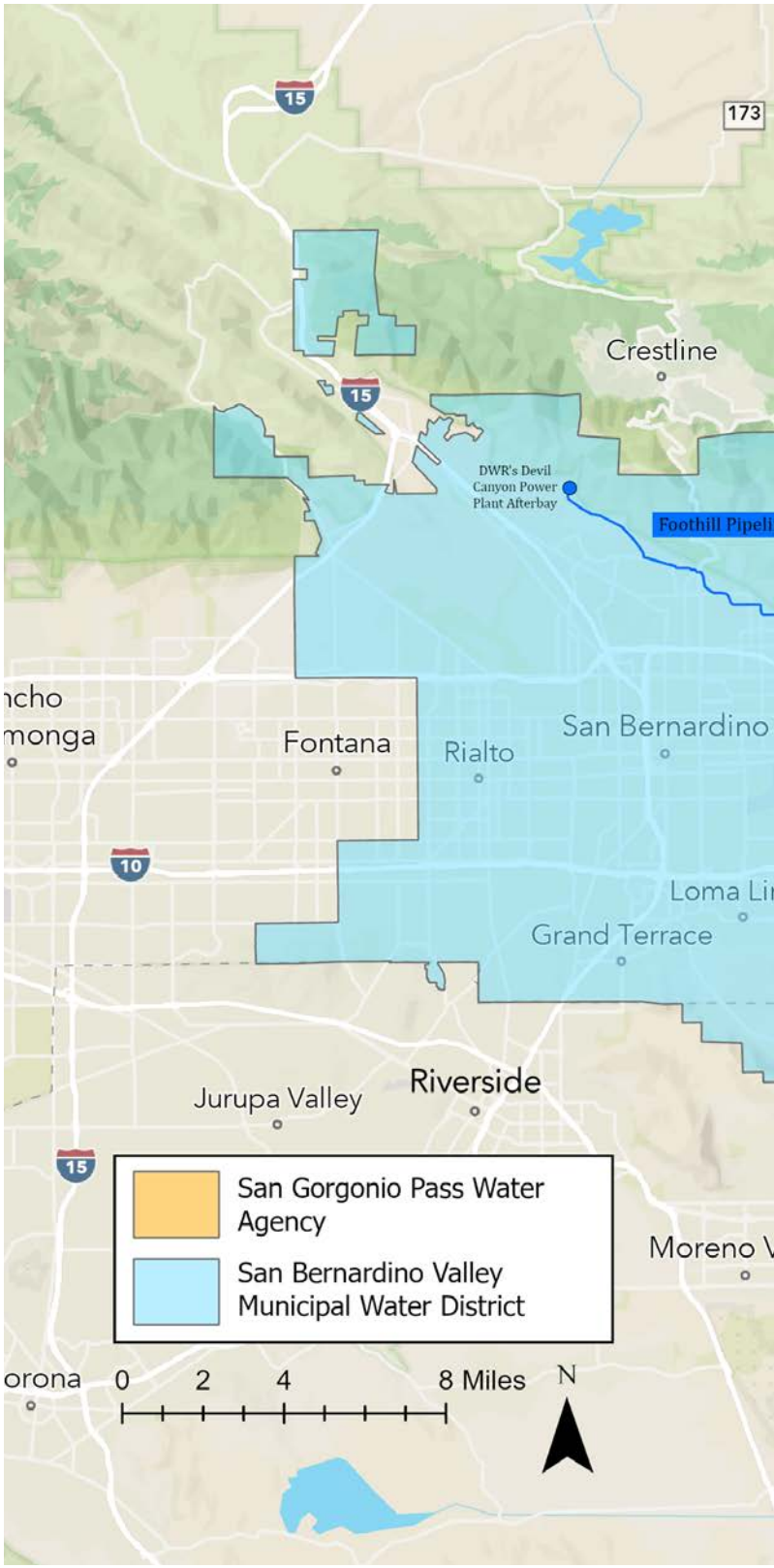
With 1,658 acres, close proximity to existing water infrastructure, and multiple water sources, the property is ideally suited for new water supply storage. Water stored on-site could be managed to enhance the Agency's operational flexibility—supporting supplemental and emergency water supplies, fire suppression needs, and groundwater recharge at nearby locations. An overview of this infrastructure and opportunities is presented in Chapter 1.

1.1. Existing Conditions

San Bernardino Valley's service area covers 353 square miles in southwestern San Bernardino County, 60 miles east of Los Angeles, serving a population of about 714,000. It spans the eastern two-thirds of the San Bernardino Valley, the Crafton Hills, and a portion of the Yucaipa Valley, and includes the cities and communities of Bloomington, Colton, Grand Terrace, Highland, Loma Linda, Mentone, Redlands, Rialto, San Bernardino, and Yucaipa. The San Gorgonio Pass Water Agency (SGPWA) service area is adjacent to San Bernardino Valley's (**Figure 5**) at the eastern boundary, and the Metropolitan Water District of Southern California is adjacent at the western boundary.

Like San Bernardino Valley, SGPWA is a State Water Contractor that receives water from the SWP. SWP water is conveyed through San Bernardino Valley's service area via two large, regionally connected pipelines: the Foothill Pipeline, and the East Branch Extension (EBX) pipeline, which conveys water from the Devil Canyon Afterbay into SGPWA's service area. Both San Bernardino Valley and SGPWA are located along the EBX of the State Water Project, in the southernmost area of the state.

The EBX is shown in yellow on **Figure 6.**



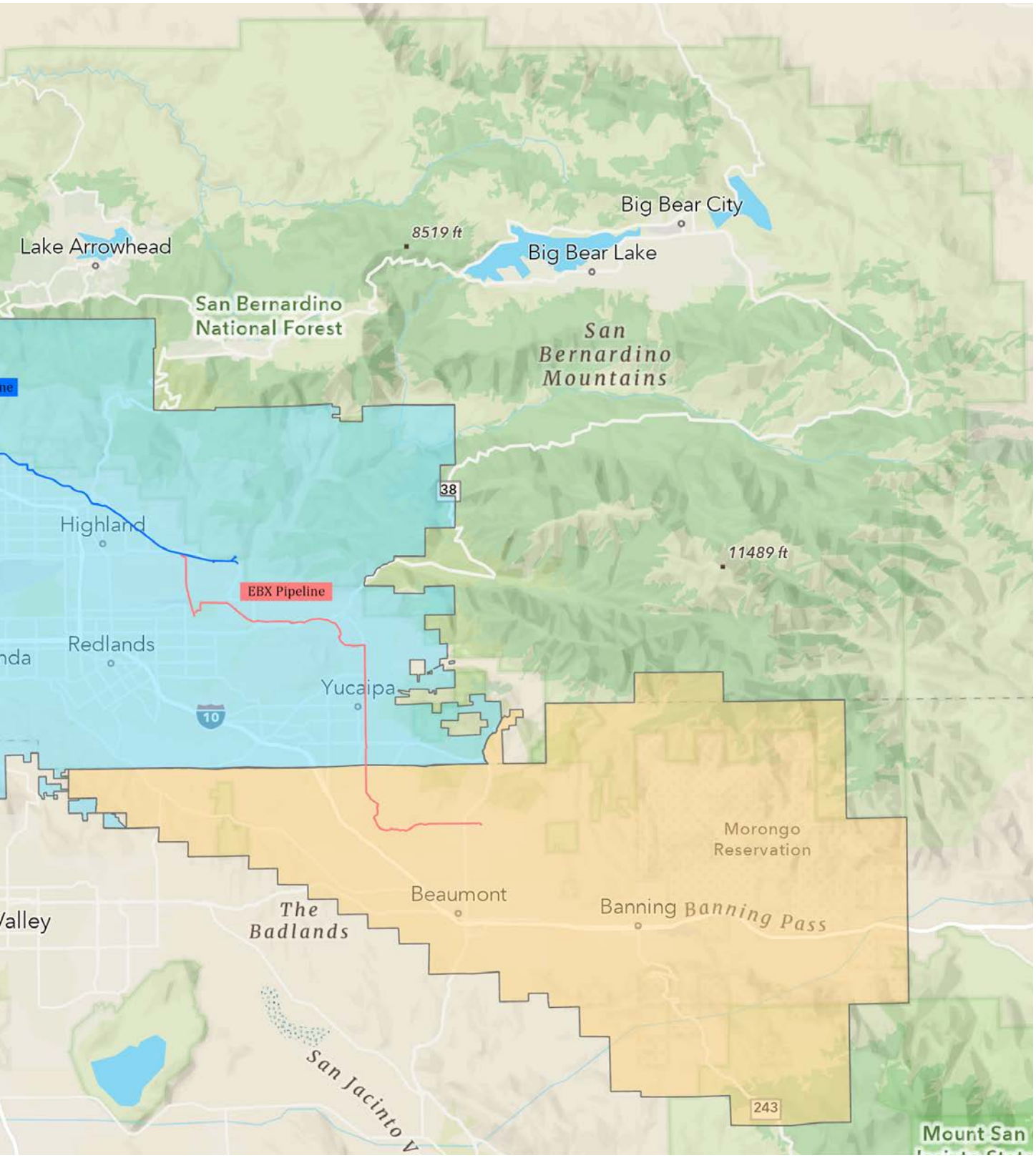


Figure 5. *San Bernardino Valley Municipal Water District and SGPWA Service Areas*

State Water PROJECT

The State Water Project is a combination of water capture, reservoir storage, and conveyance on a state-wide scale stretching from northern California to San Bernardino and beyond. Reservoirs throughout the system are regularly filled with rain and snowmelt and deliver water when and where it is needed through more than 500 miles of canals and pipelines. This system (**Figure 6**) is the backbone of California's water supply and helps provide some reliability from nature's irregular supplies.

Water stored in local reservoirs could serve an important need when SWP deliveries are limited by factors such as drought or emergency interruption and could supplement imported water supply during normal years.

SWP Facts

- Serves 27 million Californians throughout the state and 750,000 acres of farmland
- Consists of a 705-mile interconnected network of canals, dams, reservoirs, hydropower plants, and pumping plants
- Provides flood protection, including the Oroville Dam
- Would rank as the world's 8th largest economy if the SWP's service area were its own nation
- Generates 1,748 megawatts of electricity (enough to power 1.3 million homes)
- Provides recreation and education facilities with 3.7 million unique visitors a year

Figure 6. *SWP Conveyance Systems* *(modified from DWR SWP webpage)*

Mill Creek

Image: CC2.0 Jonathan Cook-Fisher

Sunrise Ranch is situated at the confluence of Santa Ana River and Mill Creek – a geographic location with significant advantages. The local surface water resources and the infrastructure in and around the site offer valuable opportunities to be modified, enhanced, or integrated with the new projects as future plans are implemented. **Figure 7** displays water infrastructure within the property boundary, as well as bodies of water and relevant water infrastructure in the local vicinity.

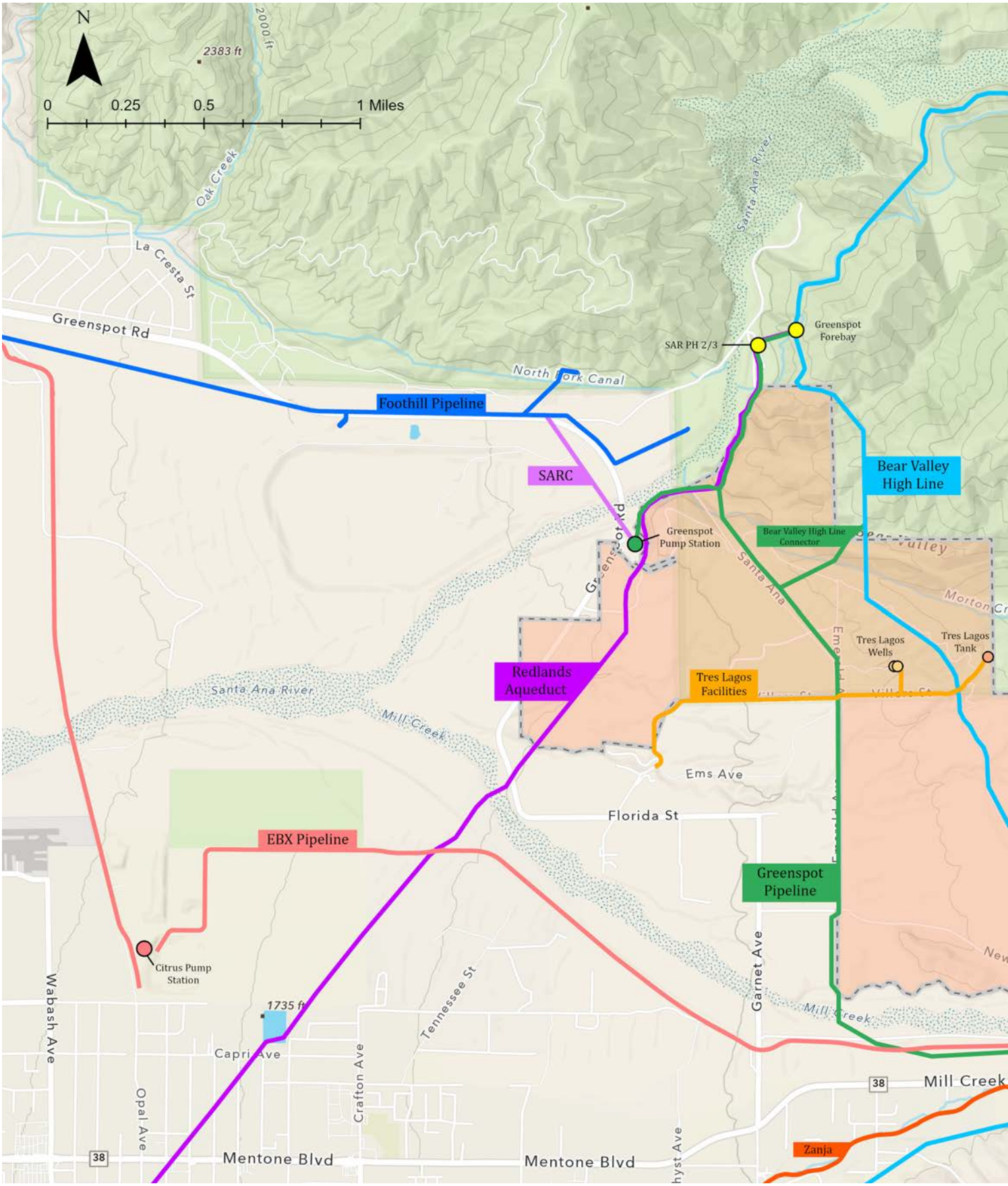
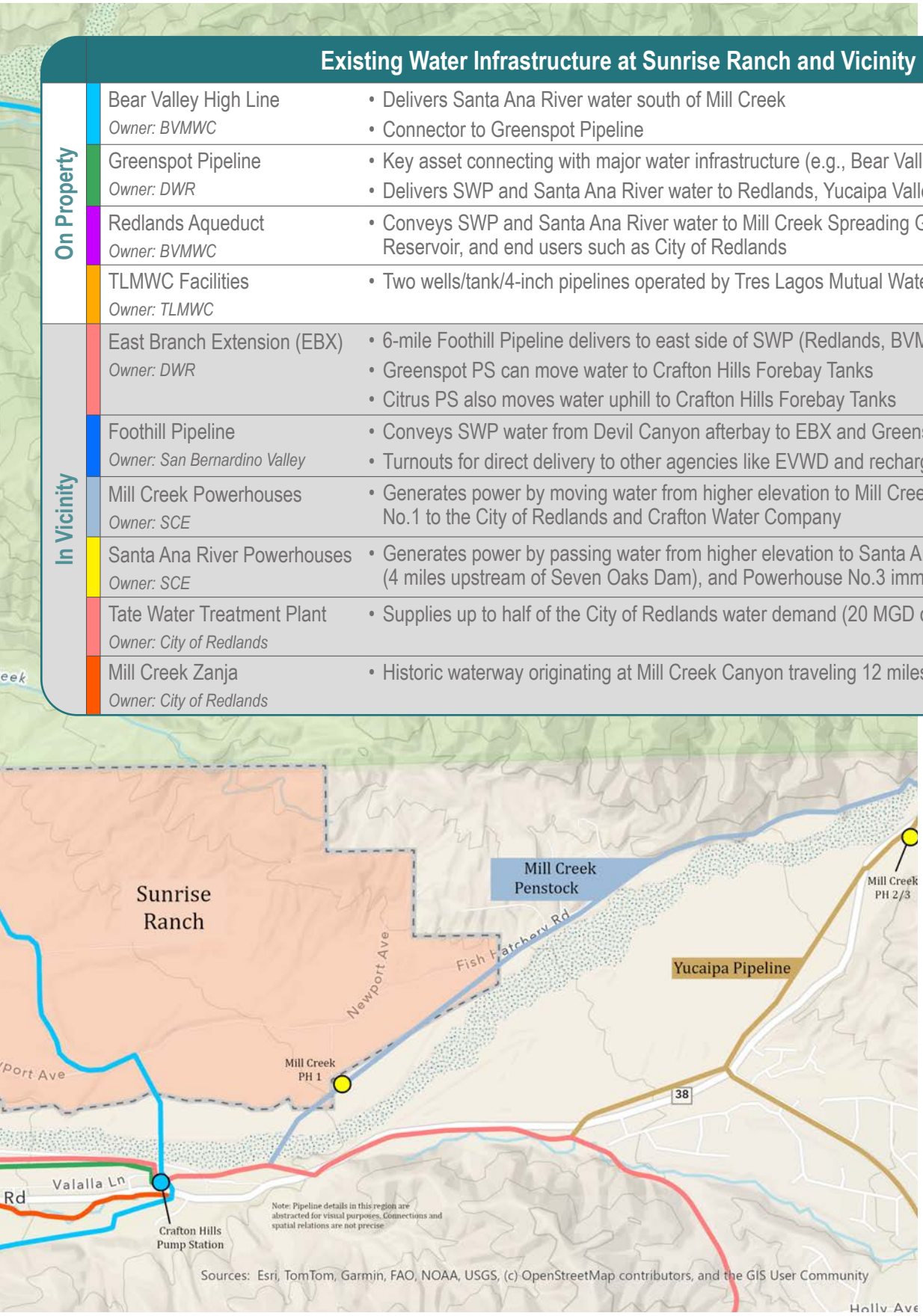


Figure 7. *Existing Water Infrastructure at Sunrise Ranch and Vicinity*

Existing Water Infrastructure at Sunrise Ranch and Vicinity

On Property	Bear Valley High Line *Owner: BVMWC*	• Delivers Santa Ana River water south of Mill Creek • Connector to Greenspot Pipeline
	Greenspot Pipeline *Owner: DWR*	• Key asset connecting with major water infrastructure (e.g., Bear Valley High Line) • Delivers SWP and Santa Ana River water to Redlands, Yucaipa Valley, SGPWA
	Redlands Aqueduct *Owner: BVMWC*	• Conveys SWP and Santa Ana River water to Mill Creek Spreading Grounds, Mentone Reservoir, and end users such as City of Redlands
	TLMWC Facilities *Owner: TLMWC*	• Two wells/tank/4-inch pipelines operated by Tres Lagos Mutual Water Company (TLMWC)
In Vicinity	East Branch Extension (EBX) *Owner: DWR*	• 6-mile Foothill Pipeline delivers to east side of SWP (Redlands, BVMWC, Yucaipa, SGPWA) • Greenspot PS can move water to Crafton Hills Forebay Tanks • Citrus PS also moves water uphill to Crafton Hills Forebay Tanks
	Foothill Pipeline *Owner: San Bernardino Valley*	• Conveys SWP water from Devil Canyon afterbay to EBX and Greenspot PS • Turnouts for direct delivery to other agencies like EVWD and recharge basins
	Mill Creek Powerhouses *Owner: SCE*	• Generates power by moving water from higher elevation to Mill Creek Powerhouses No. 3 and No.1 to the City of Redlands and Crafton Water Company
	Santa Ana River Powerhouses *Owner: SCE*	• Generates power by passing water from higher elevation to Santa Ana River Powerhouse No. 1 (4 miles upstream of Seven Oaks Dam), and Powerhouse No.3 immediately downstream
	Tate Water Treatment Plant *Owner: City of Redlands*	• Supplies up to half of the City of Redlands water demand (20 MGD capacity)
	Mill Creek Zanja *Owner: City of Redlands*	• Historic waterway originating at Mill Creek Canyon traveling 12 miles west



1.1.1. Existing Water Infrastructure on Property

Following are descriptions of water infrastructure located on-site at Sunrise Ranch.

Bear Valley High Line and Connector

The Bear Valley High Line is a 10,350-foot pipeline owned and operated by the Bear Valley Mutual Water Company (BVMWC). It is one of the oldest and most historic water facilities in the region. The original facility used a system of tunnels and flumes to transport Santa Ana River water through the valley, across Mill Creek, and southwest along the Crafton Hills towards the City of Redlands. Today, this facility is used to convey Santa Ana River water at a range of flow rates approximating between 5 cfs and 10 cfs, depending on water availability in the upper Santa Ana River. Most of the Bear Valley High Line system traverses the Sunrise Ranch property. The Bear Valley High Line receives its water from the Greenspot Forebay of Southern California Edison's (SCE) the Santa Ana River Powerhouse No.3. It sits at an elevation of 2,310 feet above mean sea level and was designed to both feed both the hydropower penstock (old and retired) and to deliver water to the Bear Valley High Line by gravity. The 1,400 foot Connector, also within the property, connects the Bear Valley High Line with the Greenspot Pipeline. The Connector is a cement mortar lined and coated steel pipe with a 30-inch diameter.

BEAR VALLEY HIGH LINE KEY PLANNING FACTORS

Owner: BVMWC

Length: 10,350 ft. (Highline), 1,400 ft. (Connector)

Material: 36" concrete pipe

Flow Rate: 5-10 cfs

Water Source: Upper Santa Ana River

Uses: Delivers water to the Zanja and end users south of Mill Creek in the Redlands area

Connections: Greenspot Pipeline

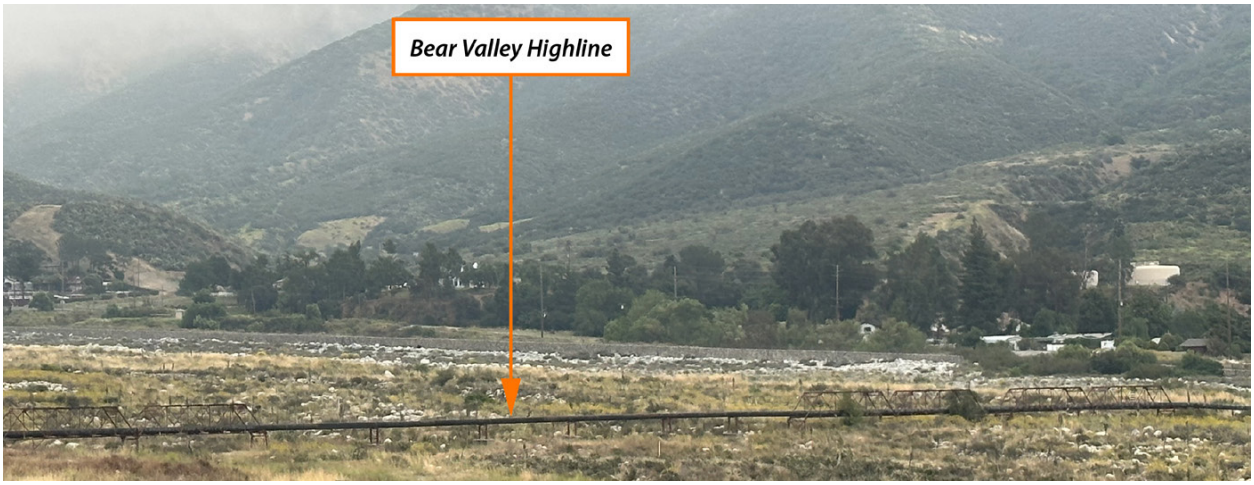


Figure 8. *Mill Creek and Bear Valley High Line*

Greenspot Pipeline

The Greenspot Pipeline can deliver up to 60 cfs from the SWP and/or the Santa Ana River to key facilities on the eastern side of San Bernardino Valley service area, including the City of Redlands, Yucaipa Valley Water District, and SGPWA. This facility enhances operational flexibility by supporting water transfers between various regional water agencies.

In addition, water conveyed through the Greenspot Pipeline can be delivered to the San Bernardino Valley Water Conservation District (SBVWCD) for distribution into the Mill Creek Spreading Grounds, where it contributes to groundwater recharge. Any future relocation of this pipeline segment must continue to fulfill the operational purposes and needs of the SBVWCD's facilities.

GREENSPOT PIPELINE KEY PLANNING FACTORS

Owner: San Bernardino Valley

Length: 9,900 ft.

Material: 48" CMLC

Flow Rate: 60 cfs

Water Sources: State Water Project, Santa Ana River

Uses: Delivers water to end users such as City of Redlands, Yucaipa Valley, and the San Gorgonio Pass Water Agency

Connections: Bear Valley High Line, Crafton Hills Pump Station, Mill Creek Spreading Grounds

Figure 9. *Powerhouse 3 Forebay Pipeline to Bear Valley High Line*

Redlands Aqueduct

Redlands Aqueduct begins approximately 400 feet east of Greenspot Road at the mouth of the Santa Ana Canyon and extends about 7,750 linear feet, ending near the intersection of Cajon and Crescent Streets, near Ford Park. Originally constructed in the early 1880s, the aqueduct was lined with loose rock and dirt-rock. In the 1900s, portions were upgraded to wooden trestles, concrete pipe sections, and riveted steel pipe for the Mill Creek crossing.

In 1961, the alignment was modified by Caltrans to accommodate the construction of Interstate 10. Today, the Redlands Aqueduct conveys water from the SWP and the Santa Ana River, primarily to serve end users in and around the City of Redlands. It also conveys water from the Santa Ana River Powerhouse 3 Afterbay to the Mill Creek Spreading Grounds, supporting groundwater recharge and regional management efforts.

REDLANDS AQUEDUCT KEY PLANNING FACTORS

Owner: BVMWC

Length: 7,750 ft.

Material: Varies in diameter and shape (some portions are a canal)

Flow Rate Range: 40 to 50 cfs

Water Sources: State Water Project, Santa Ana River

Uses: Conveys water to end users such as City of Redlands

Connections: Mill Creek Spreading Grounds

Tres Lagos Mutual Water Company Facilities

The Tres Lagos Mutual Water Company system on Sunrise Ranch is composed of two wells located next to each other, a steel tank, and a small 4-inch pipeline that varies in material between steel and PVC. The tank capacity is 65,000 gallons. Tres Lagos Mutual Water Company provides water for domestic and irrigation purposes to its shareholders, who are located immediately west of the Sunrise Ranch property boundary. San Bernardino Valley provided an easement for the facilities, allowing Tres Lagos Mutual Water Company to operate and maintain the infrastructure.

TRES LAGOS MUTUAL WATER COMPANY FACILITIES KEY PLANNING FACTORS

Owner: Tres Lagos Mutual Water Company

Length: 7,700 ft.

Material: 4” steel and PVC

Water Sources: Groundwater

Uses: Irrigation for the groves and crops on the property (previous)

Connections: 6 property owners east of Sunrise Ranch

1.1.2. Water Infrastructure in Vicinity

Several water facilities are located in the general vicinity of the property and could play an important role in managing and moving water in and around Sunrise Ranch. Because of their location, these facilities could work hand-in-hand with the Water Infrastructure Opportunities identified within the Sunrise Ranch property, as described in Section 1.2.

East Branch Extension (EBX) System

The East Branch Extension (EBX) System includes the Foothill Pipeline, three pump stations, and two reservoirs located to the east and south of Sunrise Ranch. The system is owned by the California Department of Water Resources (DWR) and operated by San Bernardino Valley to manage deliveries from the State Water Project.

Southern California Edison Hydropower Facilities

Hydropower facilities owned by SCE convey water after it has been used for power generation, working in coordination with other regional pipelines to deliver water to various agencies and locations. The existing Santa Ana River Powerhouse 3 Forebay (at an elevation of 2,310 feet) and Afterbay (at 1,950 feet), together provide the hydraulic pressure needed to move water through the hydroelectric system. **Figure 10** highlights the key hydroelectric facilities at Powerhouse No. 3.

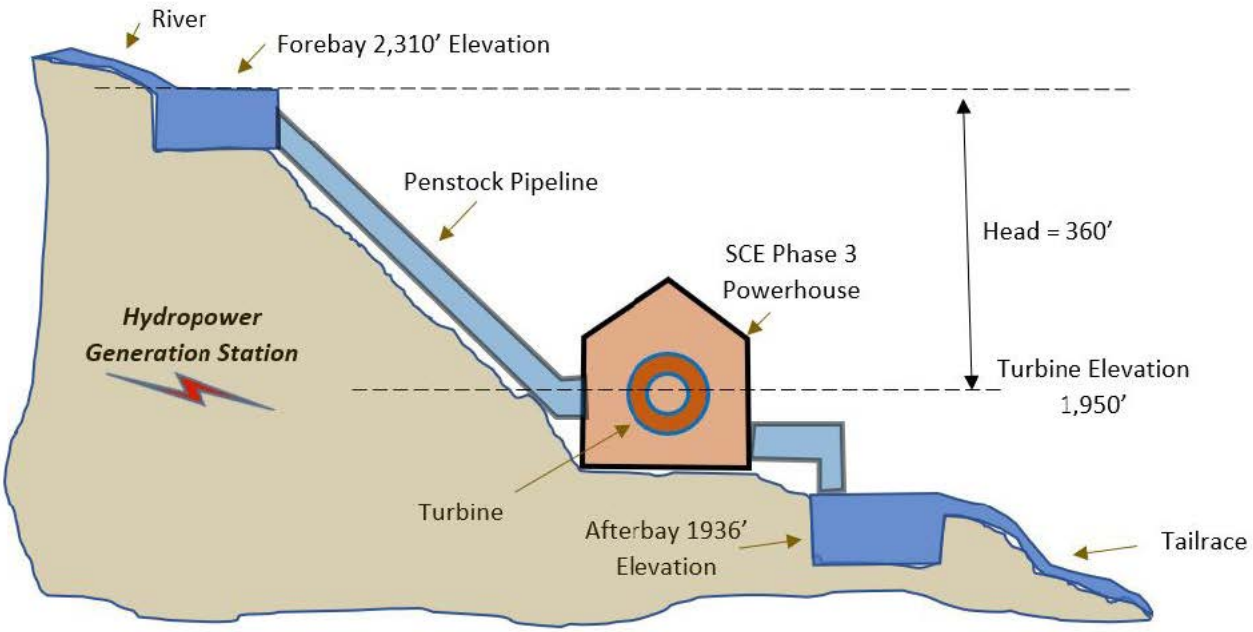


Figure 10. *Hydropower Generation at Santa Ana River Powerhouse 3*

Tate Water Treatment Plant

Tate Water Treatment Plant is located on the south bank of Mill Creek, along State Route 38, and operated by the City of Redlands for drinking water supply.

Mill Creek Zanja

Originally constructed in 1820s, the Mill Creek Zanja is the oldest irrigation canal in San Bernardino County and a significant part of the region's history. Built to supply water to the extensive citrus groves and other agricultural production areas surrounding the City of Redlands, the canal resembles a natural creek in some places and a lined or unlined ditch in other places, stretching approximately 12 miles in length. Its water sources include SWP water delivered through the EBX, local water from the Greenspot Pipeline, or diverted flows from Mill Creek. Today, the Zanja continues to deliver irrigation (non-potable) water to users in the Redlands area, including the City of Redlands, Crafton Water Company, and BVMWC.

1.2. Evaluation and Assessment

Wholesale water agencies such as San Bernardino Valley provide valuable storage of supplemental supplies to ensure backup capacity for use during low Table A allocations, drought, or emergencies. One of the most effective ways to build resilience under these uncertain conditions is to strengthen the existing water infrastructure—capturing and storing water during wet periods so it can be used later during droughts or when imported supplies are limited.

Developing a more robust system of water infrastructure at Sunrise Ranch would take advantage of the property's large area to create additional storage and conveyance capacity. This added redundancy within the Agency's system would enhance operational flexibility, improve efficiency, and strengthen overall water reliability.

Opportunities at Sunrise Ranch to strengthen San Bernardino Valley's Water Supply Infrastructure include the following:

RESERVOIR OPPORTUNITIES

New reservoir(s) at Sunrise Ranch could provide valuable water storage to use supplemental supplies to provide backup capacity in case of drought preparedness and emergencies. Beyond water reliability, the reservoir(s) could also support public recreation, provide community amenities, and assist with firefighting and wildfire suppression efforts.

The Reservoir Opportunities outlined in the Master Plan examine potential locations, available water sources, and conceptual approaches to design and operation.

CONVEYANCE OPPORTUNITIES

Enhancing and expanding the existing water conveyance system could improve operational flexibility, make better use of stored water, and support additional groundwater recharge. The Conveyance Opportunities identified in the Master Plan draw from a variety of water sources, with each opportunity specifying the source or combination of sources it would convey.

1.2.1. Reservoir Opportunities

Developing new water storage facilities at Sunrise Ranch would substantially strengthen the region's ability to adapt to changing water conditions and enhance long-term supply reliability.

Preliminary analyses indicate that the property could accommodate up to three reservoirs capable of storing 3,450 AF. These facilities could offer nearly ten times more storage capacity than the Citrus Reservoir, one of the primary storage facilities owned by DWR and operated according to their requirements and operational needs. Constructing an Agency-owned and operated reservoir—that is built to enhance the reliability and operational advantages for delivery of SWP—would create an opportunity to expand regional water management capabilities.

Design and operation of new water storage facilities at Sunrise Ranch would require careful coordination with existing regional infrastructure to ensure system compatibility and maximize efficiency. Site selection would consider topography, hydrology, proximity to conveyance systems, compatibility with existing facilities, and environmental factors to identify the most suitable reservoir locations and size(s). Operational modeling would evaluate how stored water can best support customer demand patterns, system reliability, and emergency response needs.

Integration with current pipelines, pump stations, and spreading basins would enhance system flexibility and allow for seamless transfers between facilities. Collectively, these considerations would guide the development of a storage system that is technically sound, environmentally

Crafton Reservoir was utilitized for air operations in response to the 2024 Line Fire.

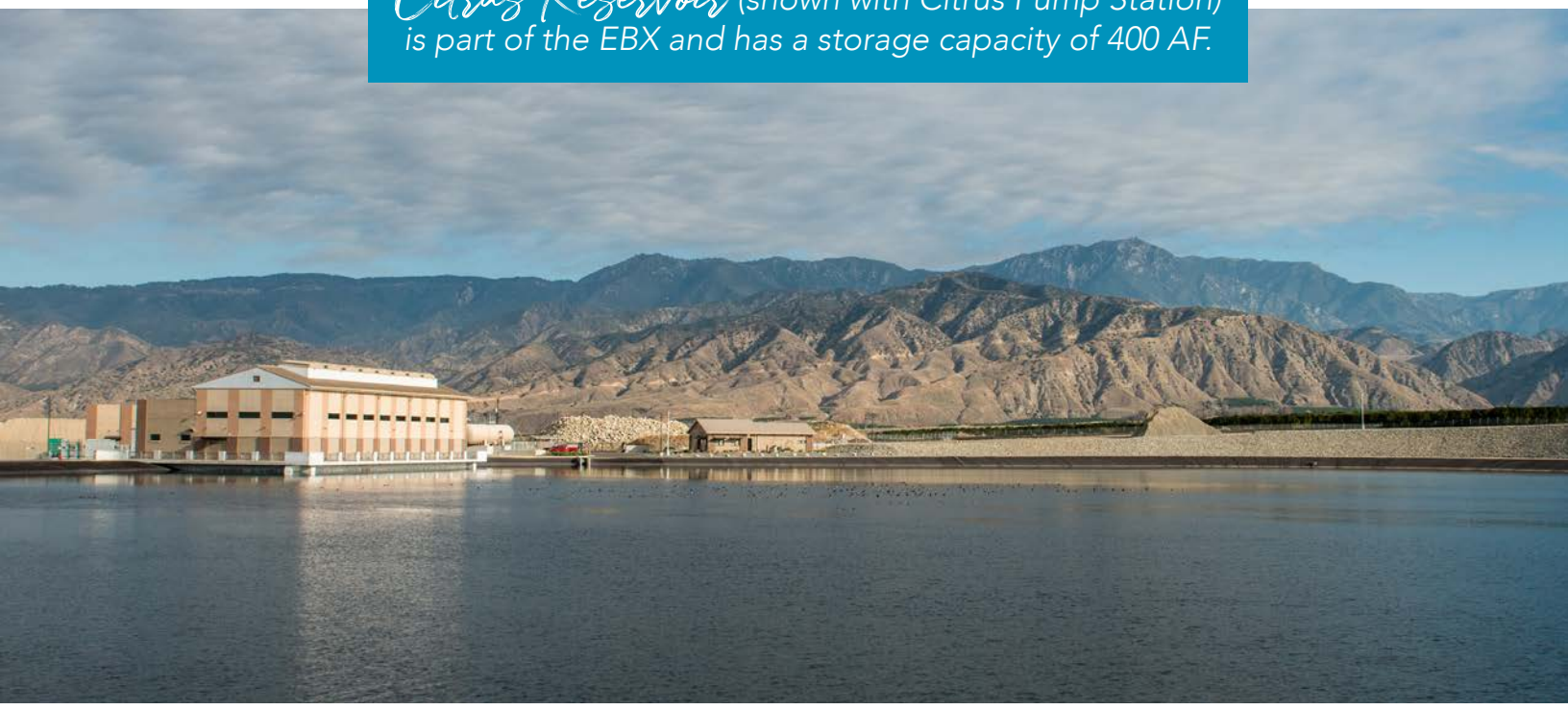
responsible, and operationally resilient, supporting both short-term reliability and long-term sustainability across the region.

Additional design considerations could include incorporating historical and cultural references—such as creating three reservoirs that honor the historic Tres Lagos once located on the property. This approach would celebrate the site's heritage while serving a modern water management purpose.

New facilities could also be designed to enhance the Agency's operational flexibility by improving the ability to store SWP supplemental water and move it eastward within the system or maintaining operations during temporary DWR initiated State Water Project shutdowns. The reservoir(s) support the Agency's commitment to the SWP system to supply water and manage those imported supplies efficiently and safely. Together, these elements would not only strengthen regional reliability, but also create a meaningful connection between the area's history and its sustainable water future.

A review of the property identified several key factors that would need to be evaluated if the Board authorizes the development of the reservoir projects. These considerations include maximizing storage capacity while accounting for site topography, minimizing earthwork and the export of soil materials. In addition, the presence of sensitive plant and wildlife species on the property will require detailed environmental analysis to guide responsible design and construction. It is also important to note that land used for water infrastructure facilities typically cannot be included within the Agency's Mitigation Credit Account.

Citrus Reservoir (shown with Citrus Pump Station) is part of the EBX and has a storage capacity of 400 AF.



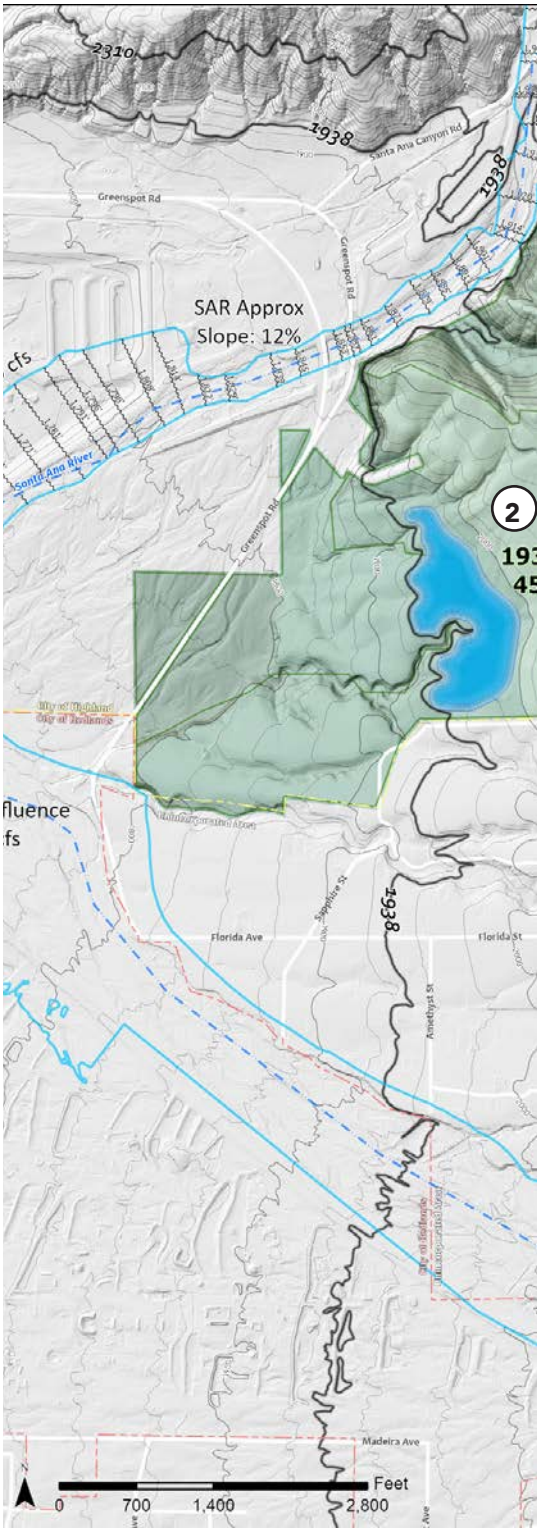
For more information regarding sensitive species habitat and potential mitigation credit sales, see Chapter 2.

The proposed reservoirs also present valuable opportunities for collaboration with regional fire suppression agencies, including CalFire, the U.S. Forest Service, Yuhaaviatam of San Manuel Nation, and San Bernardino County Fire. These agencies could use the reservoirs to support both aerial and ground-based wildfire response efforts. In summary, the development of new reservoirs at Sunrise Ranch offers a unique opportunity to advance regional water reliability, environmental stewardship, and emergency preparedness. By thoughtfully balancing engineering design, habitat protection, and operational efficiency, the project can achieve multiple public benefits—providing critical water storage, supporting wildfire response efforts, and fostering partnerships with local, state, federal, and tribal agencies.

Through thoughtful planning and collaboration, the Agency can ensure that the Sunrise Ranch reservoirs not only enhance water management capacity but also contribute to a safer, more sustainable future for the entire region. The specific names of the reservoirs can be determined at later project phases should they move forward, however for purposes of this Master Plan, each reservoir is referenced according to its proposed elevations:

1. **Reservoir 2310**
   Proposed elevation head of 2,310 feet

2. **Reservoir 1938**
   Proposed elevation head of 1,938 feet



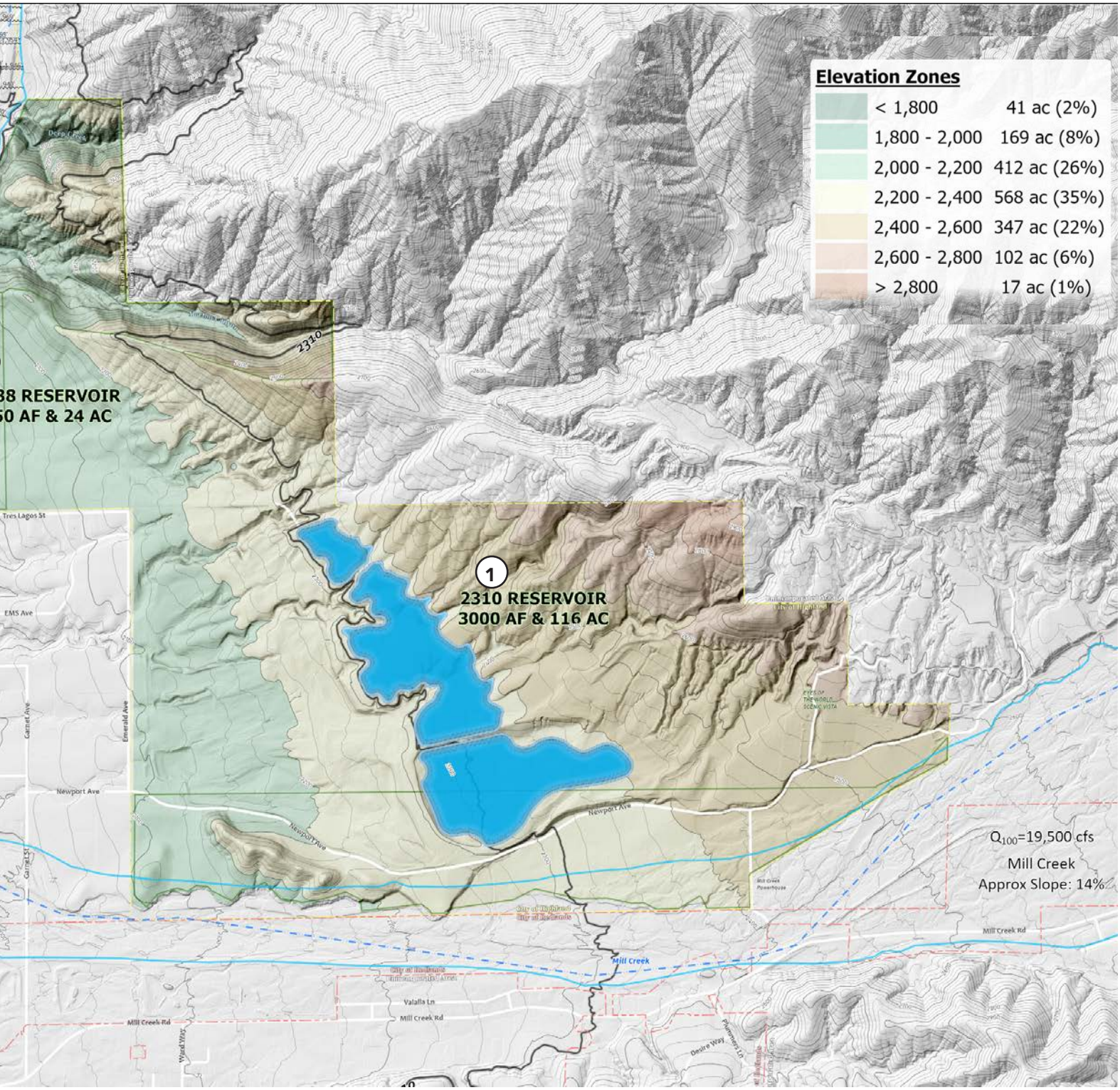


Figure 11. *Conceptual Reservoir Opportunities consider placements that maximize gravity to function in concert with existing SWP facilities at elevations 2310 and 1938 feet.*


IR OVERLOOK

Reservoir Opportunities

The proposed locations of the reservoirs are strategically selected due to the elevations matching with the elevations of the Bear Valley High Line and Crafton Hills Pump Station Forebay Tanks (2,310 feet), the Devil Canyon Afterbay. Building reservoirs at the same elevations as SWP infrastructure facilitates the opportunity for operations of the reservoirs, to enhance the operational flexibility and system redundancy.

The proposed onsite reservoirs may also be operated in tandem, with transfer of water back and forth between Reservoir 2310 and Reservoir 1938 for the purposes of circulating water and generating hydropower. However, the designs included are conceptual and would be further analyzed if directed by the Board.

Opportunity 1: Reservoir 2310

Building a new reservoir at the elevation of 2,310 feet would allow it to be filled with water from the State Water Project via Greenspot Pipeline.

This reservoir option provides operational flexibility, as it can convey water to several locations at the same elevation for beneficial uses. These locations include:

- The Bear Valley Highline to the Mill Creek Zanja
- The Forebay Tanks of the Crafton Hills Pump Station
- The Greenspot Pipeline to the Mill Creek Zanja and Tate Pump Station

Water flow from Reservoir 2310 to Reservoir 1938 or to any facilities below would be by gravity, not requiring pumping. However, sending water from Reservoir 2310 to higher elevations on the east side of the San Bernardino Valley service area would require pumping via the Crafton Hills Pump Station over to the Yucaipa Valley or beyond.

Opportunity 2: Reservoir 1938

Reservoir 1938 could be located at a key elevation-the same elevation as the SWP deliveries that come through the existing Foothill and Santa Ana River Crossing pipelines.

Under normal operations, this reservoir could work in tandem with Reservoir 2310.

From this position, Reservoir 1938 could convey water to the Redlands Aqueduct and the Greenspot Pump Station. It could also convey water to several other locations operating at the same elevation and pressure, including:

- Edwards Box
- Santa Ana River Enhanced Recharge Project
- North Fork Flume
- Turnouts along the Foothill Pipeline

The following sections outline possible water sources for the proposed reservoirs and present several conceptual design alternatives.

Water Source Opportunities

The proposed reservoirs could be filled by three general water sources: the SWP, the Santa Ana River, and local groundwater. The proposed main reservoir would be able to serve as an essential facility for receiving, storing, and regulating SWP Table A water in accordance with the Agency's long-term SWP contract. Further analysis would need to consider the benefits and compatibility of each water supply to support the Agency's mission.

Stored SWP supply could provide operational flexibility during times of need or sent through Reservoir 1938 to spreading basins for groundwater recharge.

Five **Water Source Opportunities** were identified for the new reservoirs. Each of these sources and their locations relative to the proposed reservoirs are shown in **Figure 12** and described. Additional details are provided in the Appendix. Determining the ultimate water source for the reservoir(s) would be included in future analysis.

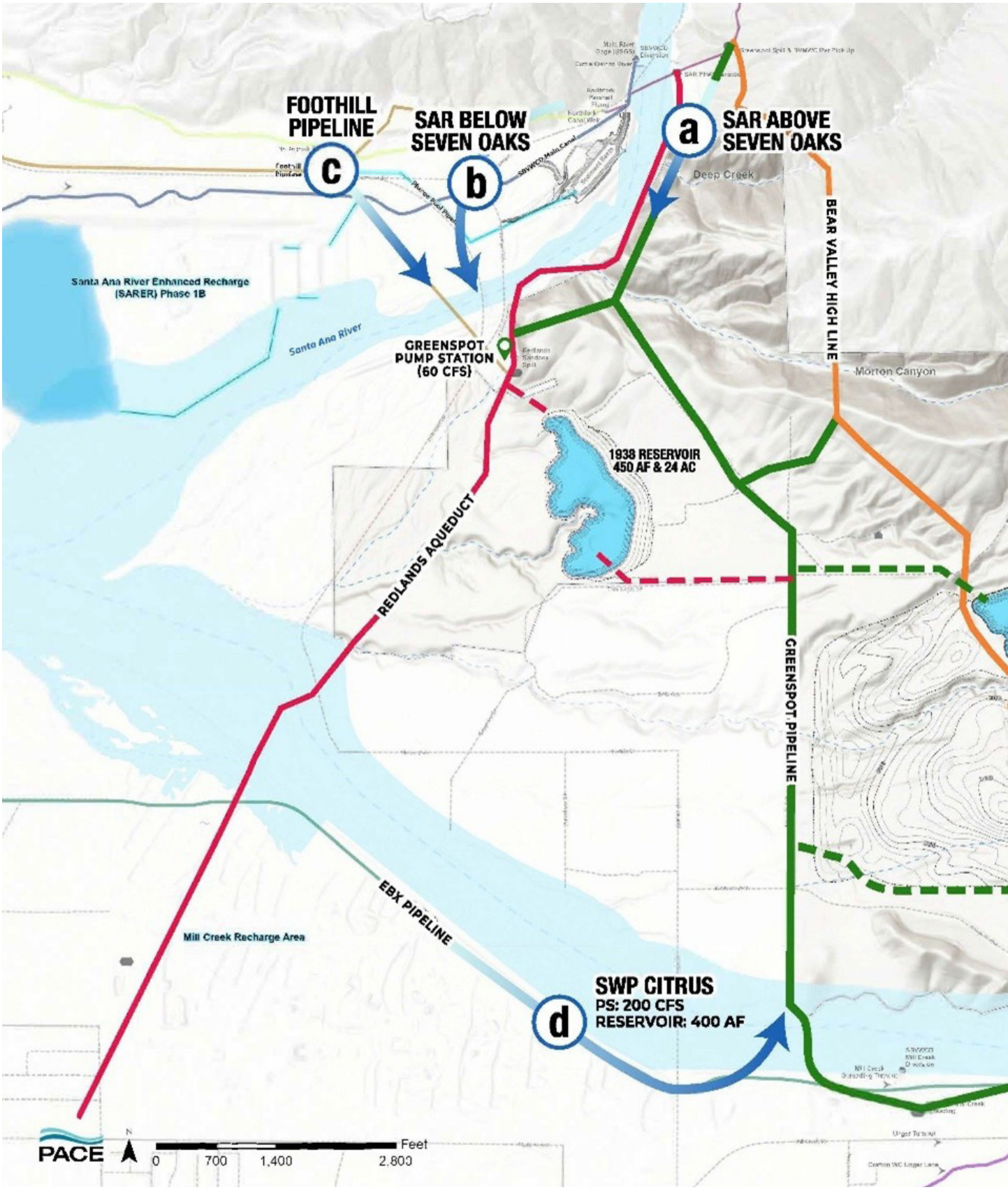
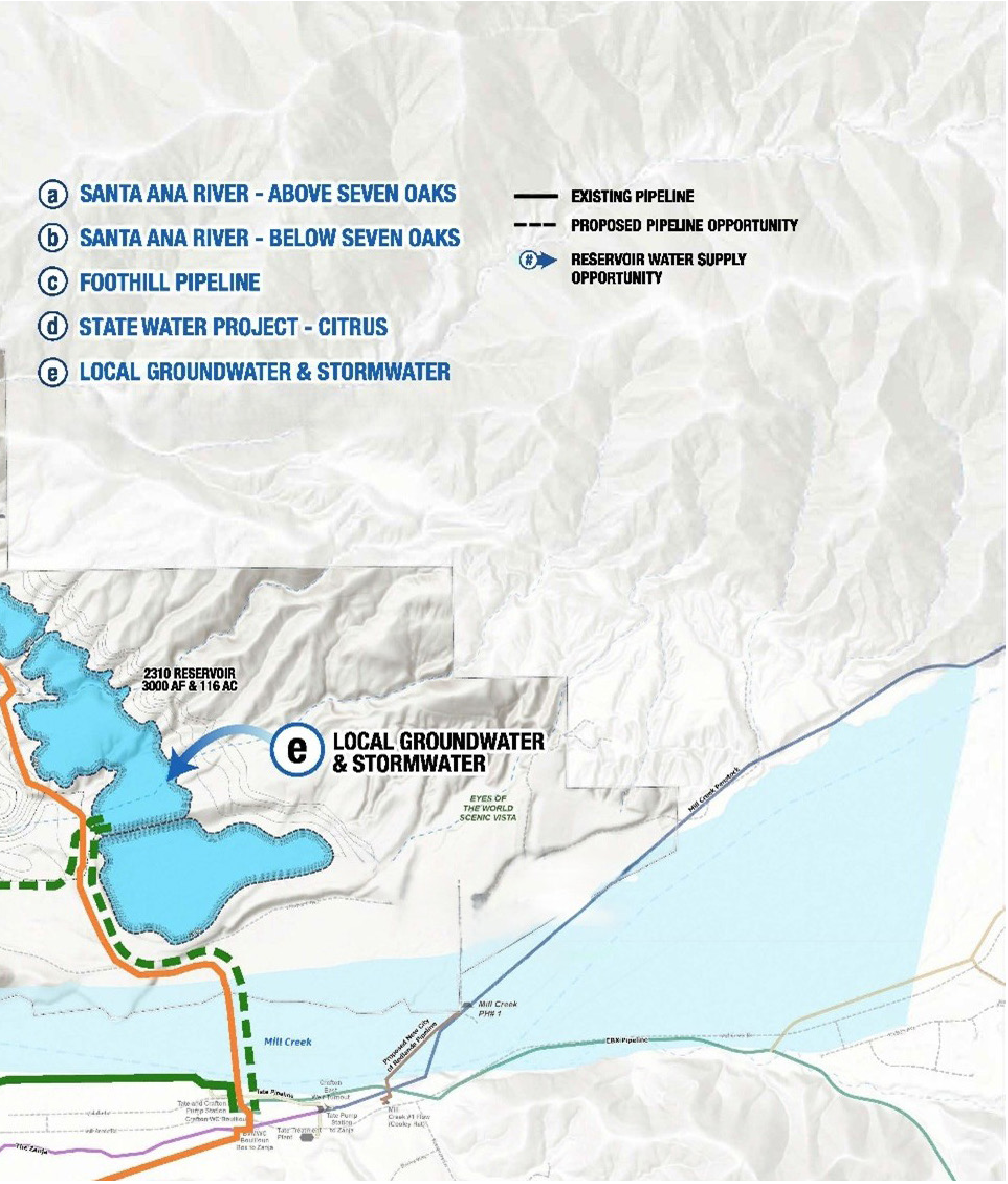


Figure 12. *Water Source Opportunities*



a SANTA ANA RIVER - ABOVE SEVEN OAKS
b SANTA ANA RIVER - BELOW SEVEN OAKS
c FOOTHILL PIPELINE
d STATE WATER PROJECT - CITRUS
e LOCAL GROUNDWATER & STORMWATER
EXISTING PIPELINE
PROPOSED PIPELINE OPPORTUNITY
RESERVOIR WATER SUPPLY OPPORTUNITY
2310 RESERVOIR
3000 AF & 116 AC
e LOCAL GROUNDWATER & STORMWATER
EYES OF THE WORLD SCENIC VISTA
Mill Creek Penstock
Mill Creek PH# 1
Mill Creek
EBX Pipeline

(a) SANTA ANA RIVER ABOVE SEVEN OAKS

The Santa Ana River flows through the existing Bear Valley High Line, which runs from above Seven Oaks Dam south.

SANTA ANA RIVER ABOVE SEVEN OAKS	
Water Source	Santa Ana River (above Seven Oaks Dam)
Infrastructure Owner	Bear Valley Mutual Water Company
Capacity	Up to 9.1 cfs
Connections	Tate Pump Station, Crafton Hills Pump Station

(b) SANTA ANA RIVER BELOW SEVEN OAKS

The Santa Ana River flows through the existing Santa Ana River Crossing, diverting from below Seven Oaks Dam and pumping it up using the existing Greenspot Pump Station.

SANTA ANA RIVER BELOW SEVEN OAKS	
Water Source	Santa Ana River (below Seven Oaks Dam)
Infrastructure Owner	SBWCD/San Bernardino Valley
Capacity	Shared right with WMWD for 500 cfs
Connections	Enhanced Recharge Project, Foothill Pipeline, Santa Ana River Crossing and Greenspot Pipeline

(c) SWP VIA FOOTHILL PIPELINE

SWP currently flows through the **Foothill Pipeline**.

SWP VIA FOOTHILL PIPELINE	
Water Source	State Water Project
Infrastructure Owner	DWR (San Bernardino Valley/San Gorgonia Pass Water Agency share capacity)
Capacity	Maximum 102,600 AF annually
Connections	SWP, Greenspot Pipeline and Pump Station

(d) SWP VIA CITRUS PUMP STATION

SWP makes deliveries through **Citrus Pump Station**.

SWP VIA CITRUS PUMP STATION	
Water Source	State Water Project
Infrastructure Owner	DWR
Capacity	Maximum 102,600 AF annually
Connections	EBX, Bear Valley High Line and Greenspot Pipeline

(e) LOCAL GROUNDWATER WELLS

Sunrise Ranch is located between the San Andreas and Oak Glen Faults, on top of a local groundwater basin known as the Greenspot Area. This basin is considered a small subbasin within the larger San Bernardino Basin Area. Because this Greenspot Area is hydrogeologically isolated with limited flow into the Mentone and San Bernardino Basin Area, it does not currently play a significant role in the area's groundwater supply.

This separation from the main basin, combined with the property's historically low permeability, limits the potential benefits of using the site for groundwater storage or recharge.

However, the existing infrastructure and water conveyance systems on the property make it possible to transfer water to other more suitable groundwater recharge sites nearby.

Additionally, one or more wells could be drilled on the Sunrise Ranch property and connected to the Greenspot Pipeline.

LOCAL GROUNDWATER WELLS	
Water Source	Greenspot Area Groundwater Aquifer (confined)
Infrastructure Owner	Wells (old or new) on the property would be owned by San Bernardino Valley
Capacity	TBD
Connections	EBX, Bear Valley High Line

Reservoir Conceptual Design Alternatives

Although the Sunrise Ranch site covers a large area, some locations are better suited for reservoir construction than others. The reservoir concepts presented here focus on increasing water storage capacity and enhancing operational flexibility while also maximizing the potential value of mitigation credit acreage.

In California, dams are regulated to prevent failures, protect lives, and safeguard property. The Department of Water Resources' Division of Safety of Dams (DSOD) is responsible for reviewing and approving inundation maps for dams that meet certain size thresholds. A single large reservoir at this site would fall under DSOD jurisdiction, and is listed as the jurisdictional option. The other potential designs would not require DSOD regulatory approval. Table 2 presents a summary of the reservoir concept alternatives.

Co-Benefit Alternative: This option was developed by in-house engineering and environmental staff to strike a thoughtful balance between the need for water storage and the preservation of the property's most financially valuable habitat. It also creates a unique opportunity to establish new riparian stream habitat by linking a series of reservoirs—an approach that would increase the value of the HCP and mitigation bank credits while providing additional educational opportunities.

Maximum Alternative: This option offers the greatest possible storage capacity, with its shape and size constrained only by the surrounding topography. However, it would also create substantial negative impacts on nearby endangered species habitat and greatly reduce the number of potential mitigation credits available to support the HCP or to sell to outside parties.

Minimum Alternative: This option prioritizes avoiding endangered species habitat, preserving the greatest possible habitat value for use by the HCP or for mitigation credit sales to outside parties, and therefore offers the highest revenue potential. However, it provides the smallest amount of water storage.

Hybrid Alternative: This option is intended to balance acres of storage capacity, offering slightly more than the minimum alternative, but reduces the impacts to surrounding mitigation areas, most notable the designated critical habitat of San Bernardino kangaroo rat. However, it only offers slightly more storage than the minimum alternative.

Jurisdictional Alternative:: This option provides a large amount of water storage within a single restricted footprint; however, the depth required would trigger DSOD approval, adding significant time and financial costs that are likely untenable.

Table 2. *Reservoir Conceptual Design Alternatives Data Summary*

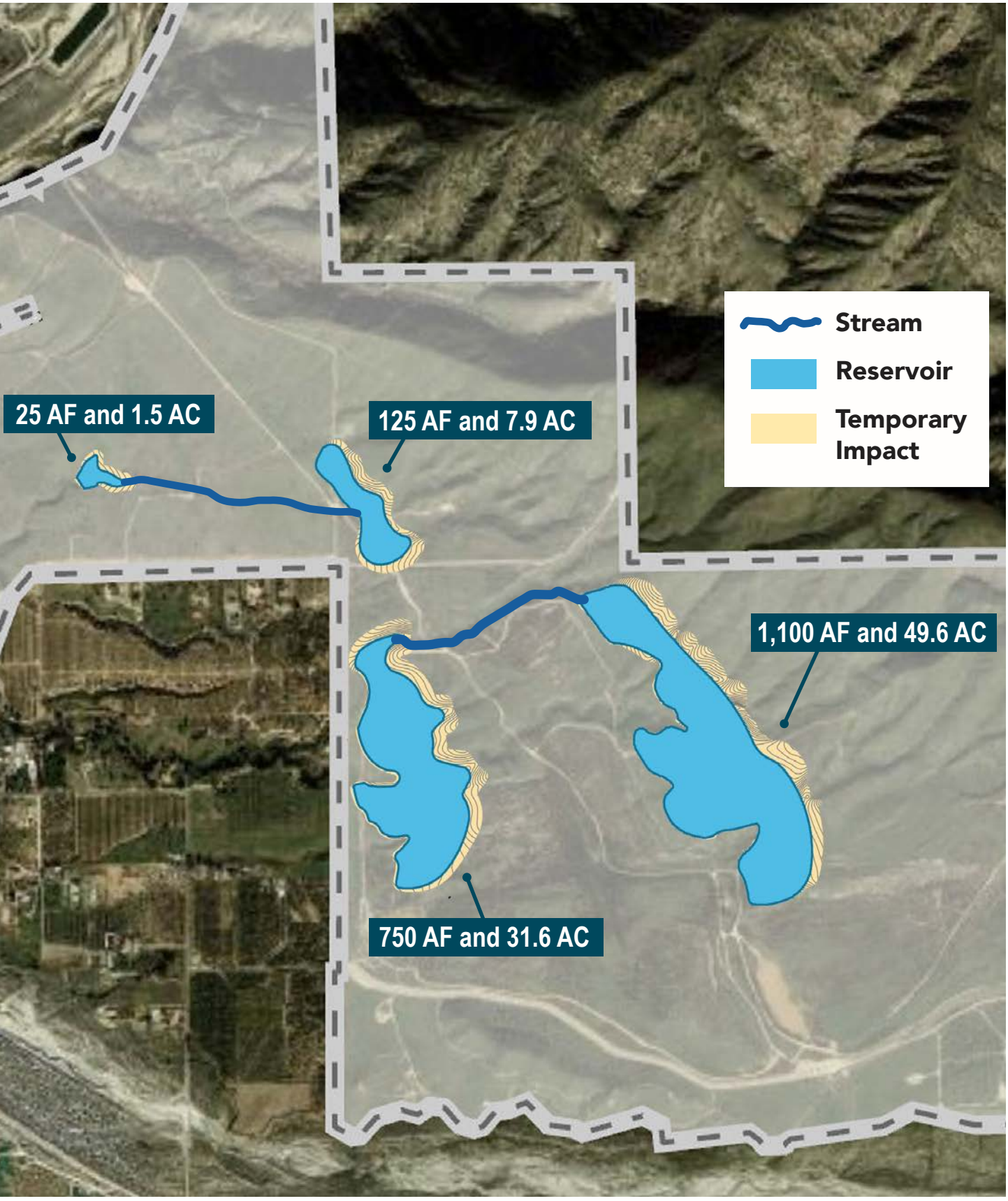
Conceptual Design Alternative	Overall Storage (AF)	Surface Area (Acres)	Drawdown Only (100 cfs) (Days)
Co-Benefit	2,000	90	5.5
Maximum	3,450	140	9.2
Minimum	1,310	59	3.2
Hybrid	1,450	67	3.3
Jurisdictional	3,000	110	9.0

Co-Benefit *Alternative*

Developed in-house, this option balances storage needs with conserving the site's highest-value habitat. It also creates new riparian stream habitat by linking reservoirs, increasing HCP and mitigation credit potential and supporting future educational use.

The Co-Benefit Alternative (**Figure 13**) would consist of a series of reservoirs that maximizes site topography while minimizing impacts to areas designated as critical habitat. This allows the preserved land to remain eligible for inclusion in mitigation credit programs. Compared to the other Alternatives, the Co-Benefit Alternative provides **2,000 AF** of water storage while also providing a unique opportunity to create riparian habitat in the areas connecting the reservoirs.

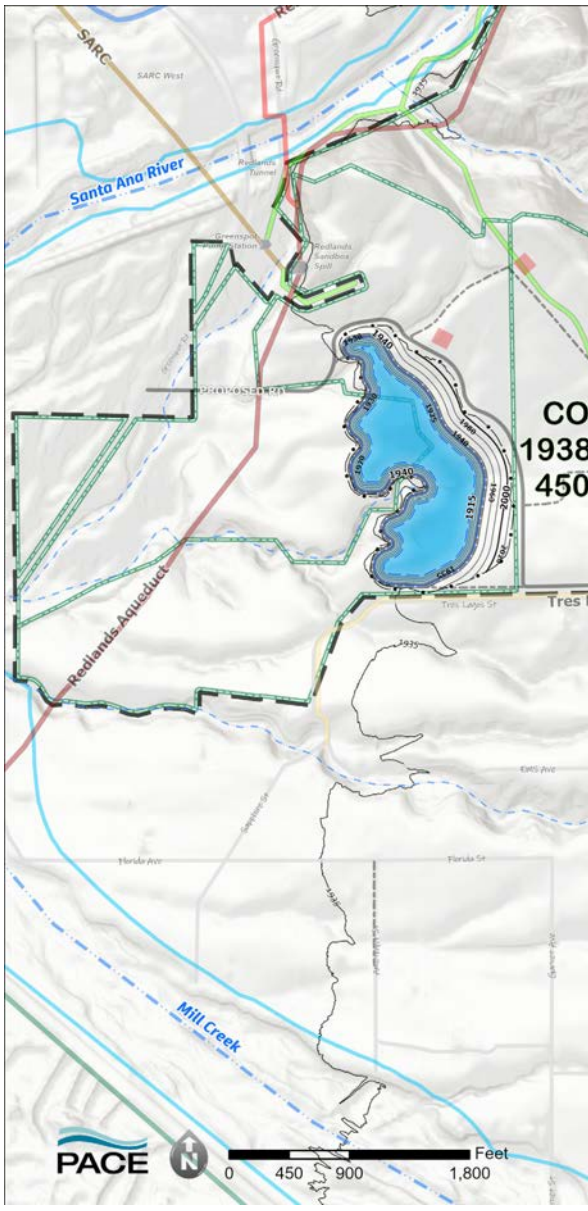
Figure 13. *Co-Benefit Alternative*


Stream
Reservoir
Temporary Impact
25 AF and 1.5 AC
125 AF and 7.9 AC
1,100 AF and 49.6 AC
750 AF and 31.6 AC

Maximum *Alternative*

The maximum alternative concept prioritizes two of the largest possible storage volume reservoirs within the physical constraints of the topography of the Sunrise Ranch property while avoiding the creation of a jurisdictional dam, based on height of the reservoirs.

The Maximum Alternative (**Figure 14**) divides Reservoir 2310 into two sections, with a combined storage capacity of approximately 3,000 acre-feet. This increased capacity would enhance the East Branch Extension's ability to deliver supplemental water to customers during years with low allocations. It would also improve preparedness for temporary system maintenance shutdowns and expand the State Water Project's wet season storage capacity. This reservoir design takes advantage of the existing "borrow pit" that was created during the construction of the Seven Oaks Dam, which could be expanded through additional excavation to deepen the downstream end of the reservoir. This alternative has significant potential impacts to critical habitat, eliminating the ability to include it as a benefit of the HCP or mitigation credit bank and requiring use of additional acreage to mitigate project impacts.



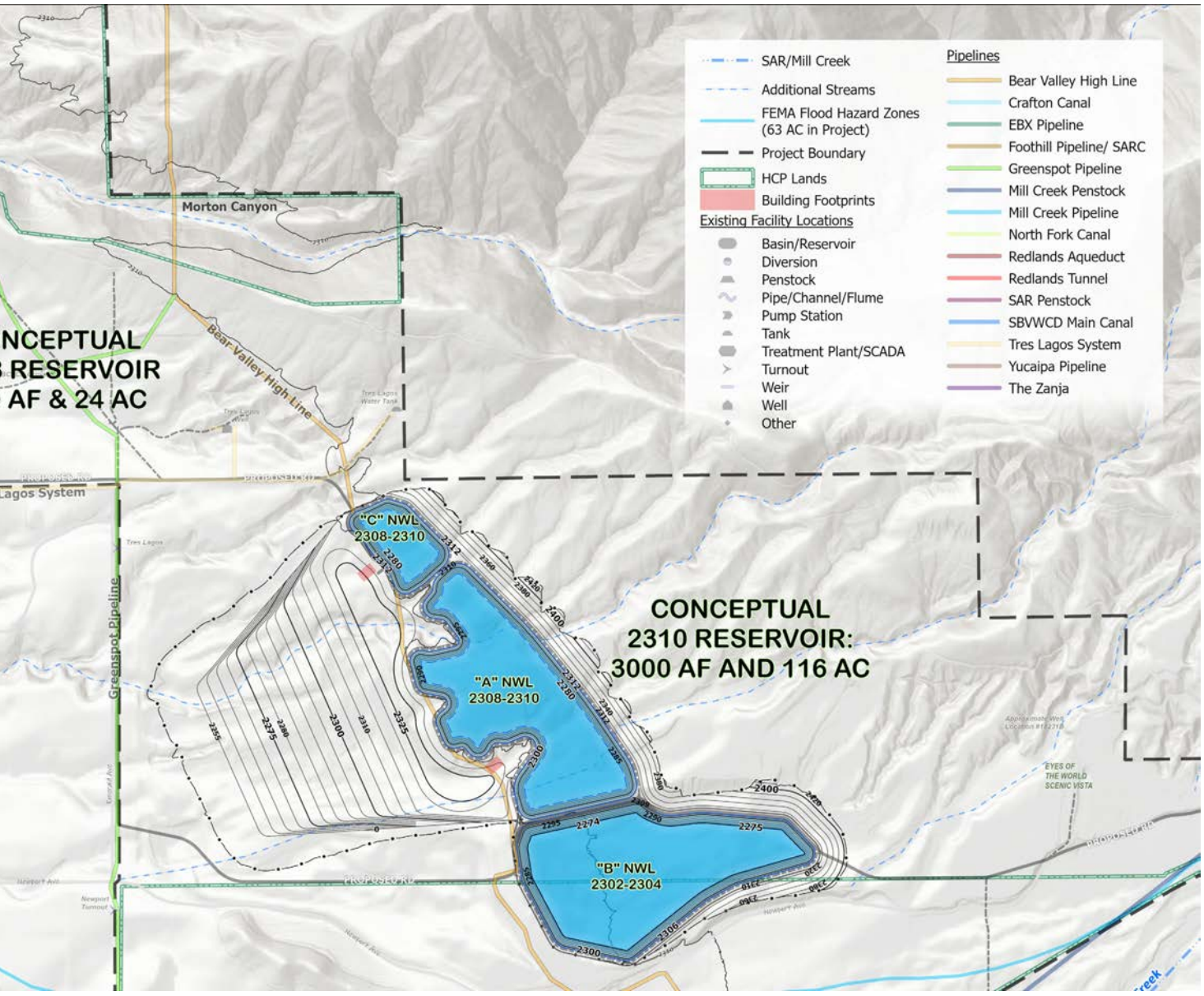


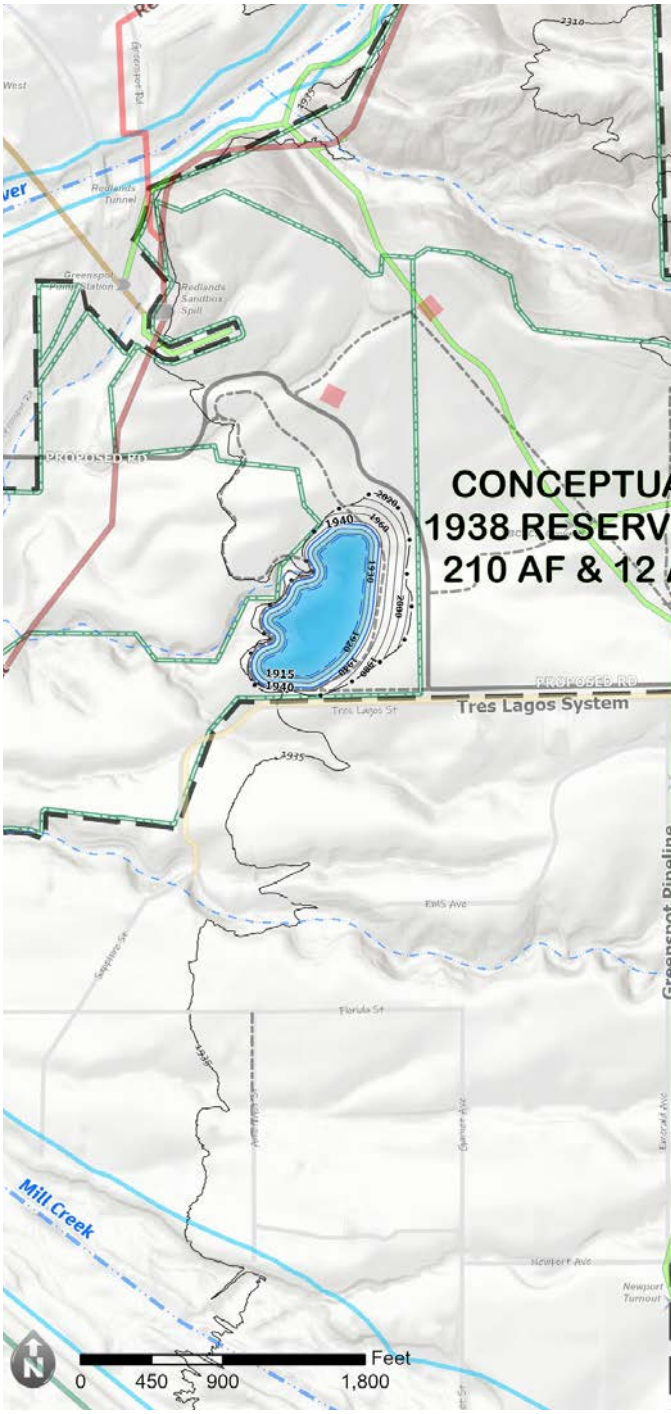
Figure 14. *Maximum Alternative*

Minimum *Alternative*

The Minimum Alternative avoids impacts on critical habitat and avoids creation of a jurisdictional dam.

The Minimum Alternative (**Figure 15**) is designed to avoid impacts on designated critical habitat—such as portions of the Santa Ana River and Mill Creek—that are legally protected and require substantial mitigation if impacted. By doing so, this alternative reduces construction-related mitigation requirements and helps preserve the financial value of those lands for potential future sale as mitigation credits.

To avoid sensitive and valuable habitat, Reservoir 2310 in the Minimum Alternative does not extend as far north as the Maximum Alternative. It is designed as a single-basin with a capacity of 1,100 AF. Reservoir 1938 would add another 210 AF, resulting in a total combined storage capacity of **1,310 AF** for this alternative.



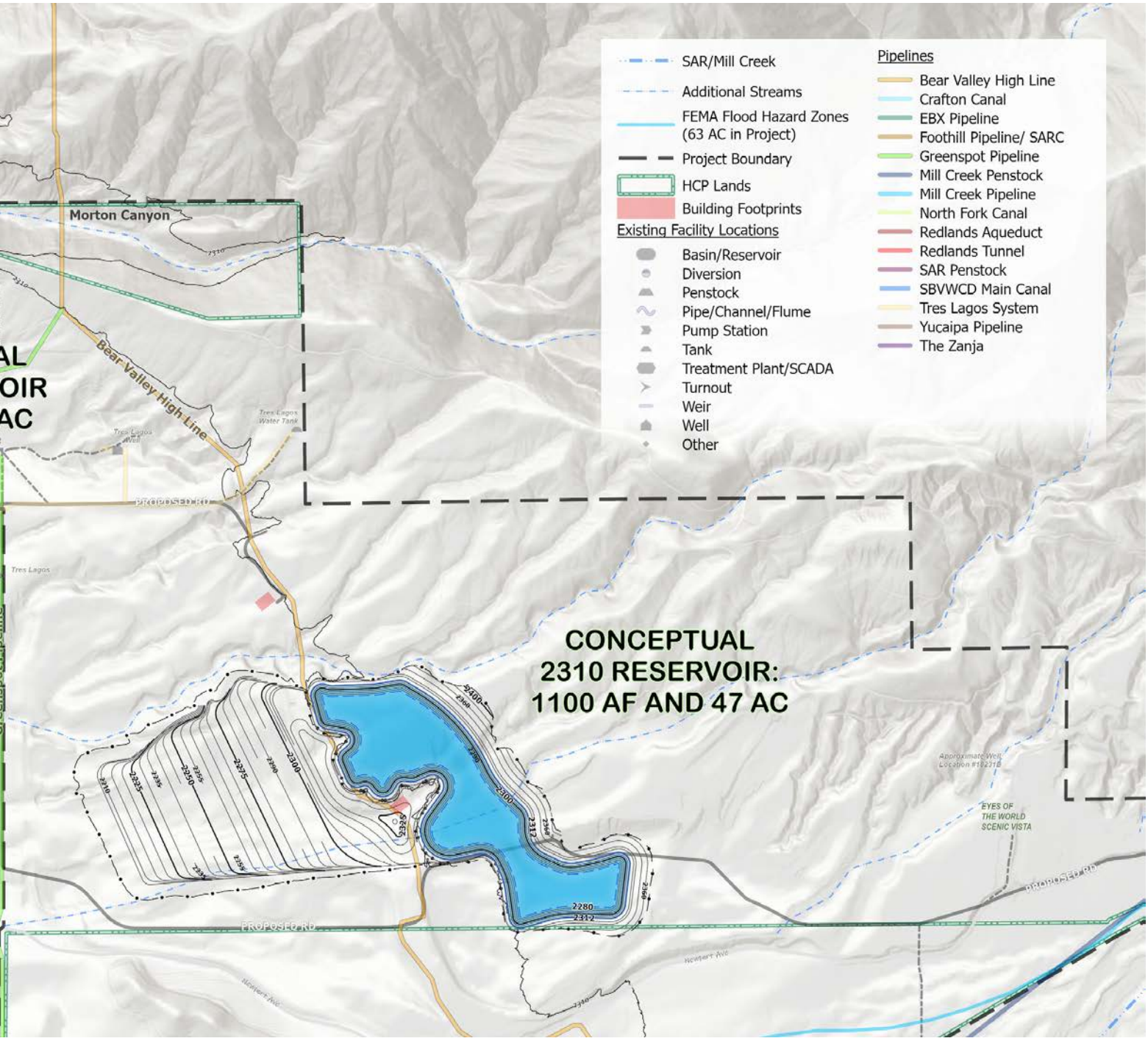


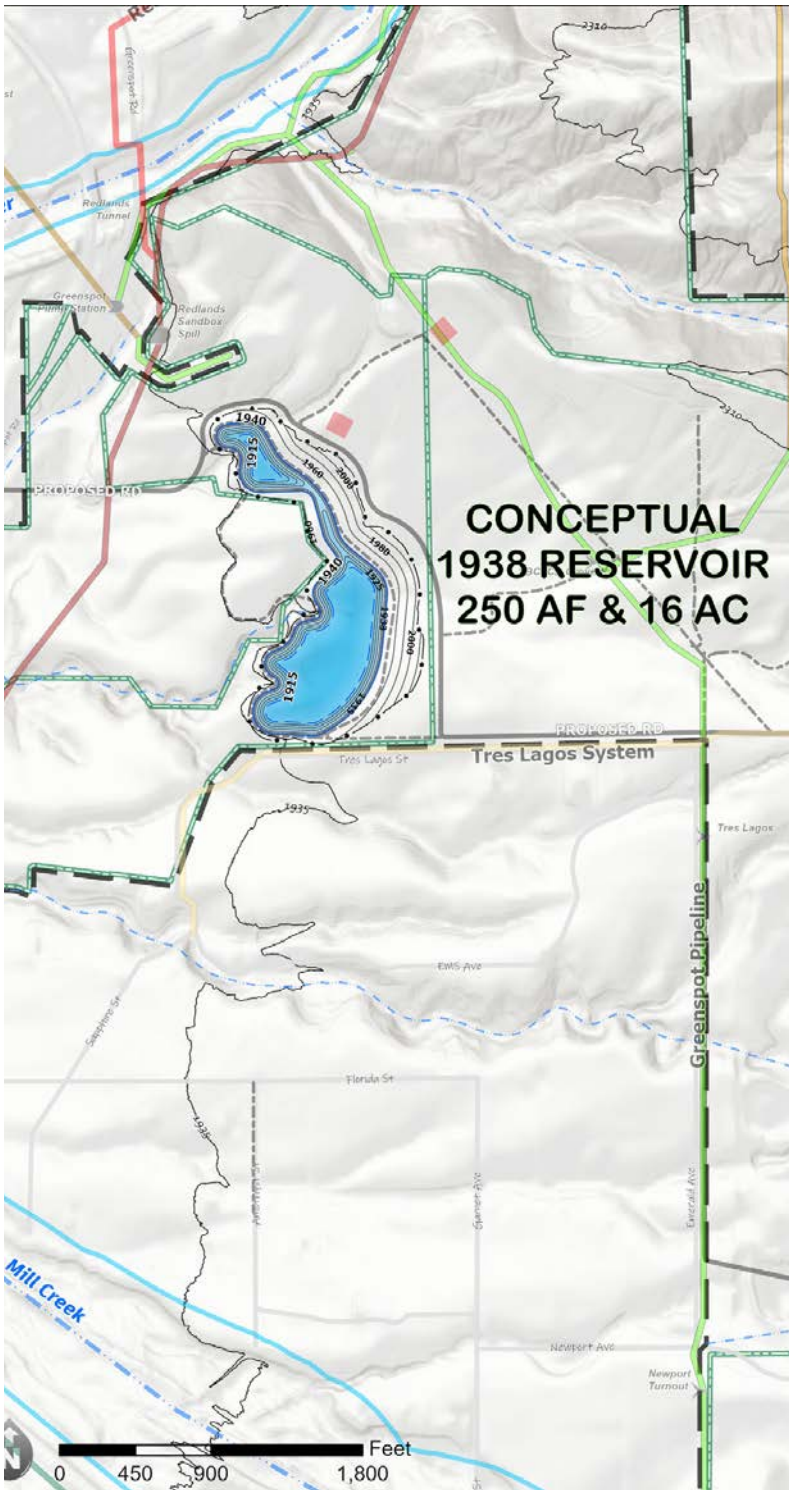
Figure 15. *Minimum Alternative*

Hybrid *Alternative*

The Hybrid Alternative avoids critical habitat while providing greater storage capacity than the Minimum Alternative and avoiding creation of a jurisdictional dam.

The Hybrid Alternative (**Figure 16**) would have a larger and more elongated footprint than the Minimum Alternative but would still avoid most areas designated as critical habitat. This allows the preserved land to remain eligible for inclusion in mitigation credit programs.

Compared to the Maximum Alternative, the Hybrid Alternative provides less than half the total storage volume. In this configuration, Reservoir 2310 would have a capacity of 1,200 AF and Reservoir 1938 would have a capacity of 250 AF, for a combined total storage of 1,450 AF.



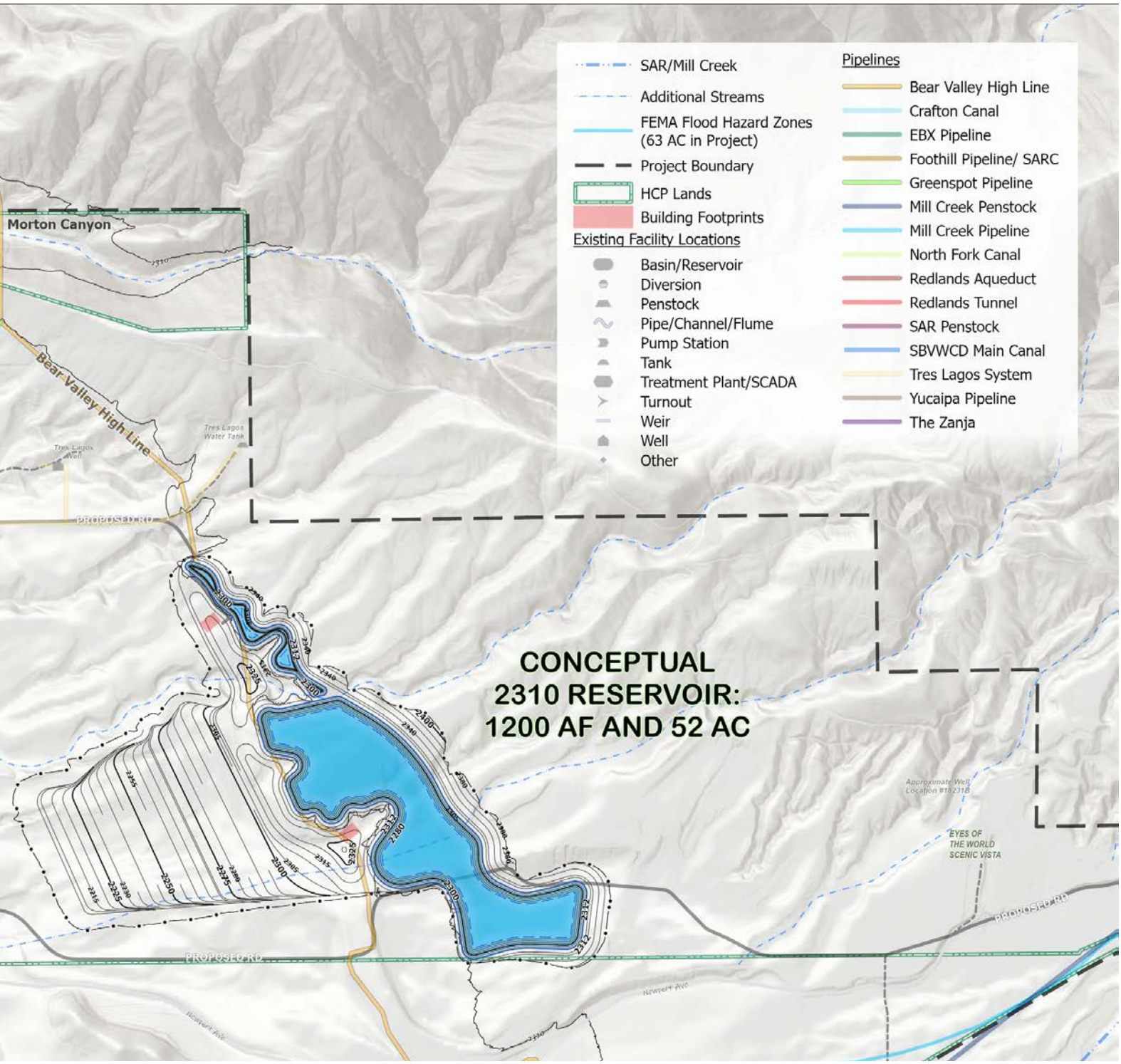
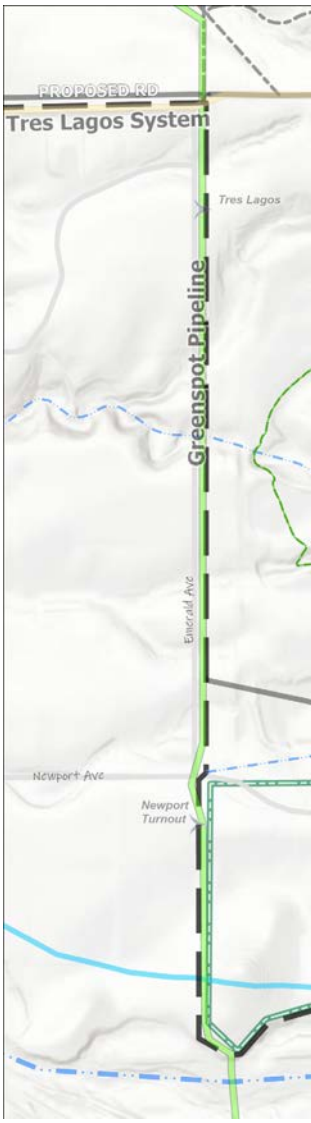


Figure 16. *Hybrid Alternative*

Jurisdictional *Alternative*

Another option, requiring additional regulatory approvals related to certification of the facility by DSOD, would be to create a jurisdictional dam. This Jurisdictional Alternative would allow for 3,000 AF of water storage with a much smaller amount of earthwork than the Maximum Alternative.



As shown in **Figure 17**, the Jurisdictional Alternative is compared to the Maximum Alternative.

This option would cover a smaller area, which would help reduce construction costs and avoid disturbing sensitive habitat. The conceptual design features a "kidney bean" shape, but could be reconfigured during further analysis.

Because this reservoir would be contained by an earthen berm, it would require regulatory approval and regular safety inspections. A jurisdictional dam also brings additional requirements, such as compliance obligations, annual inspections and fees, and stricter design and construction standards. These factors could extend project timelines and increase costs during both construction and long-term maintenance. An Emergency Action Plan would also be required, adding some administrative responsibilities and costs.

San Bernardino Valley is familiar with DSOD compliance processes through its operation of the Crafton Hills Reservoir and Yucaipa Regional Park, which follow similar regulations.

From a visual standpoint, the embankment design would create more obstructed views across the property compared to the other alternatives. The other concepts would maintain better sightlines from areas being considered for new facilities, such as a future San Bernardino Valley Headquarters.

If the Board chose to move forward with the Jurisdictional Alternative, adjustments to other project components—such as recreation features and facility design priorities—would likely be needed.

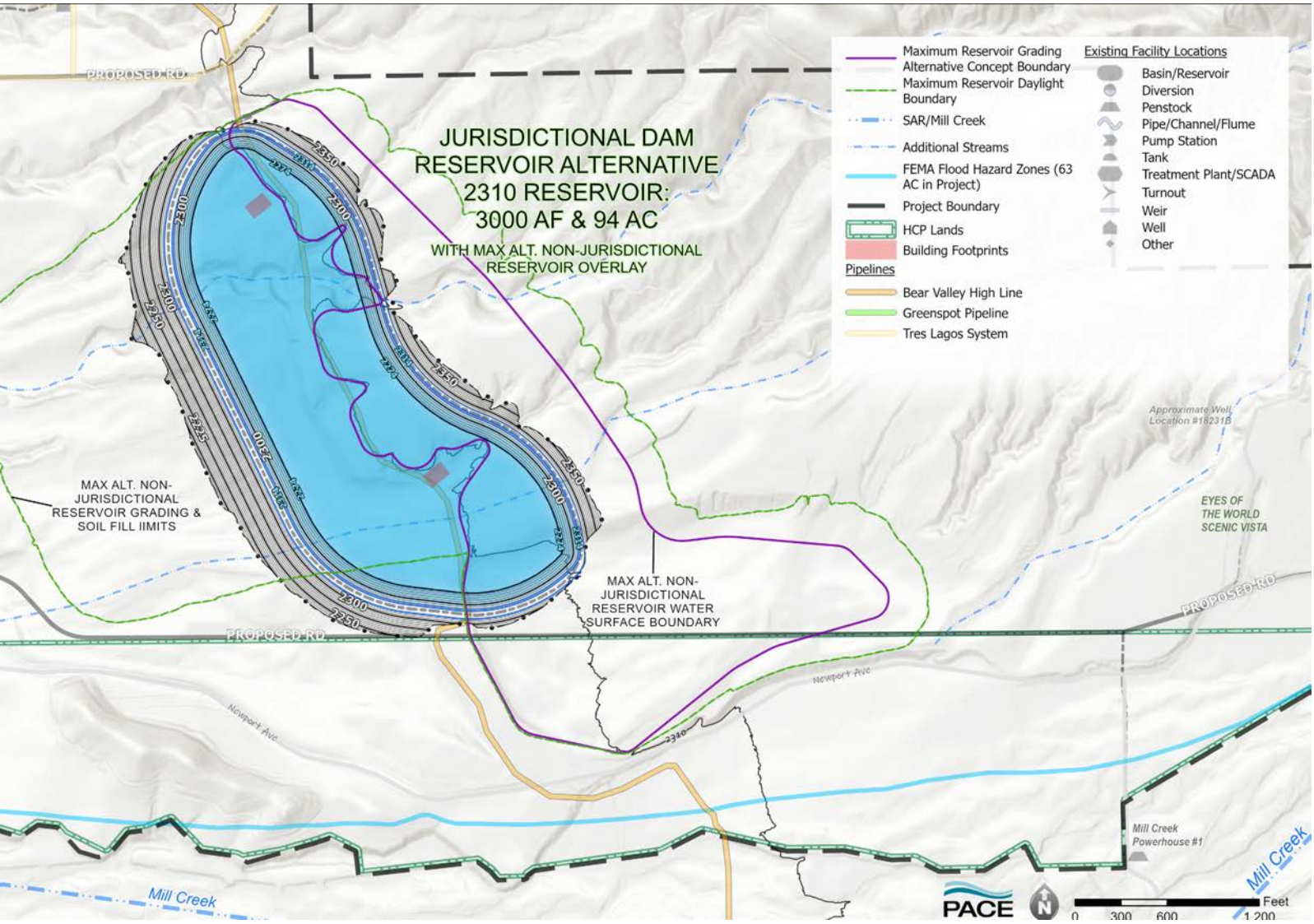


Figure 17. *Jurisdictional Alternative*

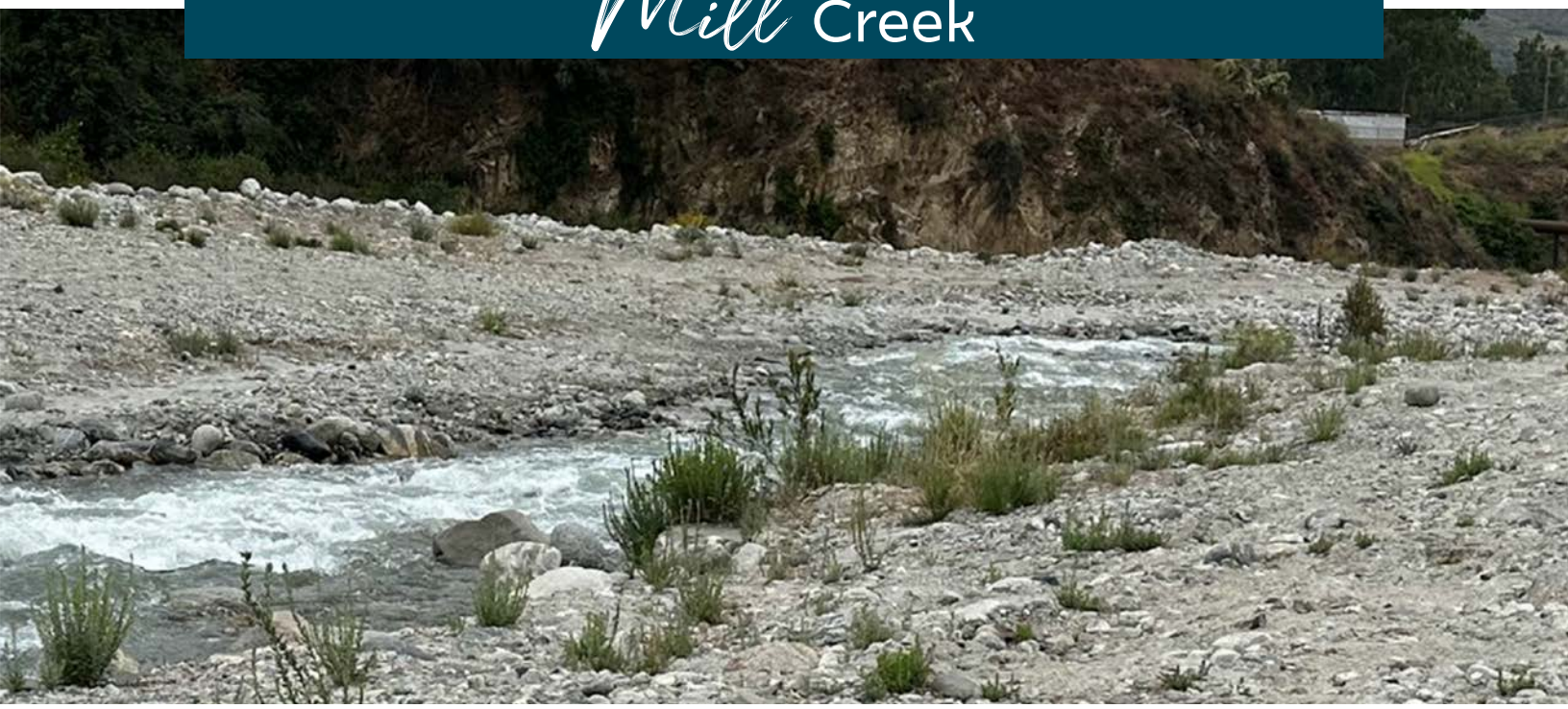
Adding new water storage at Sunrise Ranch would provide extra capacity and backup supply, greatly improving the region's ability to adapt to changes and fluctuations in water availability.

1.2.2. Conveyance Opportunities

Sunrise Ranch's location and elevation make it well-suited for potential new and upgraded conveyance opportunities to enhance existing water infrastructure and leverage the new proposed reservoir system. For example, new or modified conveyance would benefit the east end of the San Bernardino Valley service area and allow water to be redirected to the west side of the service area via the Foothill Pipeline.

As part of evaluating the proposed reservoirs, the project would also consider the conveyance infrastructure needed to move water to and from the site. In addition to meeting the reservoir's operational needs, this effort could help address several existing infrastructure challenges, such as replacing older or outdated facilities. Where possible, the reservoir design and construction could include space for future water conveyance connections to support long-term system improvements and other emerging needs such as connection to reliable water supplies for firefighting efforts in various conditions.

Mill Creek



WATER SUPPLY INFRASTRUCTURE

Summary

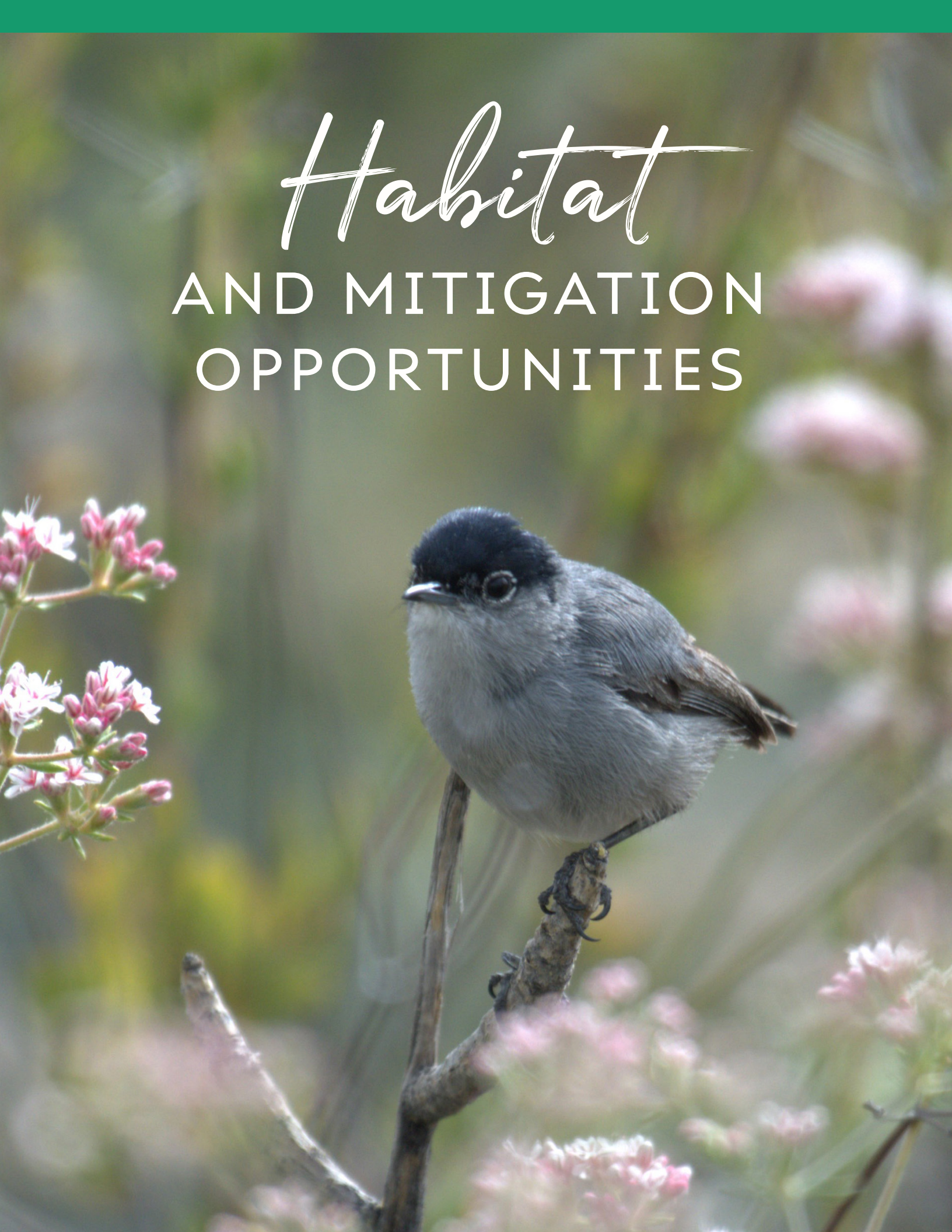
1.3. Summary Findings

The Water Supply Infrastructure Opportunities outlined in this chapter have the potential to significantly strengthen water resource sustainability, resiliency, and conservation throughout the region.

When the Board first acquired this property, the vision was to develop water infrastructure that enhanced the region's ability to adapt and respond to changing water conditions. This aligns with San Bernardino Valley's broader goals—to maximize the regional benefit of supplemental water by, expanding storage capacity, for drought preparedness, emergency water supply continuity, and managing imported supplies efficiently and safely

Following the initial site review, there are multiple reservoir options that could be further explored based on the Agency's priorities for water storage and/or critical habitat.

Habitat
AND MITIGATION OPPORTUNITIES



CHAPTER 2. HABITAT AND MITIGATION OPPORTUNITIES

Habitat and mitigation opportunities are considered a top priority for Sunrise Ranch as they will contribute to San Bernardino Valley's mission to provide a reliable and sustainable water supply to support the changing needs of our region's people and environment.

With multiple new water infrastructure projects proposed for the coming decades, and a large network of existing facilities requiring ongoing maintenance, San Bernardino Valley is pursuing cost-effective strategies to facilitate the construction, maintenance, and permitting of the region's essential water infrastructure. These efforts aim to strengthen water security and reliability within the region while mitigating associated ecological impacts.

Several unique features make Sunrise Ranch ideally suited to provide meaningful Habitat and Mitigation Opportunities:

LARGE AREA OF OPEN SPACE

The property encompasses 1,658 acres of largely undeveloped land, offering ample space for habitat preservation and restoration.

RARE AND SENSITIVE RESOURCES

Sunrise Ranch supports natural stream systems, diverse plant communities, and occurrences of species listed under state and federal endangered species acts.

STRATEGIC LOCATION

Situated at the confluence of the Santa Ana River and Mill Creek, and directly adjacent to the San Bernardino National Forest, the property connects key ecological corridors that are vital to regional biodiversity.

Sunrise Ranch's expansive size, its proximity to the San Bernardino National Forest, and the presence of multiple rare and sensitive plant and wildlife species make it an exceptional site for habitat restoration and conservation. These natural features, combined with opportunities to enhance the property's ecological value, create two key pathways to advance San Bernardino Valley's long-term vision for water security and reliability:

- Compensatory Mitigation for San Bernardino Valley and HCP Partners: Portions of the property may be used to offset environmental impacts associated with San Bernardino Valley's and partner agencies' future projects, ensuring compliance with water infrastructure permits.
- Ecological Credit Programs: The establishment of a Mitigation or Conservation Bank (or similar advanced mitigation crediting program) could generate revenue through the sale of ecological credits, helping to fund the construction and operation of essential water infrastructure projects.

Chapter 2 provides an overview of existing ecological conditions at Sunrise Ranch and opportunities for creating compensatory mitigation areas and developing a Mitigation/Conservation Bank to support these goals.

MITIGATION 101

If a project impacts a water resource (streams, lakes, wetlands, etc.) or special status species and/or their habitat, mitigation will often be needed to replace or provide in-kind or substitute resources for ecological resources that are impacted. Mitigation often takes the form of land acquisition and permanent protection. Mitigation is typically satisfied through the purchase of credits from a mitigation or conservation bank, or through a Do-It-Yourself (DIY) approach referred to as Permittee-Responsible mitigation.

- Mitigation/Conservation Bank: Mitigation and conservation banks are established through regulations and are pre-approved by a handful of regulatory agencies (agencies responsible for protecting stream systems, wildlife, and plant species). Mitigation/conservation banks provide units of ecological resource value (referred to as "credits") that can be purchased to offset impacts to similar ecological resources at a different location. Mitigation/conservation banks make it easier for a permittee (project proponent) to balance development with environmental protection. Instead of creating their own habitat restoration projects, project proponents can purchase credits from an approved mitigation bank. These credits represent land that has been restored and protected to the benefit of the species or system impacted by the project, and

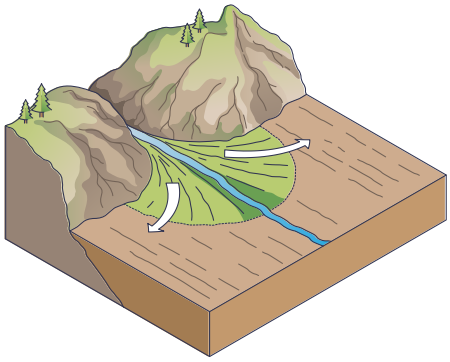
it allows the developer to meet environmental requirements easily (i.e. a project proponent writes a check to the mitigation bank and the compensatory mitigation requirements for a project are satisfied).

- Alternative Mitigation Credit Option - Mitigation Credit Agreement:
  - A Mitigation Credit Agreement (MCA) is a new mechanism for mitigation credits available through California Department of Fish and Wildlife's Regional Conservation Investment Strategies Program.
  - While an MCA is less common, it requires much of the same documentation as a traditional Mitigation Bank, and functions in a similar manner: providing units of ecological resource credits that can be purchased to offset project-related impacts.
  - The Board gave direction in March 2025, for San Bernardino Valley to begin the process of developing an MCA for properties owned by the Agency.
  - Sunrise Ranch could be incorporated in this agreement based on the direction of the Board.
  - For the sake of the Sunrise Ranch Master Plan, an MCA is considered one of the advanced mitigation crediting programs noted above.

- Permittee-Responsible Mitigation: Permittee-Responsible is the most traditional form of compensatory mitigation and represents the majority of mitigation provided to offset project impacts. As its name implies, the project proponent is responsible for the acquisition, protection, and in-perpetuity management of compensatory mitigation lands, and ensures that all required compensation activities (e.g., actions to improve habitat conditions) are completed and successful.

2.1. Existing Conditions

The geographic location of Sunrise Ranch has greatly influenced the varied natural resources found on the property. Located between two stream systems (the Santa Ana River and Mill Creek), with the San Andreas fault traversing the northern portion of the property, the site supports alluvial fan habitat, perennial and seasonal streams, riparian resources, a variety of plant communities, and open space that supports locally unique rare flora and fauna.



An alluvial fan is a fan-shaped deposit of sediment formed where a stream flows from a steeper, narrower area (e.g., a canyon) onto a flatter area, like a valley floor.

The following sections describe the streams and riparian systems, plant communities (habitats), wildlife species, and ecological functions present on-site.

2.1.1. Streams and Seasonal Wetlands

Although Sunrise Ranch sits at the base of the San Bernardino Mountains, most of the property receives very little water from the mountains of the upper watershed. However, there are four main exceptions —Morton Canyon, Deep Creek, the Santa Ana River, and Mill Creek—which form natural boundaries along the northern, western, and southern edges of the property and convey flows from the national forest lands. Small, unnamed streams are located within the central portions of Sunrise Ranch. These streams are ephemeral—only conveying flows during and immediately following rain events—and have relatively small watershed areas.

The property's southern perimeter is adjacent to Mill Creek and the western boundary is adjacent to the

STREAMS AND SEASONAL WETLANDS ON SUNRISE RANCH

Streams: Four large stream systems, multiple unnamed ephemeral streams.

Morton Creek in Morton Canyon is the largest drainage traversing the property.

Streams length on property: 5.7 miles

- 2.1 miles in Morton and Deep Creeks (and their tributaries)
- 3.6 miles of unnamed ephemeral streams

Santa Ana River. Both watersheds are managed with existing water infrastructure, such as dams and pipelines, and have been modified through the construction of flood control structures (e.g., levees). Both watercourses contain year-round flows that fluctuate with seasonal weather and moisture patterns.

Deep Creek and Morton Canyon, located within the northwestern area of Sunrise Ranch, have not been modified by flood control or water infrastructure facilities. These systems have intermittent to perennial flow and support areas of riparian habitat.

Sunrise Ranch also supports seasonal wetlands/vernal pools. Vernal pools are a special type of seasonal wetland that form in shallow depressions, often on hard clay or rock surfaces that prevent water from soaking into the ground. They fill with rainwater during the winter and spring and dry out completely in the summer. Because these seasonal wetlands are dependent on rainfall, their size and period of inundation can vary greatly year to year. Vernal pools create a unique environment where certain plants and animals—many of them rare or endangered—have adapted to survive.

Vernal pools are seasonal wetlands that form in shallow depressions often with hard clay or rock that keeps water from soaking into the ground. They fill with rainwater in winter and spring, then dry out in summer, creating a unique habitat where many specialized—often rare or endangered—plants and animals thrive.

Environmental surveys conducted for the Harmony Development Environmental Impact Report (EIR)—a previously proposed residential project—identified and measured the stream systems on the property that fall under the jurisdiction of the Clean Water Act, and California Fish and Game Code. **Table 3** provides a summary of stream acreages, quantified by each agency with regulatory authority over the stream resources located on the property.

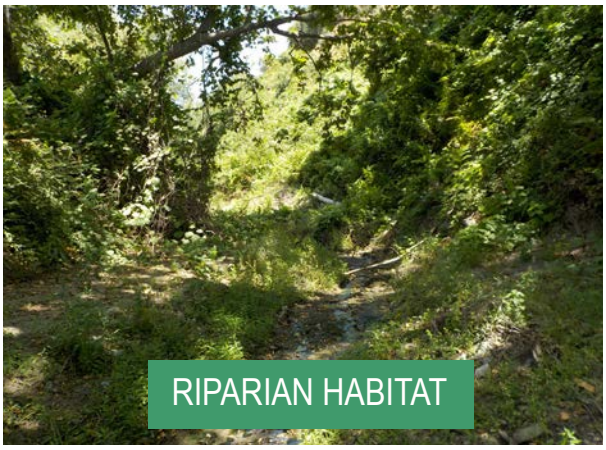
Table 3. *Waters of the United States and State of California on Sunrise Ranch Property*

	Permitting Agency		
	USACE (acres)	*RWQCB (acres)*	*CDFW (acres)*
Morton Creek	0.51	5.23	5.23
Deep Creek	0.15	0.69	0.69
Unnamed Drainages	1.65	41.58	41.58
Wetlands and Vernal Pools		1.61	1.61
Total	**2.31**	**49.11**	**49.11**

Note: The amount may differ based on EPA 2023 Rule

2.1.2. Plant Communities and Land Cover

Plant community mapping was conducted over Sunrise Ranch as part of this Master Plan effort. Plant community mapping provides an understanding of the different habitats present and their suitability to support native wildlife species. It also identifies opportunities for habitat improvement actions, where conditions are found to be degraded. A total of 82 vegetation community classifications and two land cover types were identified on the property (refer to Appendix). However, for planning and analysis, these classifications were simplified as either stream/wetland associated (referred to as "riparian" habitat) or non-stream/wetland associated (referred to as "terrestrial" habitat) and then grouped into more general habitat types. Riparian habitat was separated into three groupings: Riparian Woodland, Riparian Shrub, and Nonnative Riparian Woodland, and Terrestrial habitat was separated into four groupings: Riversidean Alluvial Fan Sage Scrub, Riversidean Sage Scrub, Chaparral, and Grassland (**Figure 19**).


RIPARIAN HABITAT

Riparian Habitat

Riparian plant communities were mapped along Morton Canyon, along an unnamed drainage located on the western perimeter of the property, and at scattered locations within unnamed drainages located within the central portion of the property (**Figure 19**). Approximately 32 acres of riparian habitat were mapped within Sunrise Ranch, with Morton Canyon supporting the largest area of riparian habitat (approximately 12 acres).

Morton Canyon supports large California sycamore trees with broad tall canopies, several species of smaller willow trees, and a dense understory (i.e., wild grape, common bracken fern, nettle, mugwort, and mulefat). The downstream portion of the drainage is comprised of riparian woodland and is densely vegetated with large, mature native trees. The remainder of the drainage is vegetated with mature riparian trees and shrubs in a patchier distribution. The

RIPARIAN HABITAT ON SUNRISE RANCH

Riparian Woodland: Covers approximately 24 acres of Sunrise Ranch. Riparian plant species included in this grouping include California sycamore, Freemont cottonwood, Gooding's black willow and other willow species, mulefat, and elderberry.

Riparian Shrub: Covers approximately 7 acres of Sunrise Ranch. Plant species found in the riparian shrub grouping include mulefat, sandbar willow, and elderberry.

Nonnative Riparian Woodland: Encompassing at least 1-acre, nonnative tree species within this grouping include olive, eucalyptus, and pepper trees.

adjacent canyon walls rise steeply from the drainage; the south-facing slope is vegetated with drier, terrestrial habitat communities (Chaparral and Riversidean Sage Scrub).

Deep Creek also supports riparian habitat (i.e., California sycamore, Fremont cottonwood, possible ash species), however compared to Morton Canyon, riparian habitat is sparse and widely distributed, intermixed with drier terrestrial plant species (i.e., Mexican elderberry scrub oak, California sagebrush, and California buckwheat). Similarly to Morton canyon, the adjacent slopes of Deep Creek rise steeply from the drainage and are vegetated with drier terrestrial habitat communities (Riversidean Sage Scrub and Chaparral) typical of the surrounding area (i.e., Riversidean Sage Scrub and Chaparral).

Vegetation along the multiple unnamed drainages within the more central portion of Sunrise Ranch varies but primarily consists of terrestrial habitat communities (Riversidean Sage Scrub and Grassland).

There are several seasonal wetlands on the property: two moderately large basins in the south-central portion of the property that were created during construction of the Seven Oaks Dam and a larger eastern basin. The basins/ponded water areas function as vernal pools, being seasonally inundated with rainfall that drains to the basins but remaining dry during periods of drought. Vegetation surrounding these seasonal wetlands is varied but is primarily comprised of terrestrial habitat communities (Riversidean Sage Scrub and Grassland).

Terrestrial Habitat

Terrestrial plant communities cover the majority of Sunrise Ranch (approximately 1,533 acres). As described above, terrestrial habitats were separated into four groupings: Riversidean alluvial fan sage scrub, Riversidean sage scrub, chaparral, and grassland.

Areas mapped as Riversidean alluvial fan sage scrub occur along the western perimeter of the property within the historic floodplain of the Santa Ana River, and along the southern edge of the property within the floodplain of Mill Creek. Riversidean alluvial fan sage scrub, a rare plant community within California, is comprised of predominantly drought-deciduous shrubs, but with significant cover of larger perennial species typically found in chaparral. This vegetation type is distinctive because of the co-occurrence of evergreen shrubs, drought-deciduous shrubs, riparian species, and upland annual species near one another. Because Riversidean alluvial fan sage scrub is intermediate between chaparral and Riversidean sage scrub, it shares many of the same species.

Riversidean sage scrub is found across much of the property, irrespective of terrain: the habitat occurs on both flatter and steeper areas. Within gentler topography areas, scrub habitat varies in quality. The northern part of the property supports steeper, exposed south-facing slopes with smaller stature shrubs. The sloped areas above Mill Creek and the Santa Ana River also support scrub habitat. This plant community is comprised predominantly of drought-deciduous, semi-deciduous, and evergreen shrubs, such as California buckwheat, California sagebrush, and California brittle bush.

TERRESTRIAL HABITAT ON SUNRISE RANCH

Riversidean Alluvial Fan Sage Scrub: Covering approximately 42 acres, representative plant species found in this community on Sunrise Ranch include brittle bush, yerba santa, yucca, and scale broom.

Riversidean Sage Scrub: Covering approximately 1,145 acres, representative plant species found in this community on Sunrise Ranch include California buckwheat, brittle bush, and California sagebrush.

Chaparral: Covering approximately 232 acres, representative plant species found in this community on Sunrise Ranch include chamise, scrub oak, toyon, skunkbrush, sugar bush, and elderberry.

Grassland: Covering approximately 113 acres, representative plant species are primarily nonnative: brome and other nonnative annual grasses, mustards, etc.

Chaparral is interspersed across Sunrise Ranch but primarily occurs on south-facing slopes in areas of steeper terrain. This plant community is comprised predominantly of woody, drought-tolerant, evergreen shrubs.

Areas of grassland are interspersed across Sunrise Ranch. These areas support a variety of nonnative plant species.

In addition to the four terrestrial habitat communities, two land cover types were also mapped on Sunrise Ranch: disturbed and developed. Approximately 3 acres of developed lands, predominantly consisting of buildings, paved roads, and concrete pads were mapped on Sunrise Ranch. Dirt roads and areas maintained as fire buffer zones were mapped disturbed. These areas comprise approximately 89 acres.

Rare and Sensitive Plant and Wildlife Species

Despite much of the property being subject to various disturbances dating back to before 1938 (citrus groves) to as recently as 1995 (large-scale sediment removal to support the construction of the Seven Oaks Dam), the vegetation has recovered over many of these areas and now provides suitable habitat conditions for a variety of species.

Several steps were taken to help identify rare and special-status species that may occur within, or near, the property boundaries. The first step involved review of previous biological survey reports prepared for prior proposed projects on the property, and from adjacent areas, and review of existing databases maintained by state and federal wildlife agencies (California Department of Fish and Wildlife, and the US Fish and Wildlife Services), and others. The databases included:

- California Natural Diversity Database
- California Native Plant Society
- Carlsbad United States Fish and Wildlife Service database
- Incidental species observations (such as in eBird or iNaturalist)

Additionally, incidental species observations were documented during plant community mapping completed over the course of three days in 2023.

In total, 84 species have been recorded within the vicinity of the property, with 25 species being previously observed or likely to occur and 10 species having a moderate potential to occur on the property. For those that are federally and/or state listed (or recently proposed for listing) as threatened or endangered (Table 4), a more detailed analysis was performed.


WESTERN SPADEFOOT

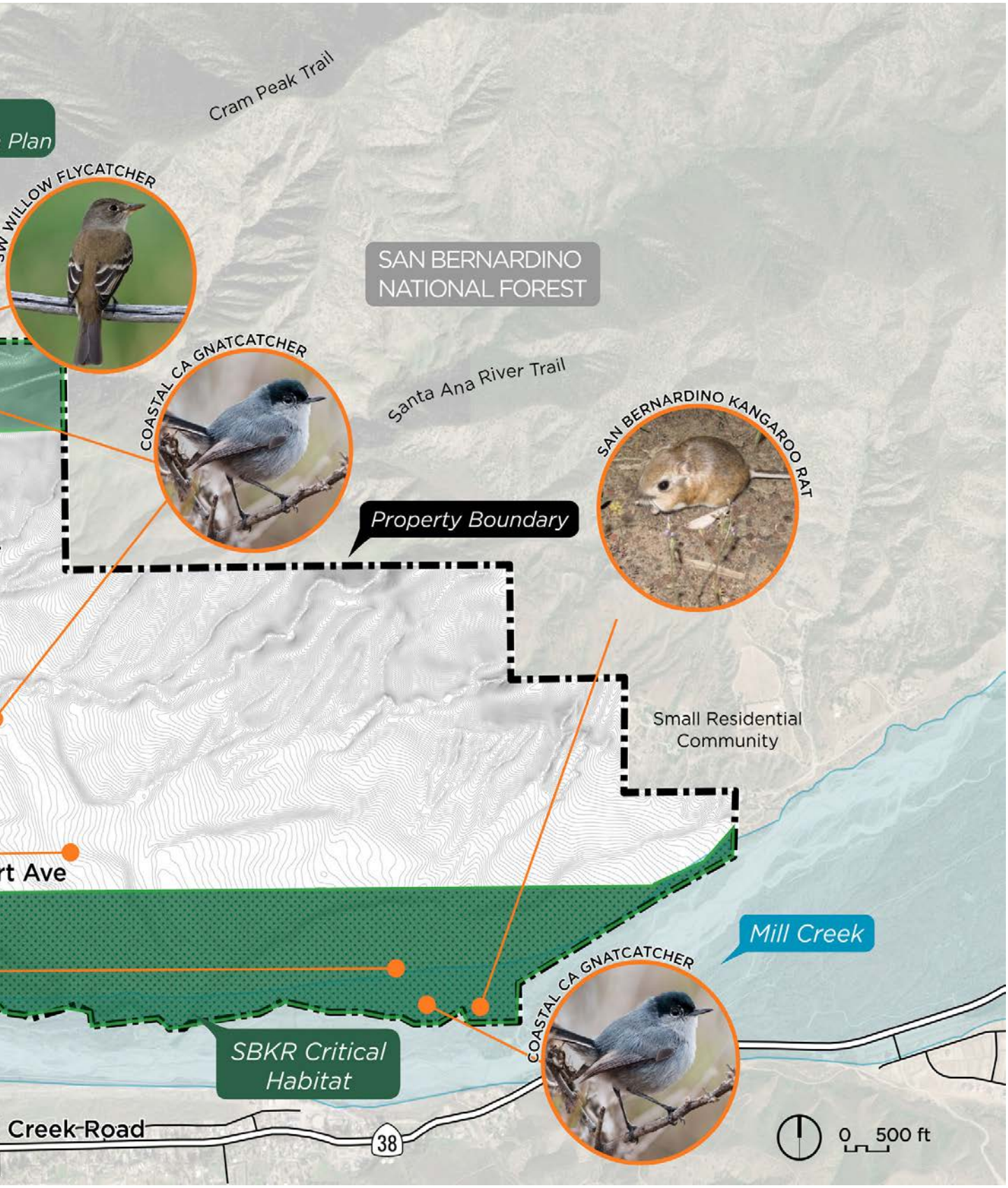
Table 4. *Special status species observed on the Sunrise Ranch property*

Species	Habitat Preference
Recently Observed	
Santa Ana River woolly-star (*Eriastrum densifolium ssp. sanctorum*)	Sandy soils on river floodplains or terraced fluvial deposits in coastal scrub and chaparral
Western spadefoot (*Spea hammondii*)	Open treeless grasslands, scrub, or mixed woodland and grassland with aquatic breeding habitat
Coastal California gnatcatcher (*Polioptila californica californica*)	Low, coastal sage scrub in arid washes and on mesas and slopes
Species Previously Observed and/or Likely to Occur	
Least Bell's vireo (*Vireo bellii pusillus*)	Low riparian forest, scrub, and woodland in vicinity of water or in dry river bottoms
San Bernardino kangaroo rat (*Dipodomys merriami parvus*)	Early to intermediate seral stages of alluvial scrub on sandy loam substrates characteristic of alluvial fans and flood plains

Locations of special-status species at Sunrise Ranch are shown in **Figures 18 and 19**. For a complete account of non-listed species that have been previously observed on the property or are likely to occur, as well as their regulatory status, potential to occur, and associated habitats, refer to the Appendix.


LEAST BELL'S VIREO

Figure 18. *Observation locations of special status species on Sunrise Ranch*


Cram Peak Trail
Plan
SW WILLOW FLYCATCHER
SAN BERNARDINO NATIONAL FOREST
COASTAL CA GNATCATCHER
Santa Ana River Trail
SAN BERNARDINO KANGAROO RAT
Property Boundary
Small Residential Community
rt Ave
Mill Creek
COASTAL CA GNATCATCHER
SBKR Critical Habitat
Creek Road
38
0 500 ft

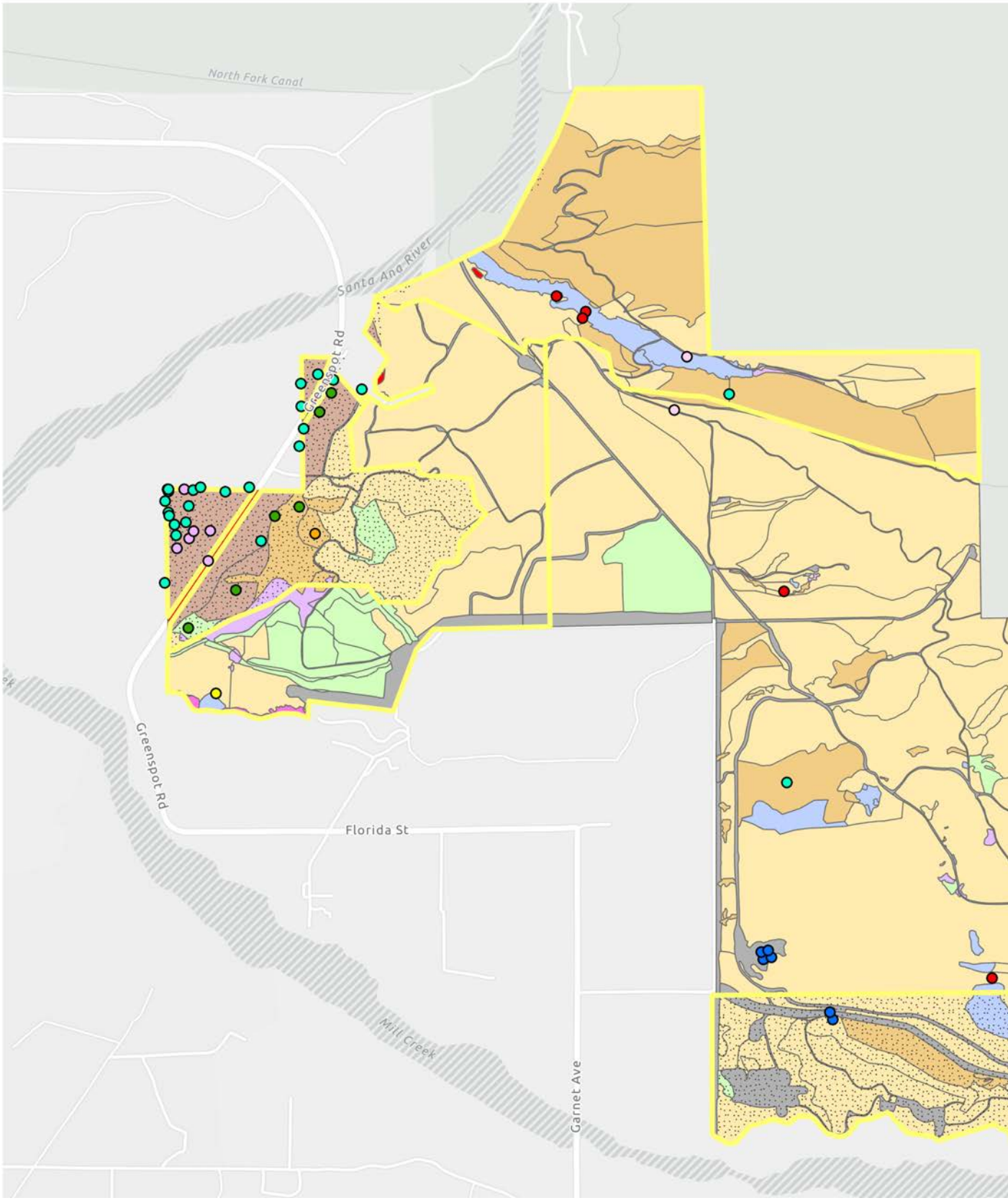
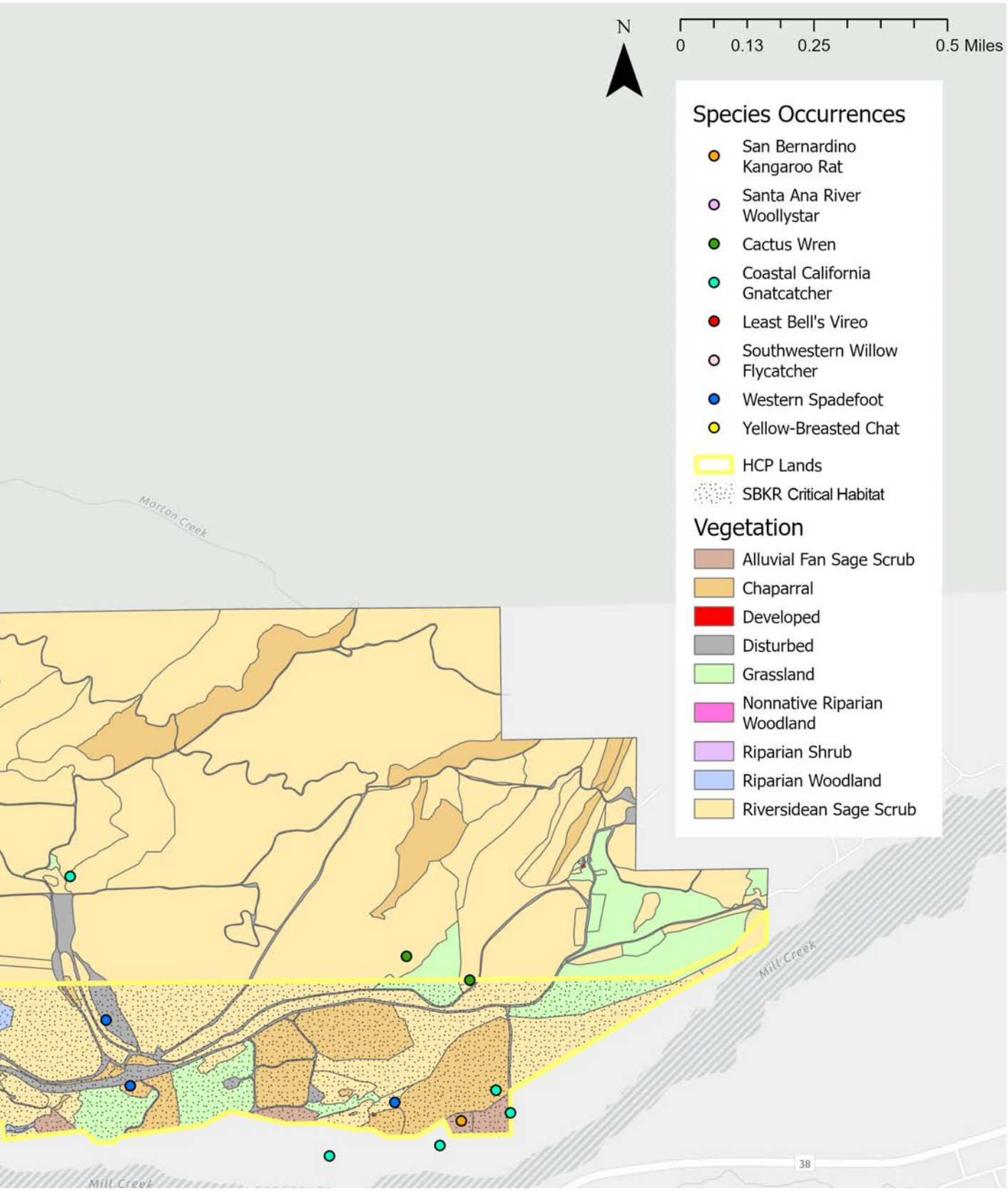
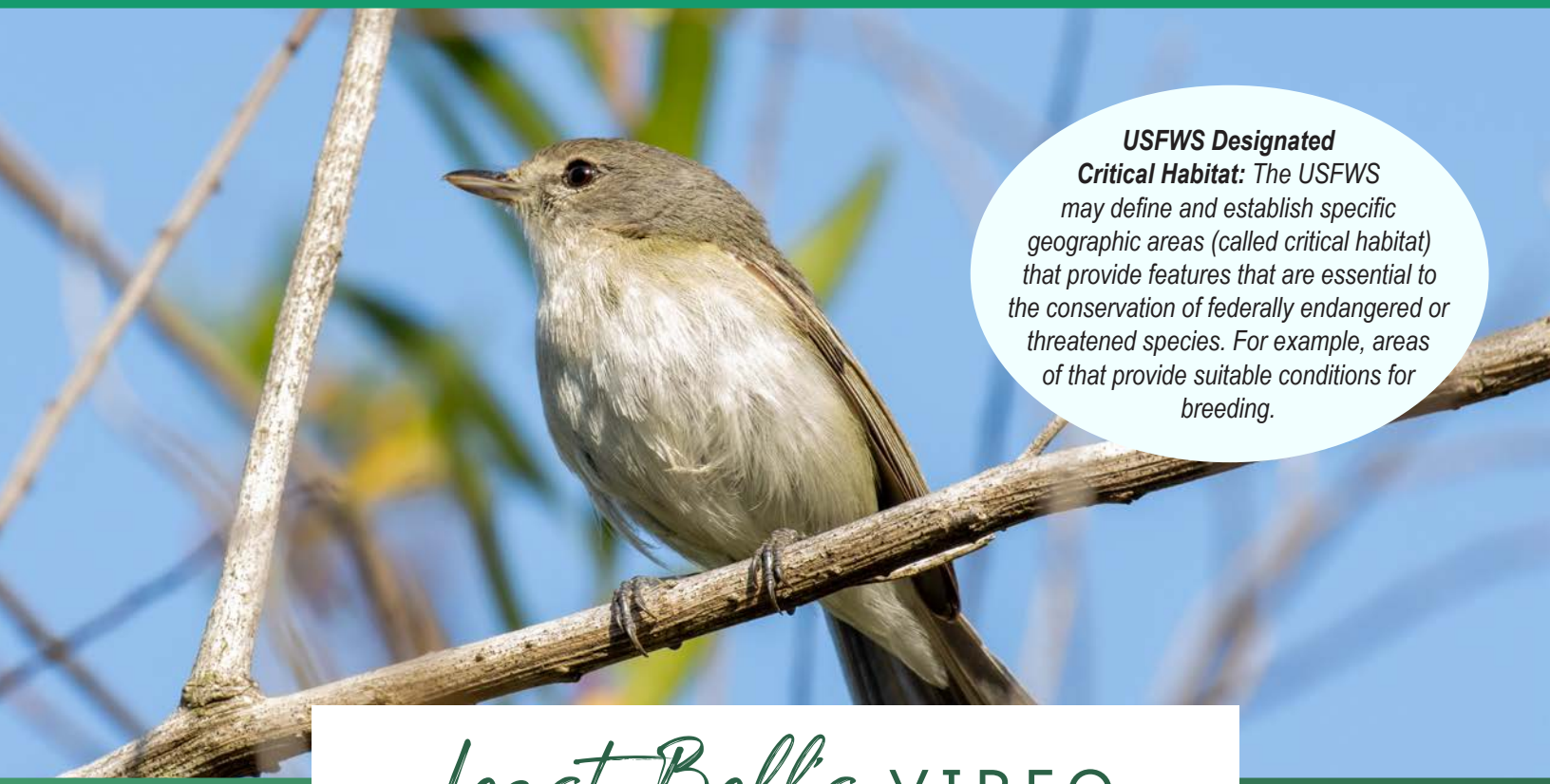


Figure 19. *Plant communities and special status species observed on Sunrise Ranch property*


N
0
0.13
0.25
0.5 Miles
Species Occurrences
San Bernardino Kangaroo Rat
Santa Ana River Woollystar
Cactus Wren
Coastal California Gnatcatcher
Least Bell's Vireo
Southwestern Willow Flycatcher
Western Spadefoot
Yellow-Breasted Chat
HCP Lands
SBKR Critical Habitat
Vegetation
Alluvial Fan Sage Scrub
Chaparral
Developed
Disturbed
Grassland
Nonnative Riparian Woodland
Riparian Shrub
Riparian Woodland
Riversidean Sage Scrub
Morton Creek
Mill Creek
Mill Creek
38



USFWS Designated Critical Habitat: *The USFWS may define and establish specific geographic areas (called critical habitat) that provide features that are essential to the conservation of federally endangered or threatened species. For example, areas of that provide suitable conditions for breeding.*

Least Bell's VIREO

Conservation Status

The least Bell's vireo is a federally and state endangered species.

Distribution

Least Bell's vireos were previously observed adjacent to Sunrise Ranch within Santa Ana River and Mill Creek, and on the property in Morton Canyon within riparian woodland habitat (i.e., California Sycamore Woodland, California Sycamore-Willow Woodland, black willow thickets, willow-mulefat) (**Figure 19**).

Although not documented (to date) in areas where riparian shrub (i.e., mulefat thickets) occurs on the property, least Bell's vireos are frequently found nesting and foraging within these habitats.

The property also supports nonnative riparian woodland (European Olive-Eucalyptus-Pepper Trees, European Olive Grove) intermixed with riparian woodland (Freemont Cottonwood Woodland). While no individuals have been documented (to date) within these areas onsite, the species has been documented utilizing this habitat type at other locations within its range.

Additional Note: No USFWS least Bell's vireo designated critical habitat overlaps with the Sunrise Ranch. The closest critical habitat occurs along the Santa Ana River in the City of Riverside, approximately 19 miles southwest of the property.

Coastal California GNATCATCHER

Conservation Status

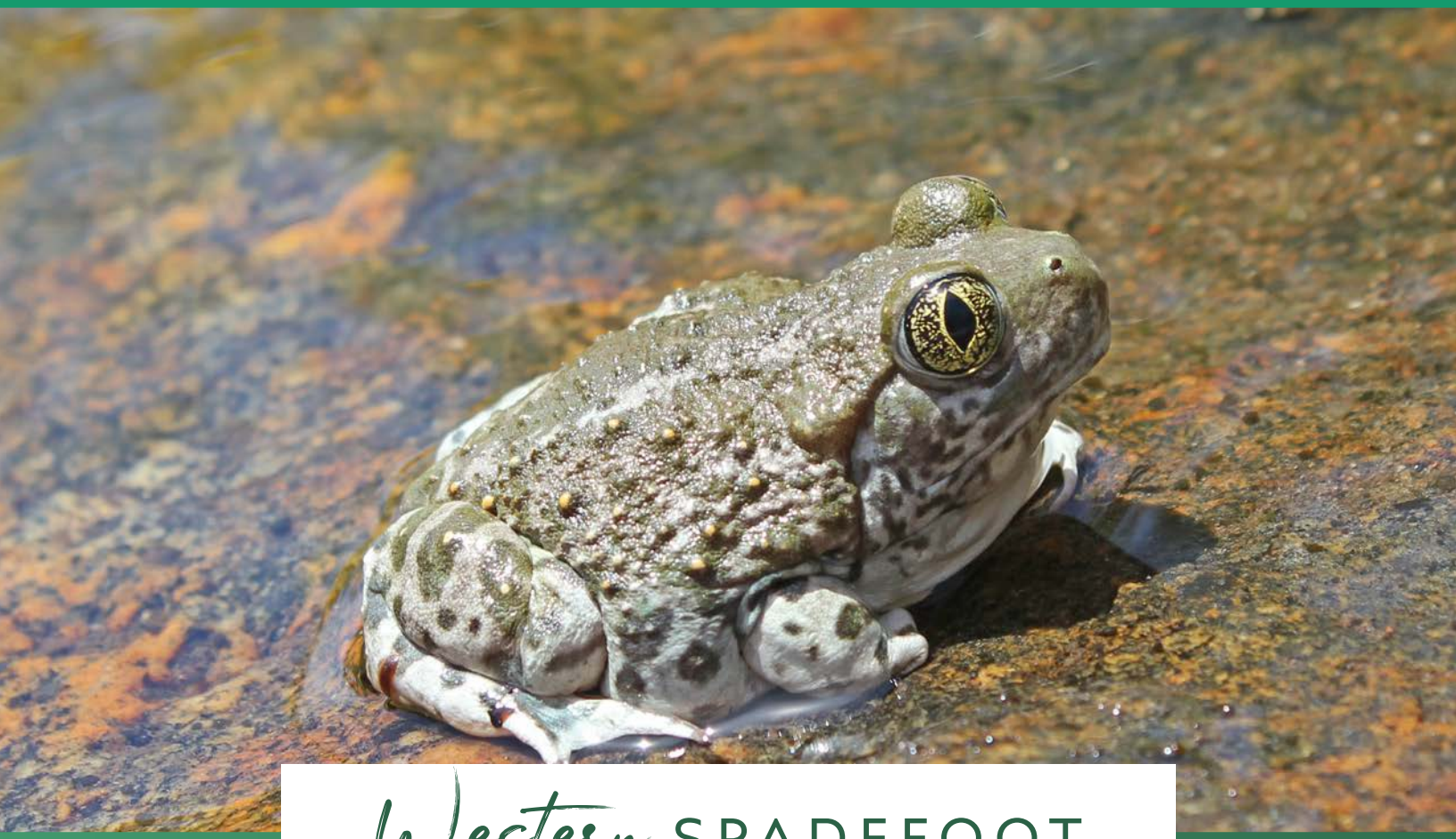
The coastal California gnatcatcher is a federally threatened species and a CDFW species of special concern (SSC).

Distribution

Focused coastal California gnatcatcher non-breeding surveys were conducted in 2013-2014 (Kidd Biological 2014a) and breeding surveys in 2014 (Kidd Biological 2014b) on the property to support the Harmony EIR. No individuals were observed. Since the time of those surveys, vegetation on the property has continued to naturally develop and additional areas have become suitable with the removal of orchards.

Recent focused breeding surveys (2018–2023) conducted immediately southeast of the property by Southern California Edison found individuals in Mill Creek both upstream and downstream of the property. Breeding surveys conducted as part of the SBVWCD Santa Ana River Wash HCP found individuals near the property. These surveys suggest that the California gnatcatcher population is growing in the region. California gnatcatchers were recorded on the property during vegetation mapping surveys (within alluvial fan sage scrub, Riversidean sage scrub, and chaparral) (**Figure 19**). The sloped areas above Mill Creek and the Santa Ana River support scrub habitat but may be less suitable because of terrain. However, based on observations, these areas have the potential to support the species.

Additional Note: No USFWS coastal California gnatcatcher designated critical habitat overlaps with Sunrise Ranch. The closest critical habitat is in Reche Hills; approximately 9 miles southwest of the property boundary.



Western SPADEFOOT

Conservation Status

Western spadefoot is federally proposed as threatened and a CDFW species of special concern.

Distribution

Western spadefoots, like all amphibians, require aquatic habitat for breeding. Outside of breeding, spadefoots are found in terrestrial habitats. The species constructs burrows (using a hard fingernail-like "spade" located on each hindfoot) and may spend extended periods of time underground in a dormant state. Availability of sandy, friable soils (soils that easily crumble and break apart), that facilitate burrowing may be an important requirement in areas adjacent to breeding habitat.

There are several ponded areas located in the south-central portion of the property that were created during construction of the Seven Oaks Dam. The basins/ponded water are located on clay soils and function as vernal pools, seasonally holding water following rain events, and remaining dry during periods of drought. In August 2023, these ponds were filled during summer monsoons. Western spadefoots were recorded in the basins in 2019 and 2023. There are also several ponded areas on the existing unpaved access roads that provide potential breeding habitat, as this type of habitat is frequently occupied by this species in other locations in the area.

Santa Ana River WOOLLY-STAR

Conservation Status

The Santa Ana River woolly-star is a federally and state endangered species.

Distribution

The Santa Ana River woolly-star is found on alluvial terraces of open floodplains. The species needs disturbance to scarify seeds for successful germination, which usually occurs through flood events that replenish the sandy substrate and maintain an open vegetation canopy.

The Santa Ana River woolly-star was documented in 2023 within the property boundary, just west of Greenspot Road, on a historical terrace of the Santa Ana River (**Figure 19**). Santa Ana River woolly-stars have also been recorded in Mill Creek west of Garnet Street, where sandy soils are present. Although open sandy terraces exist along Mill Creek within the property, no plants were observed within these areas during recent surveys.

San Bernardino KANGAROO RAT

Conservation Status

San Bernardino kangaroo rat is a federally and state endangered species.

Approximately 366 acres of USFWS designated San Bernardino kangaroo rat critical habitat overlaps with the property. Approximately 91 acres overlap the western boundary of the property along the Santa Ana River, and approximately 274 acres overlap the southern boundary along Mill Creek (**Figure 20**).

Distribution

Like the Santa Ana River woolly-star, the San Bernardino kangaroo rat needs disturbance to create and maintain their preferred sandy substrate and vegetation cover.

San Bernardino kangaroo rat has been documented along the Santa Ana River, immediately west of the property, and there is high potential for presence on lands located west of Greenspot Road. Within Mill Creek, upstream of Garnet Street, San Bernardino kangaroo rat occurrences have not been well documented. Areas of open sandy terraces are present along Mill Creek within the property, and the species has been documented downstream of Garnet Street, and south of Mill Creek. However, it is unknown whether these nearby occupied areas are close enough to allow individuals to recolonize portions of the property.

The population has a disjunct distribution (**Figure 21**) with three critical core areas that are essential for the primary biological needs (i.e., foraging, reproducing, rearing of young, intra-specific communication, dispersal, genetic exchange, or sheltering):

- Santa Ana River watershed where the property is located
- Cajon Wash/Lytle Creek watershed to the west
- San Jacinto watershed, located in Riverside County, to the south

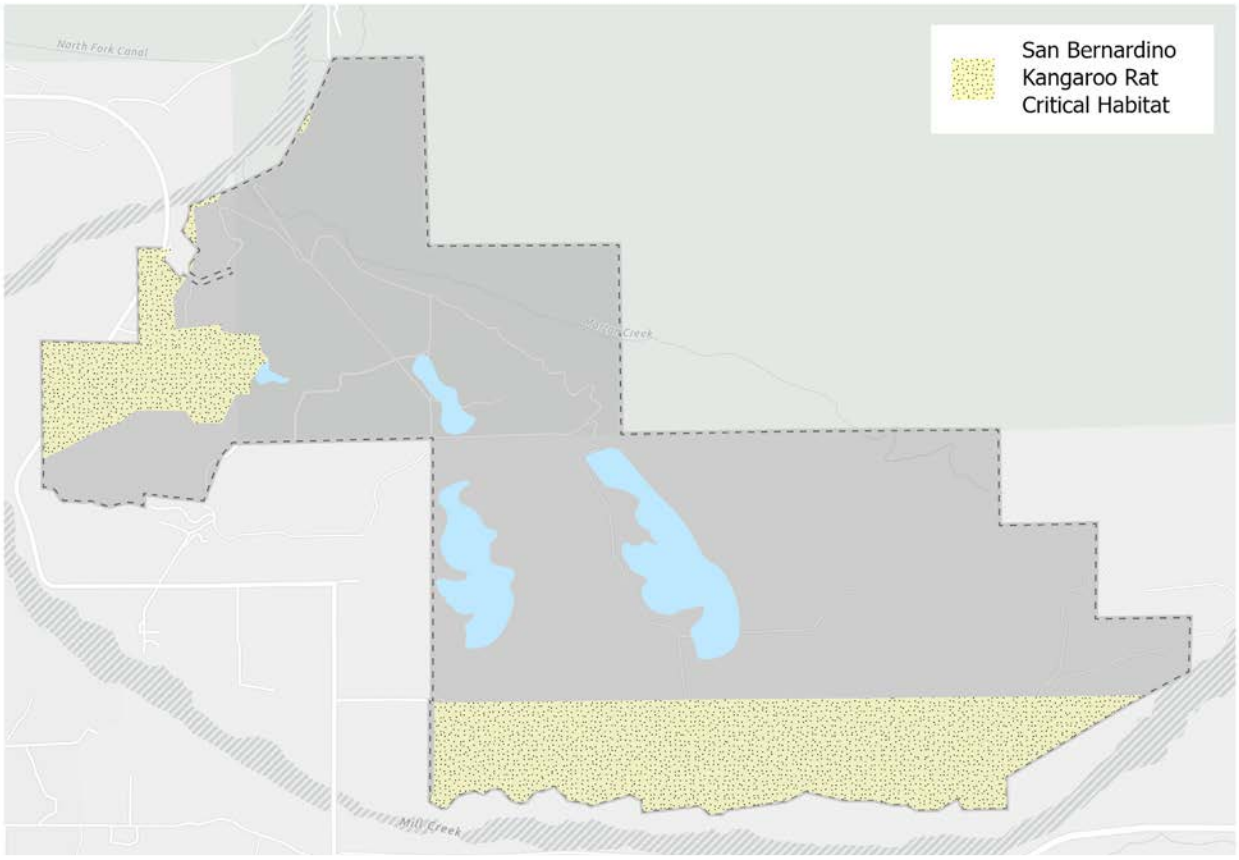


Figure 20. *USFWS designated critical habitat for San Bernardino kangaroo rat that occurs within Sunrise Ranch*

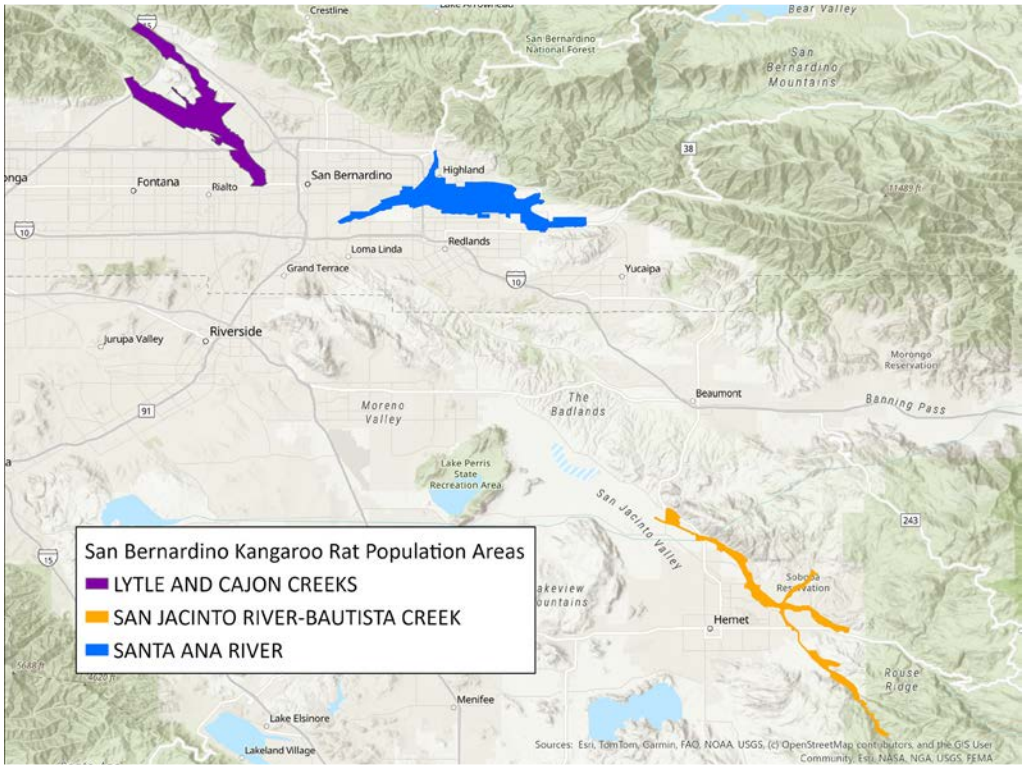


Figure 21. *San Bernardino kangaroo rat distribution.*

2.1.3. Wildlife Corridors/Linkages Movement

The ability of individual animals to move across complex landscapes is critical for maintaining regional populations and for species to shift their geographic range in response to climate change. For long-term viability, movement corridors are important for gene flow among populations to maintain local genetic variation and spread potentially advantageous genes, or dilute genetic vulnerability to disease or other risks within a population.

Human-made linear corridors, particularly unpaved, low-traffic roads (e.g., unnamed dirt roads on the property), and under/overcrossings (e.g., under Garnet Street bridge over Mill Creek, under culvert along Greenspot Road) can act as a small-scale corridors for wildlife movement that links populations found in otherwise isolated patch habitats. Conversely, paved, higher-traffic roads can present a barrier to wildlife movement.

Sunrise Ranch is in an important location for wildlife connectivity due to its location south of the San Bernardino National Forest lands and adjacency to other conserved lands (the Upper Santa Ana River Wash Habitat Conservation Plan lies to the west, and Mill Creek and the Crafton Hills Preserve lies to the south). Because large-bodied mammals need extensive areas that can cover multiple conservation/public areas to survive, connectivity within and between lands by these species is often viewed as an important variable to consider. Larger bodied mammals that occur in southern California that have substantial home ranges and travel distances have been observed on the property (black bear, mule deer, coyote, bobcat, and mountain lion were documented on the property in 2025).

Movement by these wider-ranging large mammals likely occurs in many directions on the site (**Figures 22 and 23**). Future studies to evaluate the movement patterns of different species will be important for identifying and improving corridors.

Sunrise Ranch WILDLIFE

Bobcat

Mountain Lion

Black Bear

Coyote

Mule Deer

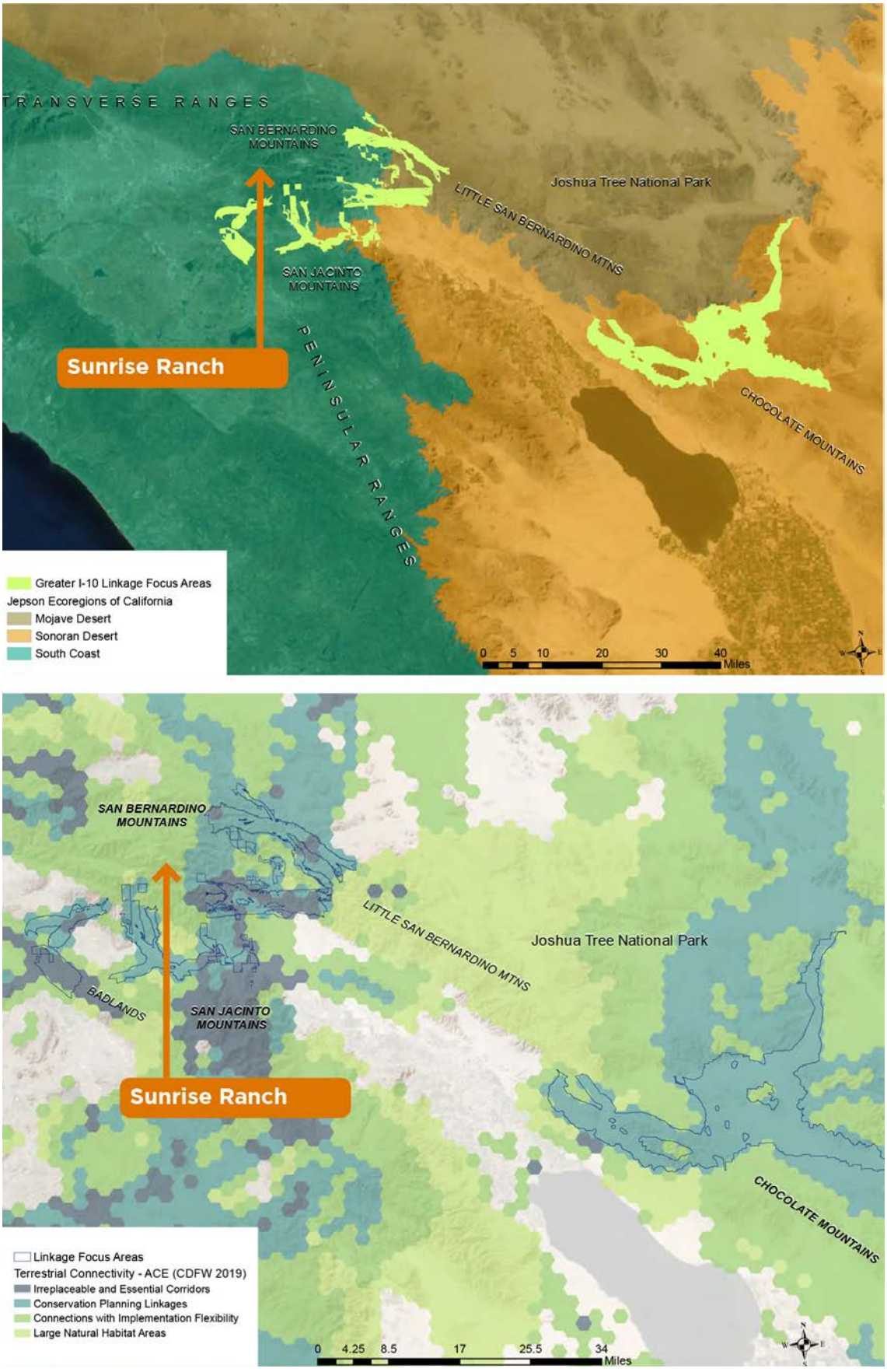


Figure 22. *Terrestrial connectivity and eco-regional connections*

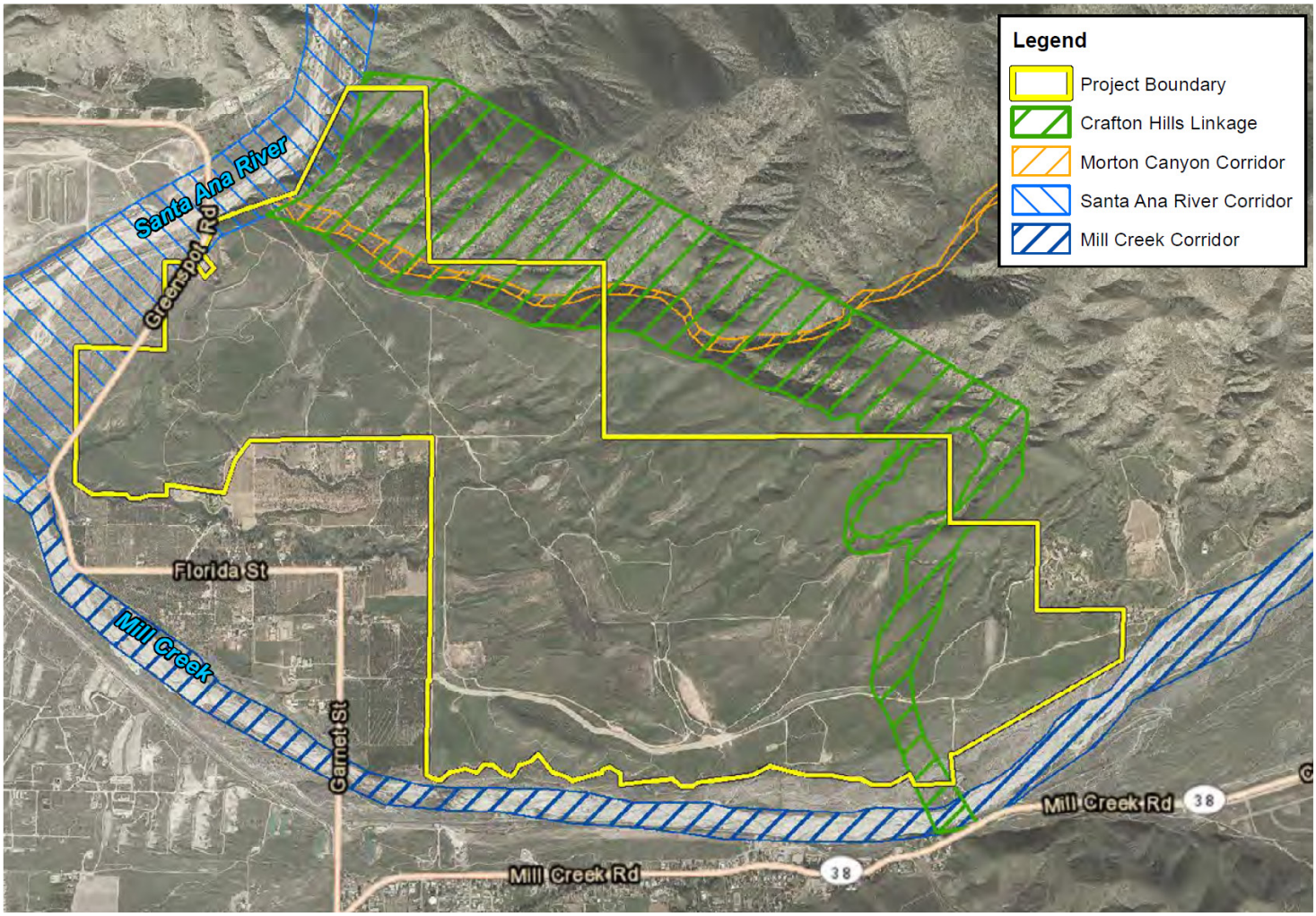


Figure 23. *Localized wildlife movement per the 2014 FEIR Harmony Development review; Illustration based on field observations and area topography*

2.2. Evaluation and Assessment

The large acreage of open space at Sunrise Ranch, its adjacency to national forest and other conserved lands, the presence of threatened and endangered species and stream and wetland resources, coupled with the implementation of actions to improve current degraded habitat conditions to enhance ecological value, affords two key opportunities:

Compensatory Mitigation: Acreage on the property can be used as compensatory mitigation to offset Agency impacts to special status/sensitive species and habitats resulting from water infrastructure projects.

Conservation/Mitigation Banking: Acreage on the property can be used to generate revenue through the establishment of a mitigation/conservation bank (or similar advanced mitigation crediting program) and sale of ecological credits.

2.2.1. Compensatory Mitigation Opportunities

Sunrise Ranch provides opportunities for stream and wetland compensatory mitigation, as well as species compensatory mitigation. The following federal and/or state threatened or endangered (or recently proposed for listing) species and their associated habitats have the potential to provide compensatory mitigation opportunities at Sunrise Ranch:

- Least Bell's vireo
- California gnatcatcher
- Western spadefoot
- Santa Ana River woolly-star
- San Bernardino kangaroo rat

Specific opportunities for stream and wetland mitigation, and species mitigation are described below.

ENHANCEMENT: Habitat enhancement refers to improving the ecological conditions in an area, e.g., removal of nonnative plant species to facilitate growth of native plant species.

CREATION: Habitat creation involves establishing a new habitat in an area where it did not previously exist, e.g., the creation of a wetland within an area that was previously grassland and did not hold standing water.

Streams and Seasonal Wetlands

As described in Section 2.1.1., Sunrise Ranch supports approximately 5.7 miles of streams and approximately 47.5 acres of stream and stream-dependent habitat. Stream types range from ephemeral systems that only convey flows during and immediately following rain events, to larger systems that convey flows perennially (year-round). Similarly, these systems support a range of associated riparian vegetation communities, with the ephemeral systems supporting sparsely distributed riparian shrub, or even drier communities more indicative of terrestrial habitats, and perennial systems supporting areas of riparian woodland. Sunrise Ranch also supports approximately 1.6 acres of seasonal wetland/vernal pool habitat.

All streams and seasonal wetland features have compensatory mitigation value, and there are opportunities to enhance stream associated habitat condition and create new seasonal wetlands/vernal pools.

Least Bell's Vireo

Riparian woodland and riparian scrub, as well as areas that can be restored to these general habitat communities, have the potential to support least Bell's vireo. Approximately 27.9 acres of riparian habitat that were, or could be, suitable for least Bell's vireo was identified on the property (Table 5).

Table 5. *Potential riparian habitat mitigation opportunities within Sunrise Ranch*

Vegetation Type	Vegetation Alliance/Association	Enhancement	Creation	Total Habitat Acreage
Riparian Shrub	Sandbar Willow Thickets	0.32	0	0.32
	Mulefat Thickets	1.12	0	1.12
	Mulefat - Blue Elderberry	0	5.73	5.73
	Subtotal	**1.44**	**5.73**	**7.17**
Riparian Woodland	Black Willow Thickets	19.84	0	19.84
	California Sycamore Woodland			
	California Sycamore-Red Willow			
	Fremont Cottonwood Forest			
	Willow-Mulefat			
	California Sycamore-Blue Elderberry			
	Subtotal	**19.84**	**0**	**19.84**
Nonnative Woodland	European Olive-Eucalyptus-Pepper Trees	0	0.60	0.60
	Subtotal	**0**	**0.60**	**0.60**
	Total Credit Acreage	**21.28**	**6.63**	**27.91**

California Gnatcatcher

Previous studies and direct observations confirm that California gnatcatchers use multiple scrub habitat types. For example, nearby studies of California gnatcatchers have documented breeding territories in alluvial fan sage scrub, Riversidean sage scrub, riparian shrub, and chaparral habitats. Though nesting California gnatcatchers are primarily documented in areas of flatter terrain, they have been observed nesting on sloped terrain in the Santa Ana River wash near the property. Nearly the entire property is currently suitable, or could become suitable, for the California gnatcatcher (Table 6).

Table 6. *Potential scrub habitat mitigation opportunities within Sunrise Ranch*

Vegetation Type	Vegetation Alliance/Association	Enhancement	Creation	Total Habitat Acreage
Riparian Shrub	Mulefat Thickets	1.23	0	
	Mulefat-Blue Elderberry	0	5.73	
	Subtotal	**1.23**	**5.73**	**6.96**
Nonnative Woodland-Riversidean Sage Scrub	Pepper Tree Groves-Brittlebush	0	2.77	
	Brittlebush-Tamarisk	0.63	0	
	Subtotal	**0.63**	**2.77**	**3.40**
Riversidean Sage Scrub	Brittlebush Scrub- Upland Mustard			
	Brittlebush-California Buckwheat-Upland Mustard			
	Brittlebush-California Sagebrush			
	Brittlebush-California Sagebrush - Chamise			
	Brittlebush-California Sagebrush-Upland Mustard			
	Brittlebush Scrub			
	Brittlebush Scrub-Annual Brome Grassland			
	Brittlebush Scrub-Upland Mustard-Nonnative Grassland			
	Brittlebush-Toyon			
	Bush Mallow Scrub			
	California Buckwheat Scrub			
	California Buckwheat-Brittlebush			
	Ca Buckwheat-California Sagebrush-Brittlebush			
	California Sagebrush Scrub			

Vegetation Type	Vegetation Alliance/Association	Enhancement	Creation	Total Habitat Acreage
Riversidean Sage Scrub (continued)	California Sagebrush-Black Sage Scrub	1314.73	0	1335.45
	California Sagebrush-California Buckwheat Scrub			
	California Sagebrush-Ca Buckwheat-Yerba Santa			
	California Sagebrush-Upland Mustard-Wild Oat Grassland			
	Chamise-California Buckwheat-Upland Mustard			
	Deer Weed Scrub			
	California Sycamore-Blue Elderberry			
	Chamise Chaparral			
	Chamise-Brittlebush			
	Chamise-Brittlebush-California Buckwheat			
	Chamise-Yerba Santa-California Sagebrush			
	Subtotal	**1314.73**	**20.72**	
Riversidean Alluvial Sage Scrub	Alluvial Brittle Bush Scrub	42.41	0	42.41
	Scale Broom-Yerba Santa-Chaparral Yucca			
	Subtotal	**42.41**	**0**	
Chaparral-Riversidean Sage Scrub	Basket Bush Thickets	196.79	0	196.79
	Blue Elderberry-Brittlebush			
	Blue Elderberry-Brittlebush-California Buckwheat			
	Blue Elderberry-Brittlebush-Upland Mustard			
	Blue Elderberry-California Sagebrush-California Buckwheat-Yerba Santa			
	Blue Elderberry Stands			
	Brittlebush-Toyon			
	California Sagebrush Scrub			
	California Sagebrush-Scrub Oak			
	Chamise-Brittlebush			
	Chamise-Blue Elderberry-California Sagebrush			
	Subtotal	**196.79**	**0**	
Chaparral	Blue Elderberry Stands	72.25	0	72.25
	Blue Elderberry-Toyon			
	Hairy Leaf Ceanothus-Chamise			
	Hairy Leaf Ceanothus-Chaparral			
	Subtotal	**72.25**	**0**	
Total Credit Acreage		**1,628.04**	**29.22**	**1657.26**

Western Spadefoot

Currently, there are 6.6 acres on-site that include potential breeding pools that may be suitable for Western spadefoot and one depression that is only occasionally ponded. Because dispersal distances of up to 600 meters between breeding ponds and terrestrial dormancy sites have been recorded, seasonal wetlands/vernal pools could be created to establish new breeding locations for Western spadefoot. The creation of new breeding ponds and documented use (breeding) by the species following construction has been successfully achieved at other locations in southern California, including nearby locations within the Santa Ana River wash. Consequently, areas of flatter terrain across the property would be suitable for the creation of new breeding habitat for Western spadefoot.

Santa Ana River Woolly-star

Santa Ana River woolly-star was recorded on the property in 2023, and they are found in immediately adjacent areas. Because this species responds well to seeding, portions of Sunrise Ranch could be enhanced to create suitable conditions. Areas mapped as Riversidean alluvial fan sage scrub, as well as areas with suitable sandy soils, that can be restored to Riversidean alluvial fan sage scrub, have the potential to support Santa Ana River woolly-star. Currently, there are approximately 42 acres of Riversidean alluvial fan sage scrub mapped on Sunrise Ranch that could support Santa Ana River woolly-star.

San Bernardino Kangaroo Rat

Given the narrow, restrictive range of San Bernardino kangaroo rats and limited mitigation opportunities where they occur, a focused assessment to map and quantify locations for existing and future mitigation opportunities on Sunrise Ranch was performed by a qualified biologist. San Bernardino kangaroo rats are found in alluvial fan sage scrub habitat; consequently, the focused assessments were completed in areas adjacent to the Santa Ana River, and Mill Creek. Although trapping has not been conducted to confirm presence, approximately 11.3 acres were identified as likely/possibly occupied by San Bernardino kangaroo rat. Of the approximate 42 acres of Riversidean alluvial fan sage scrub mapped on Sunrise Ranch, the focused assessments determined that approximately 32 acres is, or could be, suitable for San Bernardino kangaroo rat. Approximately 366 acres of USFWS designated critical habitat for the San Bernardino kangaroo rat overlaps with Sunrise Ranch. Approximately 91 acres overlap the western boundary of the property along the Santa Ana River, and approximately 274 acres overlap the southern boundary along Mill Creek.

MITIGATION OPPORTUNITIES AT SANTA ANA RIVER

Along the Santa Ana River, portions of the property located west of Greenspot Road are likely occupied by San Bernardino kangaroo rat. However, because the species likely does not currently occur east of Greenspot Road, movement corridors may be needed. Movement could be facilitated through the placement of culvert(s) underneath the roadway or retrofitting the existing large concrete box culvert, located just outside of the southwest corner of the property (**Figure 24**). Additionally, habitat improvement actions, including the removal of predator perches, and the removal and management of nonnative grasses across all areas of alluvial fan sage scrub, would increase habitat quality for the benefit of San Bernardino kangaroo rat. Habitat management actions that could be implemented to create and/or expand habitat for San Bernardino kangaroo rat include:

- Mechanical clearing/thinning of dense vegetation
- Controlled water source to create scour
- Nonnative plant removal
- Substrate augmentation

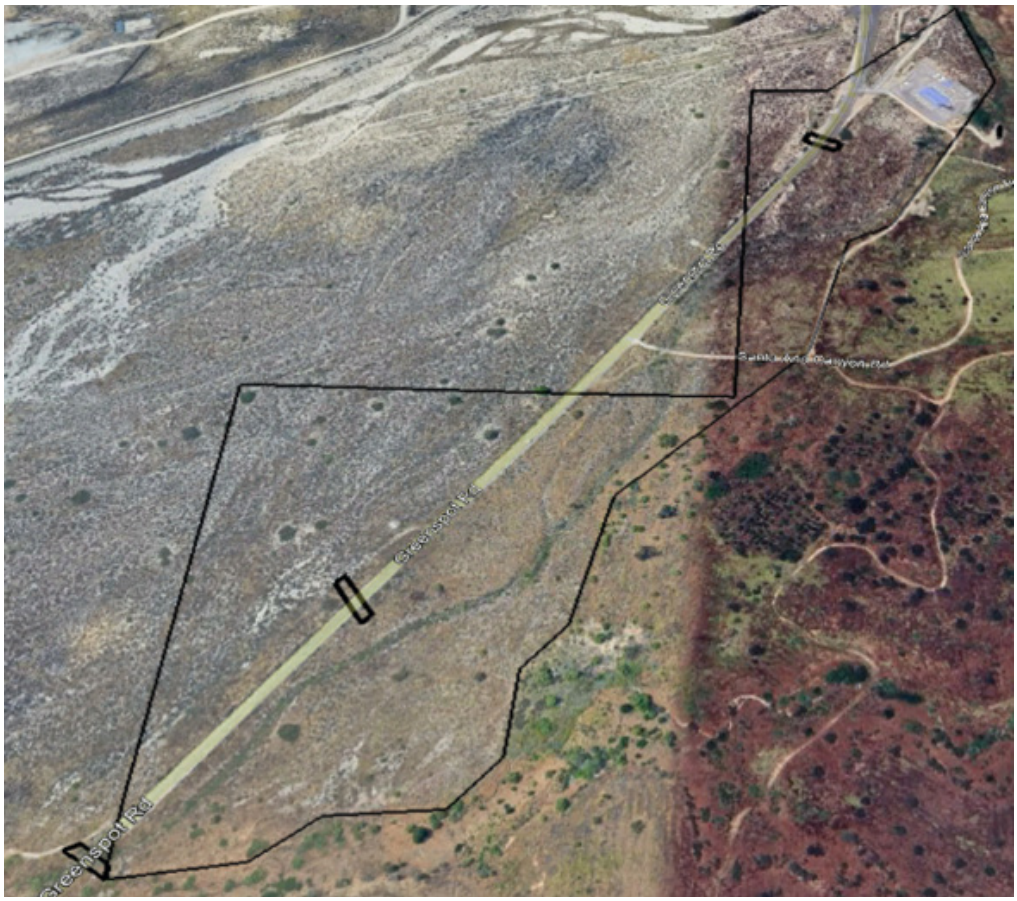


Figure 24. *Potential movement corridors for San Bernardino kangaroo rat*

Refer to Appendix for specific details on areas assessed for San Bernardino kangaroo rat habitat suitability and management opportunities.

MITIGATION OPPORTUNITIES ALONG MILL CREEK AT SUNRISE RANCH

Although 274 acres of USFWS designated San Bernardino kangaroo rat critical habitat overlaps with the southern boundary of Sunrise Ranch along Mill Creek, it is unlikely that San Bernardino kangaroo rat are currently present. However, because the species is present downstream in Mill Creek, and south of the southern bank of Mill Creek, habitat improvement actions, and the creation of movement corridors from these occupied areas to Sunrise Ranch could facilitate presence of the species in the future. In addition to the management actions identified above, movement corridors may be needed in areas to increase movement connectivity. More specifically, because portions of Mill Creek are incised, with steep slopes and terracing between the property and the creek bottom, these areas are unlikely to be traversable by San Bernardino kangaroo rat. Consequently, to facilitate movement slope grading or the creation of earthen ramps may be needed.

Other Species Opportunities

Because comprehensive surveys have not been completed, other rare and sensitive species may be present on the property or could occupy the site in the future (particularly following habitat restoration efforts based on habitat suitability). For example, there is high likelihood that the site supports Crotch's bumblebee, which is a candidate for listing under the California Endangered Species Act. Additionally, Sunrise Ranch supports occurrences of Parry's spineflower, which is ranked by the California Rare Plant Rank system (maintained by the California Native Plant Society) as a 1B.1 species, meaning that the species is rare, and is considered "…seriously threatened in California." Impacts on plants with

a rank of 1B.1 are required to be addressed under the California Environmental Quality Act (CEQA).

It is anticipated that additional mitigation opportunities would be explored later, e.g., during the development of an advanced mitigation crediting program (e.g., Conservation Bank or Mitigation Credit Agreement).

2.2.2. Conservation and Mitigation Bank Opportunities

Both public and private entities can establish and own conservation and mitigation banks. Bank lands are permanently protected, managed, and monitored. Habitat improvements are often undertaken to increase value. The environmental credits created through a bank can be sold to developers or private entities or used by the bank's sponsor to meet mitigation requirements associated with environmental permits.

A conservation or mitigation bank should protect important, high-value ecological areas and wildlife habitat values at both a local and landscape scale. These areas may include habitats that support diverse fish and wildlife populations, as well as species or ecosystems that are endangered, threatened, rare, or declining. The bank should be large enough to maintain healthy ecosystems, connect with other conserved lands, and provide contiguous habitats that support long-term ecological integrity and resilience. Additional factors to consider include:

- **Proximity to other conservation areas:** Sites located next to existing conserved lands are ideal, as they expand habitat connectivity and strengthen landscape-scale conservation.
- **Alignment with conservation initiatives:** Evaluate how the site supports or complements current and planned conservation programs, partnerships, or regional plans.
- **Water resources:** Assess the availability, reliability, and quality of water on the site, as well as any legal rights or restrictions related to water use.
- **Site and resource viability:** Consider the site's long-term capacity to sustain or improve its ecological resources. Factors include the overall size of the conservation unit and the long-term condition of surrounding and upstream lands.
- **Climate change resilience:** Identify potential threats such as the drying of wetlands, shifts in habitat types, or other climate-related changes, and plan for adaptive management to address these evolving needs.

If a conservation or mitigation bank—or a similar crediting program—is established using available habitat beyond the Agency's needs, it is essential to coordinate closely with the appropriate regulatory agencies to ensure that all expectations are met.

This coordination typically involves confirming the amount and quality of land that qualifies as mitigation habitat, securing permanent protection through a recorded conservation easement, assessing the land's value, and determining how much of it can be sold as different types of environmental credits.

Credit Types

Credits are established to offset unavoidable impacts on aquatic resources, special-status species, or habitats. The regulatory agencies that oversee conservation and mitigation banks recognize five main types of credits:

CREATION (RE-ESTABLISHMENT)

Rebuilding a former habitat or aquatic resource to restore its natural or historic functions. This may involve modifying the site's physical, chemical, or biological characteristics. To qualify, creation must result in a net gain in both resource area and ecological function.

ESTABLISHMENT

Developing a new habitat or resource in an area where it did not previously exist by altering the physical, chemical, or biological features on the site. Like creation, establishment must result in a net gain in resource area and ecological function.

ENHANCEMENT (REHABILITATION)

Improving or intensifying specific functions of an existing habitat or aquatic resource through targeted management or restoration activities. This credit type results in the gain in ecological function, but not an increase in resource area.

BUFFER

As defined by U.S. Army Corps of Engineers, a buffer is an upland or riparian area that protects or enhances aquatic resource functions – such as those associated with wetlands, rivers, streams, lakes, marine, and estuarine systems—from disturbances caused by nearby land uses.

WILDLIFE LINKAGE

Under Senate Bill 790 (Fish and Game Code Sections 1955–1958), mitigation credits may also be established for projects that improve wildlife movement and connectivity. These efforts are recognized through the California Department of Fish and Wildlife's Conservation and Mitigation Banking Program.

Currently Available Conservation/Mitigation Banks

Conservation and mitigation banks define specific, approved geographic service areas where permitted environmental impacts can be offset (i.e. compensated). The level of regulatory approval and the types of credits offered may vary from one bank to another.

Currently, four mitigation banks have service areas that overlap San Bernardino Valley's jurisdiction. To identify the types of credits available for purchase from these banks—and to assess local market demand—data were reviewed from the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS), and the Conservation and Mitigation Banks Established in California Service Area Dashboard were reviewed. A summary of the four mitigation banks is presented next.

CAJON CREEK CONSERVATION BANK

Cajon Creek Conservation Bank is in unincorporated San Bernardino County near the City of Rialto in the alluvial floodplain and active channel of Lytle Creek, just downstream from the confluence of Lytle and Cajon Creeks. The bank supports over thirty special-status species, including San Bernardino kangaroo rat and Santa Ana River woolly-star.

Cajon Creek Conservation Bank offers mitigation credits for Riversidean alluvial fan sage scrub, special-status species, and aquatic areas regulated by California agencies (i.e., Regional Water Quality Control Board, and California Department of Fish and Wildlife). The Cajon Creek Conservation Bank has been in operation since 1996. The bank is not currently approved by CDFW to sell credits for San Bernardino kangaroo rat. Credits from the Cajon Creek Conservation Bank are approximately $305,000 per acre.

LYTLE CREEK CONSERVATION BANK

Lytle Creek Conservation Bank is immediately adjacent to the Cajon Creek Conservation Bank and provides habitat mitigation credits to offset unavoidable impacts to San Bernardino kangaroo rat and Santa Ana River woolly-star within its approved service area.

Lytle Creek Conservation Bank has been approved only by the U.S. Fish and Wildlife Service to sell credits for alluvial wash habitat, whether occupied or unoccupied by the San Bernardino kangaroo rat. The bank began selling credits in 2016 (7.47 credits sold) and continued in 2017 (13 credits sold), followed by a period of inactivity until 2022, when 16 credits sold. No additional credits have been sold since 2022. Of the 36.47 credits sold to date, nearly all were purchased

by private developers and utility companies, with a very small portion being purchased by local government entities to offset impacts to occupied San Bernardino kangaroo rat habitat. Credits from the Lytle Creek Conservation Bank are approximately $220,000 per acre.

RIVERPARK MITIGATION BANK

The Riverpark Mitigation Bank is located in the valley below Perris Reservoir, at the southern terminus of the State Water Project. It protects several endangered plant species and rare vernal pools on the historic floodplain of the San Jacinto River. The bank also lies within one of the priority areas designated by the Western Riverside County Multiple Species Habitat Conservation Plan/Natural Community Conservation Plan (Western Riverside County MSHCP).

Credits from the Riverpark Mitigation Bank provide compensatory mitigation for permits issued by California Department of Fish and Wildlife under the Lake and Streambed Alteration Program, and by the Regional Water Quality Control Board and U.S. Army Corps of Engineers for permits issued under the Clean Water Act. The bank also provides compensatory mitigation for impacts on riparian and riverine resources associated with the Western Riverside County MSHCP.

The Riverpark Mitigation Bank has been approved by all regulatory agencies to sell riparian rehabilitation and establishment credits. From 2020 to 2024, a total of 15.94 credits have been sold for impacts on state and federal waters, as well as riparian and vernal pool habitat. Approximately two-thirds of these sales were for riparian habitat re-establishment, with most credits being purchased by private developers. Credits from the Riverpark Mitigation Bank range from approximately $365,000 to $425,000 per acre.

SOQUEL CANYON MITIGATION BANK

Soquel Canyon Mitigation Bank is a natural open space area near the junction of San Bernardino, Orange, Riverside, and Los Angeles Counties. Adjacent to Chino Hills State Park, it provides a vital link in the Puente-Chino Hills biological corridor, a region encompassing more than 14,000 acres of oak woodlands, sycamores, and rolling grass covered hills.

The bank provides habitat mitigation credits for several habitat types, including wetland, streams, riparian areas, oak woodlands, mulefat scrub, grasslands, coastal sage scrub. Soquel Canyon Mitigation Bank is recognized by all regulatory agencies and has been selling credits for federal and state waters since 2014. Credits offered at the bank include perennial, intermittent, and ephemeral streams as well as buffer areas surrounding those streams. To date, a total of 93.95 credits have been sold. In the ten years since establishment, nearly all enhancement credits for each stream type have been fully allocated, with the majority purchased by private developers and local government agencies. Credits from the Soquel Canyon Mitigation Bank range from approximately $100,000 to $350,000 per acre.

Bank Establishment

Establishing a conservation or mitigation bank at Sunrise Ranch to protect streams, seasonal wetlands, special-status species, and wildlife corridors is a plausible opportunity. The number of credits available for release to sell would be determined by the regulatory agencies overseeing

the bank, typically the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife. The credits are established based on the ecological values created, reestablished, or enhanced. The same agencies also determine the bank's service area and the phasing of credit releases. This is all done in close coordination with the bank's sponsor (owner).

The market value of bank credits is established through private market demand, with the bank sponsor holding exclusive authority to set sale prices for available credits.

Key factors that determine value of the bank include:

- Acreage values are not additive, as many resource areas overlap (for example, aquatic habitats that also support the least Bell's vireo).
- While credit prices are set by the bank sponsor, the regulatory agencies ultimately determine whether the proposed credits adequately compensate for project impacts.
- The presence of suitable habitat does not guarantee that a species occupies the area. Conversely, even where a special-status species is present, there could be limited demand for compensatory mitigation over time, dependent upon the overall species population conditions and the market needs for that type of credit.

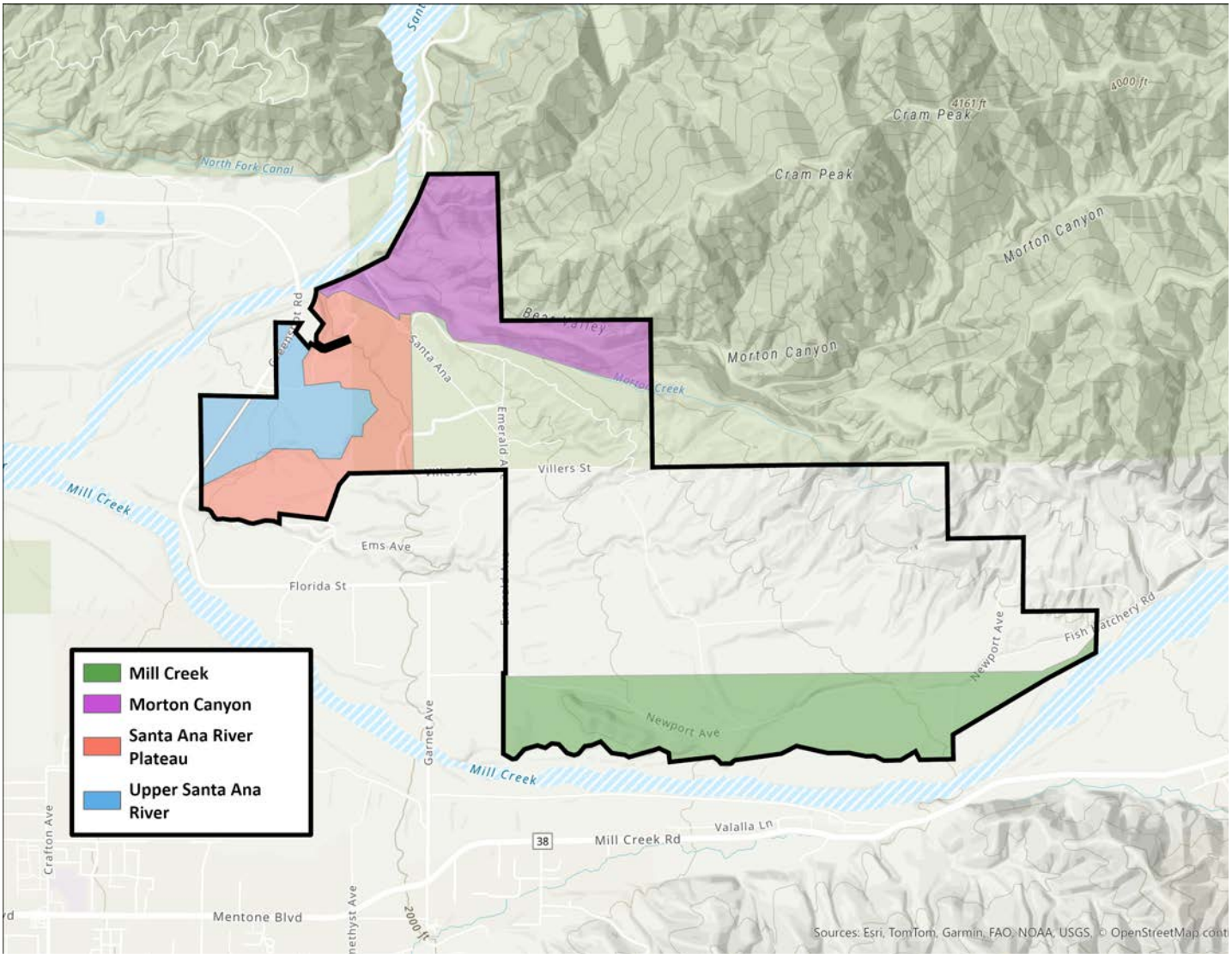


Figure 25. *General areas with some portion dedicated to the mitigation requirements of the Upper Santa Ana River HCP*

Acres Committed for San Bernardino Valley and Partner Agencies Projects under the Upper Santa Ana River HCP

Given the proximity to other conserved lands and the San Bernardino National Forest located to the north-northeast, as well as the diverse native vegetation communities and high-quality habitat present which support numerous rare native and endemic plant and wildlife species, a portion of the mitigation commitments included within the Upper Santa Ana River Habitat Conservation Plan (HCP) has been allocated to Sunrise Ranch.

Under the HCP, four areas within Sunrise Ranch—totaling approximately 349 acres—have been identified as optimal sites for compensatory mitigation based on the needs of the HCP and their relatively lower cost compared to other mitigation options for HCP-related water projects (**Figure 25**).

The committed locations include:

- **Morton Canyon**: 30 acres allocated to provide mitigation for riparian bird species.
- **Upper Santa Ana River**: 89.53-acre area allocated for alluvial fan sage scrub, and associated species, including Santa Ana River woolly-star, coastal California gnatcatcher, cactus wren, and California glossy snake.
- **Upper Santa Ana River Plateau**: 146.72-acre area allocated for Western spadefoot, burrowing owl, coastal California gnatcatcher, cactus wren, and California glossy snake
- **Mill Creek**: 82.79 acres allocated for alluvial fan sage scrub, and alluvial scrub dependent species, including Santa Ana River woolly-star, coastal California gnatcatcher, cactus wren, and California glossy snake.

Only a subset of the Morton Canyon and Mill Creek Areas would be used by the Upper Santa Ana River HCP.

Table 7. *Sunrise Ranch Acreage Committed for San Bernardino Valley and Partner Agency Projects under the Upper Santa Ana River HCP*

Upper Santa Ana River HCP Conservation Area Name	Upper Santa Ana River HCP Conservation Measure ID	Acres Committed to Upper Santa Ana River HCP
Morton Canyon	Conservation 22	30
Upper Santa Ana	Conservation 23	89.53
Mill Creek	Conservation 24	82.79
Upper Santa Ana River Plateau	Conservation 25	146.72
	Total	**349.04**

HABITAT AND MITIGATION

Summary

2.3. Summary Findings

As discussed in Section 2.2.2, only four conservation and mitigation banks are currently operating within the San Bernardino Valley area, and just two have been approved by more than one regulatory agency. The limited number of banks and the restricted types of credits they offer—combined with the high ecological value of the resources found on Sunrise Ranch—make the site an attractive candidate for establishing a new conservation or mitigation bank, or another advanced mitigation crediting program.

Sunrise Ranch currently supports, or has the potential to support, five special-status, threatened, or endangered species, as well as streams, wetlands, and Riversidean alluvial fan sage scrub. Each of these resources holds significant financial and ecological value within the regional conservation and mitigation credit market.

Assessments completed to date indicate that nearly all of Sunrise Ranch is suitable—or could become suitable—for the California gnatcatcher. A biologist with expertise in the San Bernardino kangaroo rat identified 19 potential mitigation opportunities for that species. Additional opportunities also exist to establish new populations of the Santa Ana River woolly-star and western spadefoot, as well as to create seasonal wetlands and enhance or restore stream habitats.

Up to approximately 900 acres within the property could be developed into a conservation or mitigation bank (**Table 8**). This estimate accounts for the 349 acres already allocated as compensatory mitigation under the San Bernardino Valley and partner agency HCP projects (as described above). The total acreage would ultimately be influenced by the estimated acreage required for other priority opportunities that may be developed onsite—such as reservoirs, administrative headquarters, trails, and other facilities—described in earlier chapters.

The final acreage dedicated to a conservation or mitigation bank will ultimately be determined by the Board, following a careful evaluation of the Agency's infrastructure and investment needs relative to the potential financial returns that could be achieved through land conservation.

Table 8. *Mitigation acreage summary by species*

Habitat Type	Special-status Species	Enhancement (acres)*^	Re-establishment (acres)*^	Creation (acres)*^
Riparian	least Bell's vireo	25.4	6.3	TBD
Terrestrial	California gnatcatcher	870	29.2	TBD
	Western spadefoot	TBD	TBD	TBD
	San Bernardino kangaroo rat	24	43.2	56.8
	Santa Ana River woolly-star			

* *All acreages listed are estimates*

^ *Because the same areas may be used by multiple species, the acreages listed in the table sum to more than 900 acres. For example, areas suitable for San Bernardino kangaroo rat and Santa Ana River woolly-star may also be suitable for California gnatcatcher; consequently, the 24 acres of enhancement listed for San Bernardino kangaroo rat is a subset of the 870 acres of enhancement identified for California gnatcatcher.*

Public Recreation
OPPORTUNITIES

CHAPTER 3. PUBLIC RECREATION OPPORTUNITIES

The Master Plan explores how Sunrise Ranch can help meet San Bernardino Valley's long-term water management needs while also providing meaningful benefits that may be enjoyed by the surrounding community, including local residents, school groups, civic organizations, partner agencies, and the taxpayers we serve.

For more than three decades, while under the public ownership of the County of Orange, Sunrise Ranch has been open for recreation—mainly hiking and bicycling along its existing access roads and trails. The Public Recreation Opportunities described in this chapter represent potential features that could be developed further, while keeping water infrastructure and habitat conservation as top priorities.

Sunrise Ranch is a unique and valuable regional resource with its open space, rich cultural significance, and natural connection between the headwaters and the valley of the Santa Ana River. The site also contains historic water infrastructure that played a key role in shaping the region's growth and development over more than a century. Together, these features make Sunrise Ranch an ideal place for community learning and appreciation.

By creating opportunities for the public to visit and engage with the site, San Bernardino Valley can help foster a stronger understanding of local water resources, encourage environmental stewardship, and build a sense of community pride and belonging. During outreach discussions, community members expressed a strong desire to maintain access and connection with the landscape.

While protecting water infrastructure and sensitive habitats will remain essential, developing a designated trail system at Sunrise Ranch could offer safe, sustainable ways for people to enjoy the site's natural beauty. Such a system would also support San Bernardino Valley's broader goals for watershed education, community engagement, and outdoor recreation.

The trail evaluation reviewed the existing trail network at Sunrise Ranch, focusing on maintenance needs, accessibility, and opportunities for improvement. Special attention was given to the following considerations:

- **Protection of sensitive species and habitats** – Trails were evaluated based on their proximity to areas that support sensitive wildlife or habitat and consideration of the impacts that public trails may have on the environment. These habitat areas may be used as compensatory mitigation to offset impacts from San Bernardino Valley's projects or those of partner agencies. They could also be incorporated into a mitigation or conservation bank, allowing the sale of habitat credits to generate revenue for future water infrastructure and environmental projects. Therefore, trails near these areas must be used and maintained in a way consistent with habitat goals.
- **Multi-purpose use** – Trails were assessed for their ability to serve multiple functions, such as patrol or maintenance roads, access routes for habitat restoration, and fire breaks for safety.
- **Access and emergency response** – The evaluation considered ingress and egress points to ensure adequate access for maintenance and emergency vehicles.
- **Connectivity with other facilities** – The proximity of trails to other potential San Bernardino Valley infrastructure, such as reservoirs or educational facilities, was also reviewed to support integrated planning.

Nearby regional trail systems—such as the Santa Ana River Trail (SART)—were factored into the assessment to explore possible connections and expand recreational opportunities for the community. Public input gathered during community workshops also helped shape this

evaluation. Suggestions for additional recreation features are summarized later in this chapter. Opportunities for educational programs and partnerships are explored further in the Facilities Opportunities chapter.

3.1. Existing Conditions

Sunrise Ranch currently contains several trails and unpaved roads, each in varying conditions. As part of this Master Plan,these existing routes were evaluated in relation to the property's long-term vision to identify where trails could be compatible with future uses and provide opportunities for public education, passive recreation, and enjoyment.

The assessment began with a review of existing trail maps and guides from city, state, and local agencies, along with an analysis of GIS data and aerial imagery. Site visits were also conducted to observe the on-site conditions of trails and unpaved roads firsthand.

Additional details and field documentation collected during this assessment—including photographs and supporting information—are provided in the Appendix.

Table 9. *Unofficial Trails at Sunrise Ranch*

Trail Name	Length (miles)	Surface Material	Condition and Access
Eyes of the World Loop	0.4	Compacted natural soil	Relatively clear path, accessible from Newport Ave and Eyes if the World lookout point.
Seven Oaks Dam Lookout	0.6	Compacted natural soil	Relatively wide path clear of vegetation. Mostly flat except for a short section that reaches 16% slope for a short stretch.
Morton Canyon Overlook	1.0	Compacted natural soil	Path average width 2 to 8 feet. Well maintained and relatively flat. Accessible from site entrance off Emerald Ave.
Morton Canyon Overlook Loop	2.0	Compacted natural soil	Narrow path with average width 2 to 8 feet. Relatively exposed with no tree cover. Links to the Santa Ana River Trail off property.
Seven Oaks Dam Lookout	0.8	Natural soil	Narrow path with average width 2 to 3 feet. Relatively exposed with no tree cover. Links to the Santa Ana River Trail (off property).

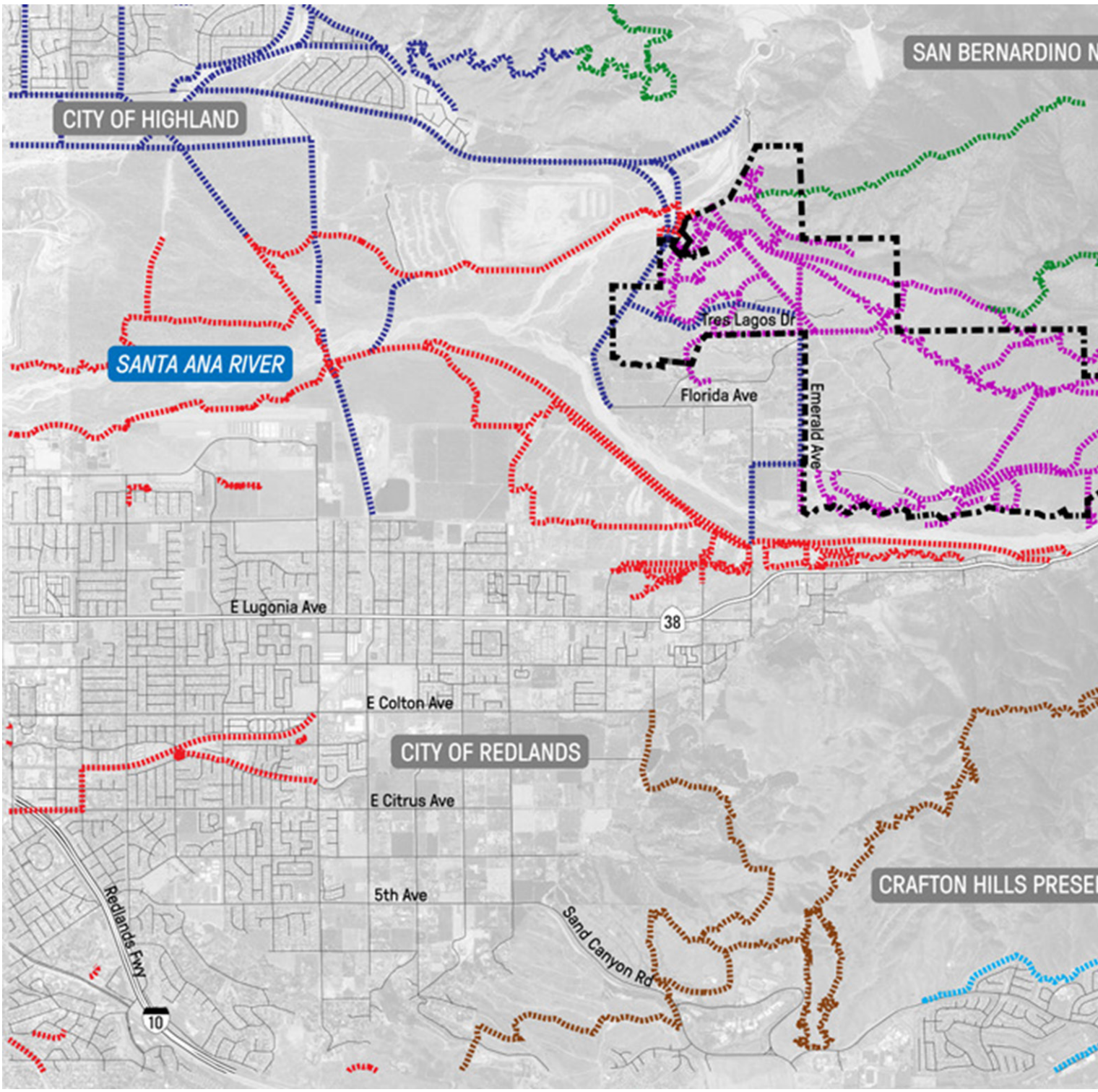
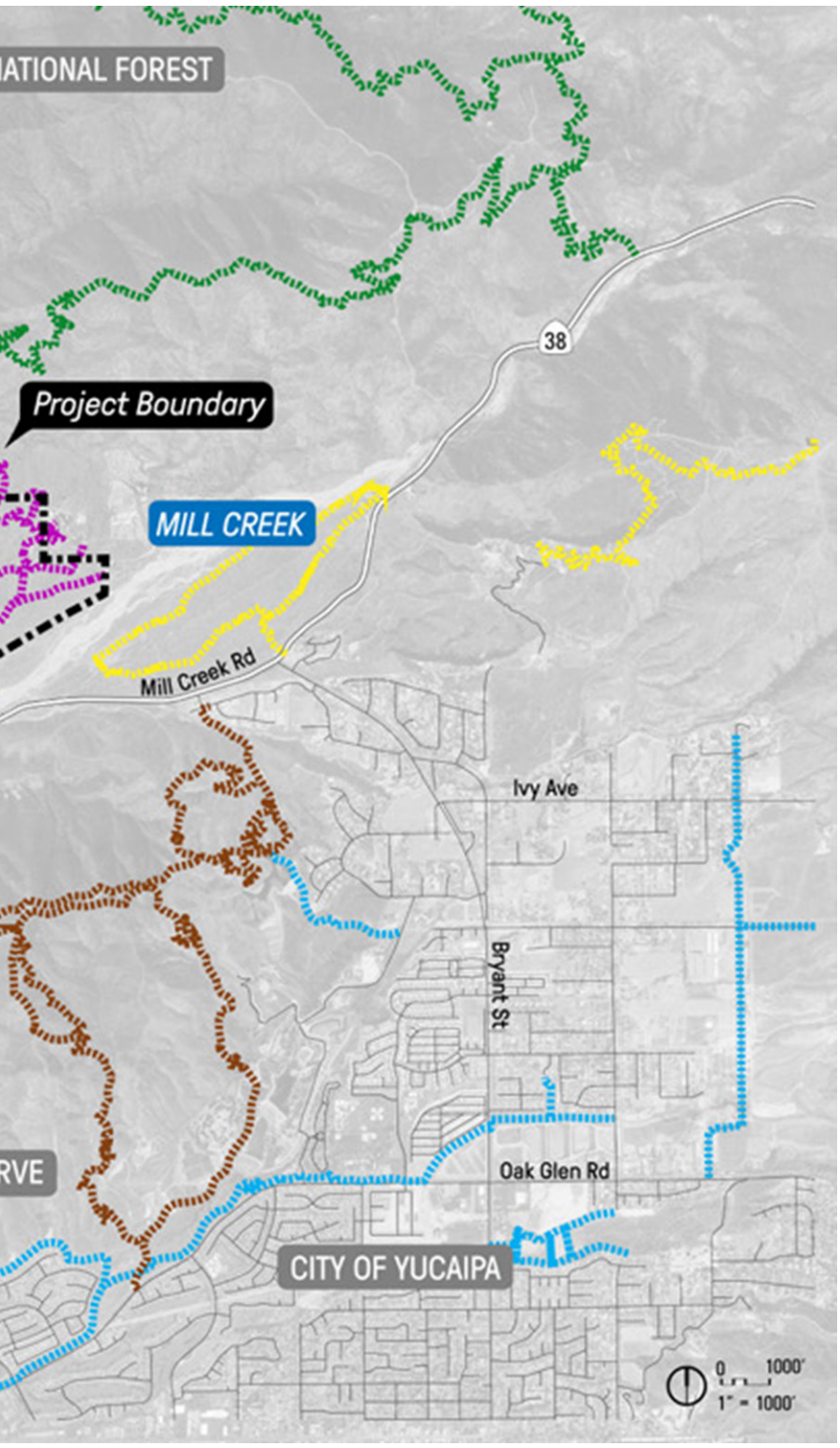


Figure 26. *Regional Trails surrounding Sunrise Ranch*



Selected Regional Trails

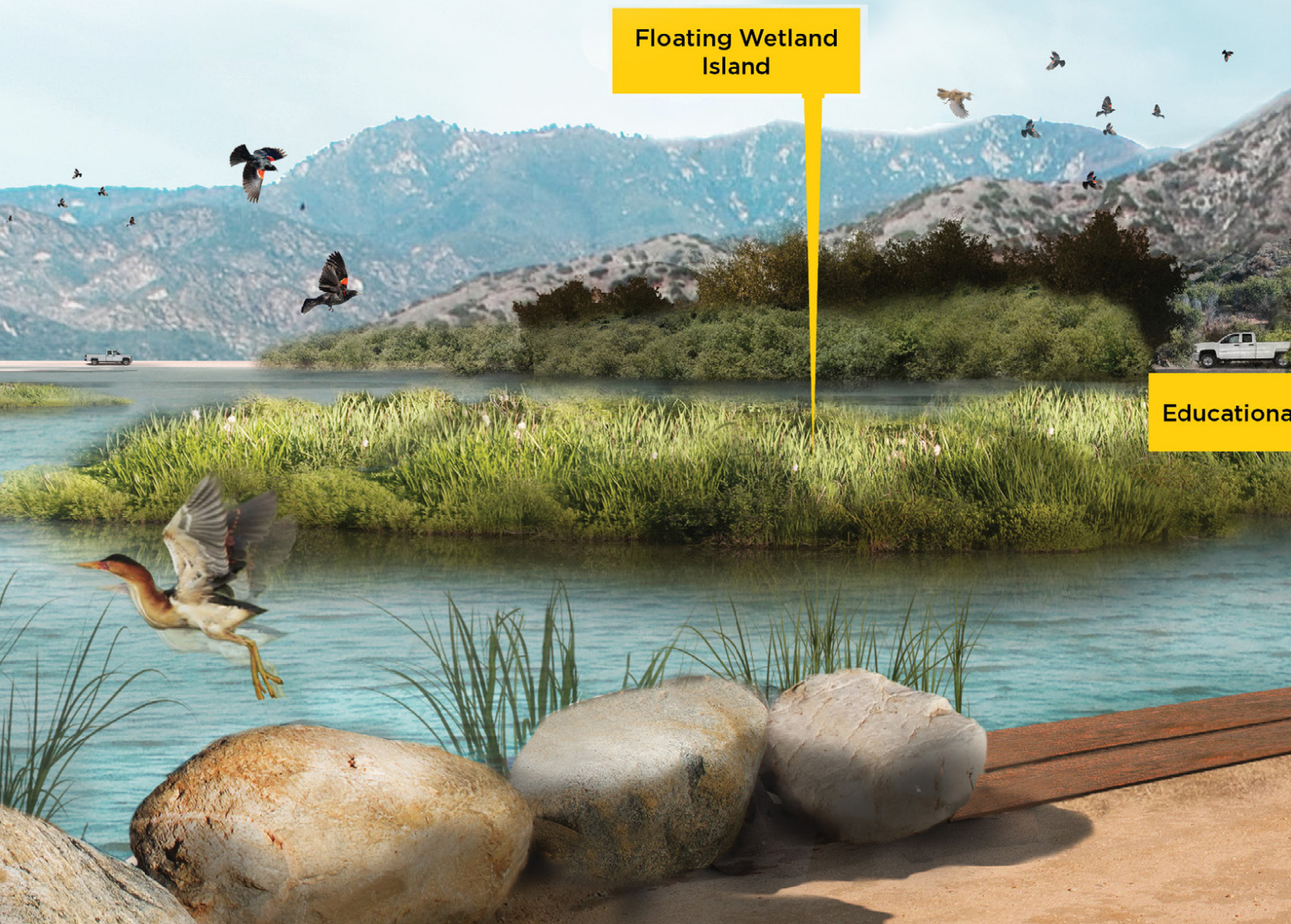
- San Bernardino Valley Municipal Water District
- City of Highland
  - Aplin Trail
  - Fire Road 1N16
  - Natural Parkland Trail
  - Northfork Trail
  - Shelton Trail
- City of Redlands
  - Bluffs Trail
  - Orange Blossom Trail
  - Santa Ana River Trail
  - Zanja Trail
- City of Yucaipa
  - Oak Glen Basins
  - Oak Glen Road Trail
  - East Schaefer Ranch
  - Trail Chapman Heights Trail
  - Wilson Creek Channel
- US Forest Service
  - Cram Peak Trail
  - Mill Creek Angelus Oaks Bypass
  - Morton Ridge Trail
  - Upper Santa Ana Trail
  - Warm Springs Truck Trail
- Crafton Hills Open Space Conservancy
  - Canyon Loop Trail
  - Crafton Hills Ridge Trail
  - Gold Loop Trail
  - Grape Avenue Trail
  - Highway 38 Loop
  - Regional Park Trail
  - Three Hawks Trail
  - Zanja Peak Trail
- Other

Pedestrian Bike Equestrian

Figure 26 shows the trails within the Sunrise Ranch property boundary as well as other regional trail systems in direct proximity. One key trail system of note is the Santa Ana River Trail—a major regional trail route planned to extend roughly 100 miles across Southern California from the mountains to the ocean, once complete. An existing segment of the trail begins just south of the Sunrise Ranch property off Garnet Street. San Bernardino County has ongoing plans to connect the remaining segments of the Santa Ana River Trail, creating a continuous route through the region. This effort could offer a valuable partnership opportunity for San Bernardino Valley if existing trails at Sunrise Ranch are designated as part of the larger regional network.

3.2. Evaluation and Assessment

If developed in the future, the reservoir(s) at Sunrise Ranch could become a regional destination, offering unique recreation experiences that celebrate the open spaces and natural beauty of the San Bernardino foothills and the Santa Ana River watershed.



- Trails: Enhancements to existing trails and potential new routes for hiking, biking, and exploration.
- Demonstration Garden: A collection of gardens showcasing the wide variety of plants and drought-tolerant landscapes that thrive in the Inland Empire's climate.
- Amenities: Additional features designed to enhance the visitor experience and expand recreational options beyond traditional trail use.

Together, these recreation opportunities would connect open spaces throughout the property, guiding visitors to different areas and experiences that highlight Sunrise Ranch's rich cultural history and provide beautiful views of Highland, Mentone, and the greater Inland Empire.

3.2.1. Trail Opportunities

Trails offer a great way for people to explore and enjoy natural areas while learning about and protecting the environment. By guiding foot and bike traffic along designated paths, trails can minimize impacts to the sensitive ecosystems and wildlife habitats, while allowing people of all ages and fitness levels to access the public open space safely and responsibly.

As part of this Master Plan, existing trails were evaluated using several criteria including:

- Level of difficulty
- Anticipated users (such as hikers, bikers, or maintenance personnel)
- Surface material
- Existing conditions and trailhead accessibility
- Proximity to sensitive or critical habitat areas
- Unique scenic or natural features

New trails concepts were also developed to provide routes around the proposed reservoirs and connect key areas of interest. All trails—both existing and proposed—were prioritized to help guide phased implementation over time.

Trail Prioritization Categories:

- **High Priority** (★★★) Trails in good condition that require little maintenance and could be opened before major construction elsewhere on the property.
- **Medium Priority** (★★) Trails in good condition but need moderate maintenance or improvements.
- **Low Priority** (★) Trails that depend on future reservoir construction or are located farther from main access areas.

The prioritization considered factors such as trail condition, access points, connection to regional trail networks, and potential for multi-purpose uses (for example, patrol or maintenance roads, habitat restoration access, property maintenance, or fire breaks).

Table 10 provides the recommended prioritization for both new and existing trail opportunities, followed by descriptions of each trail.

Table 10. *Recommended Trail Prioritization*

Trail Name	Priority	Difficulty	Length (miles)
Eyes of the World Loop	★★★ **High**	**Easy**	**0.4**
Seven Oaks Dam Lookout	★★★ **High**	**Easy**	**0.6**
Morton Canyon Overlook	★★ **Medium**	Moderate	1.0
Morton Canyon Overlook Loop	★★ **Medium**	Moderate	2.0
San Bernardino Valley Overlook Trail	★★ **Medium**	Moderate	0.8
Main Reservoir Loop	★ Low	Easy	1.7
Western Reservoir Loop	★ Low	Easy	1.3
North Reservoir Loop	★ Low	Easy	0.6
Mid Reservoir Loop Trail	★ Low	Hard	1.5

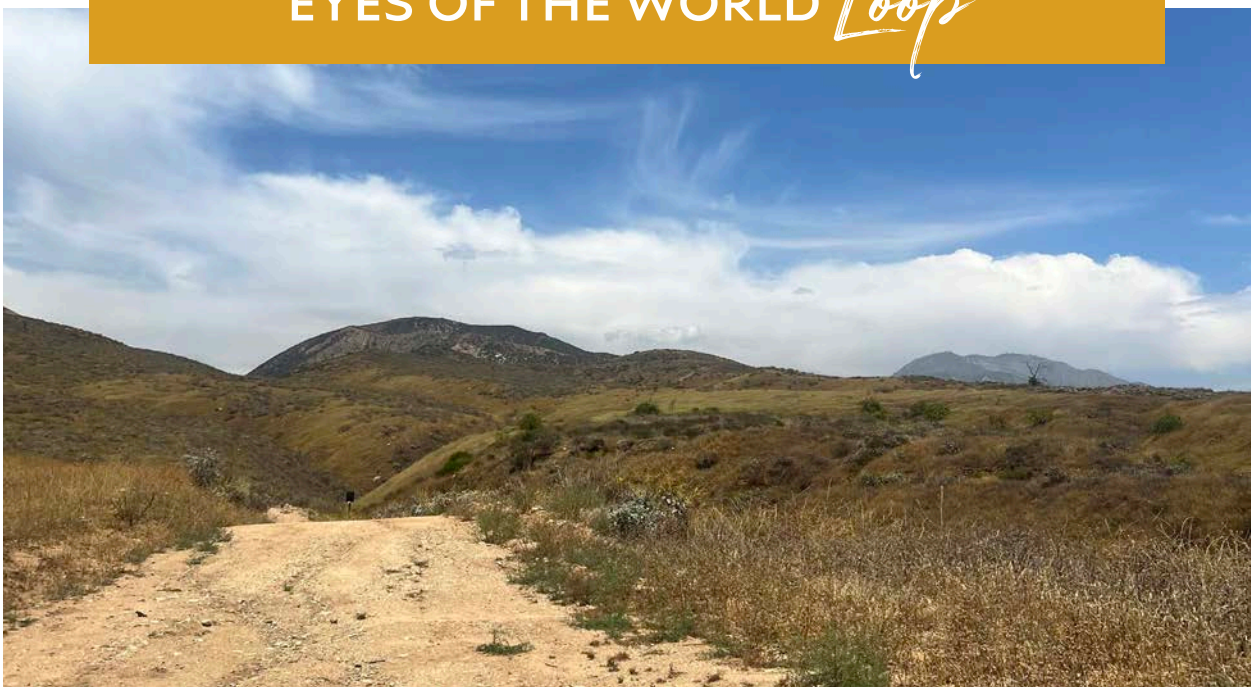
Each trail offers a different level of accessibility for visitors. Based on patterns from other regional trail systems, most of these trails would be suitable for both pedestrians and non-motorized bicycles or mountain bikes.

Some of the trails and access roads with gentler slopes and smoother surfaces could also provide excellent opportunities for hikers with limited mobility and visitors using strollers. New trails that could be constructed as part of other infrastructure such as around the reservoir(s) could be built to accommodate wheelchairs or other mobility-assist devices, further improving accessibility and making the area more inclusive for a wide range of users.

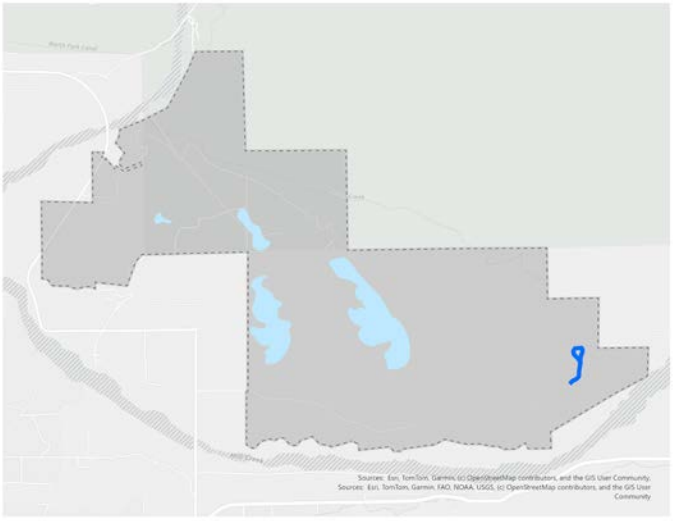
The following sections provide detailed descriptions of each trail, including their current conditions and recommendations for potential future improvements.

Final trail locations will need to be carefully planned to avoid conflicts with water infrastructure and to protect sensitive habitats on the property.

EYES OF THE WORLD *Loop*



Priority	★★★ **High**
Level of Difficulty	Easy
Distance	0.4 miles
Elevation Change	362 feet
Surface Material	Compacted natural soil, vegetation
Existing Conditions and Access	Relatively clear path, accessible from Newport Ave and Eyes of the World lookout point.



Identity — Historic building foundations and irrigation canals along the road are reminders of the legacy of orange orchards on site. Trail offers views over small ravines and the future primary reservoirs.

Potential Future Actions

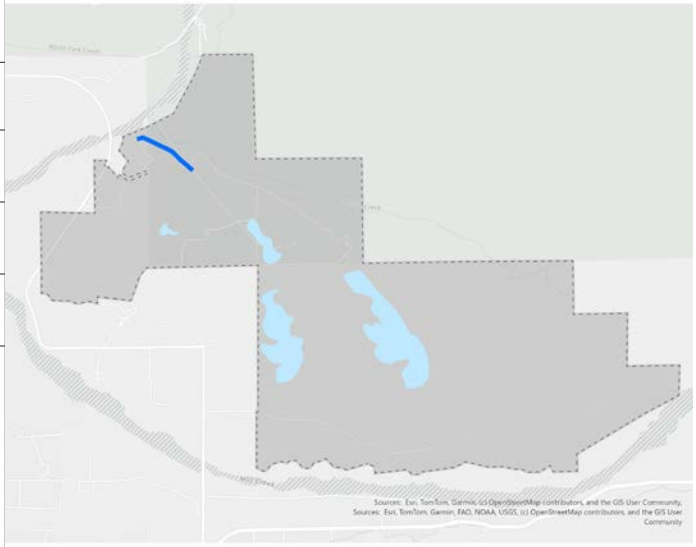
- Clear vegetation in path as needed
- Plant large native trees for shade at key areas
- Add directional signage at all trail intersections
- Consider adding educational signage near relics

Additional Uses

- Maintenance road
- Emergency vehicle access
- Firebreak
- Residential access

SEVEN OAKS DAM *Lookout*

Priority	★★★ **High**
Level of Difficulty	Easy
Distance	0.6 miles
Elevation Change	175 feet
Surface Material	Compacted natural soil
Existing Conditions and Access	Relatively wide path clear of vegetation. Mostly flat except for a short section that reaches 16% slope for a short stretch.



Identity	Predominantly California sagebrush scrub and brittlebush scrub along the path with invasive mustards growing in density. Views of Seven Oaks Dam and the Greenspot Historic Bridge. A family-friendly hike with many potential resting areas.

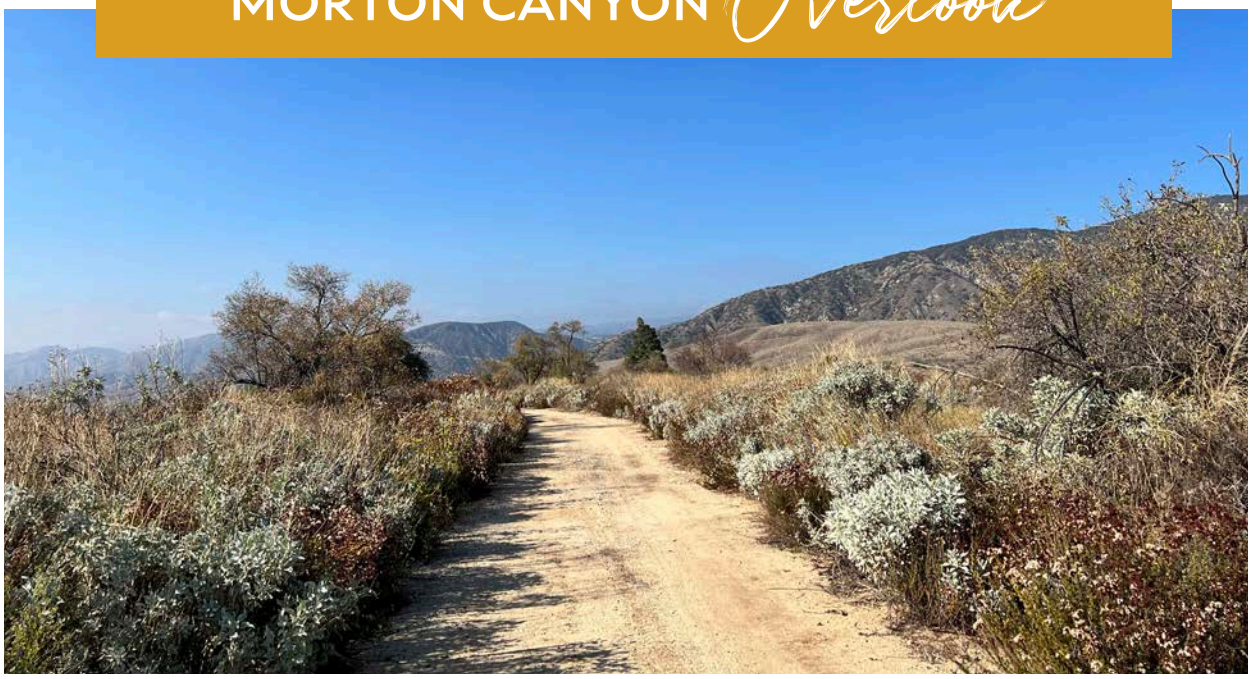
Potential Future Actions

- Leave trail width as is but clear debris at trailhead
- Add benches and plant native shade trees near the lookout
- Add directional signage at all trail intersections
- Consider clearing and monitoring invasive mustards and grasses in accordance with general stewardship in HCP area

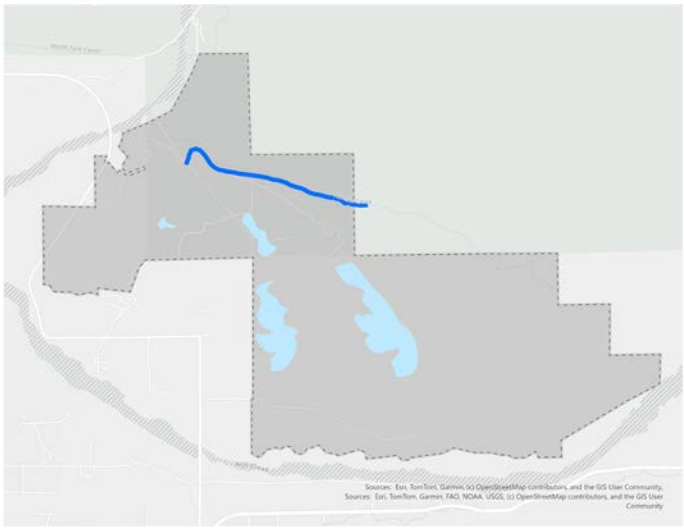
Additional Uses

- Maintenance road
- Emergency vehicle access
- Firebreak

MORTON CANYON *Overlook*



Priority	★★ **Medium**
Level of Difficulty	Moderate
Distance	1 mile
Elevation Change	196 feet
Surface Material	Compacted natural soil, overgrown vegetation
Existing Conditions and Access	Path average width 2 to 8 feet. Well maintained and relatively flat. Accessible from site entrance off Emerald Ave and potential headquarters campus.
Identity	Dominated by California sagebrush, brittlebush, and scrub oak. Sweeping views towards Mentone and Highland looking south and Morton Peak and Constance Peak looking north.



Potential Future Actions

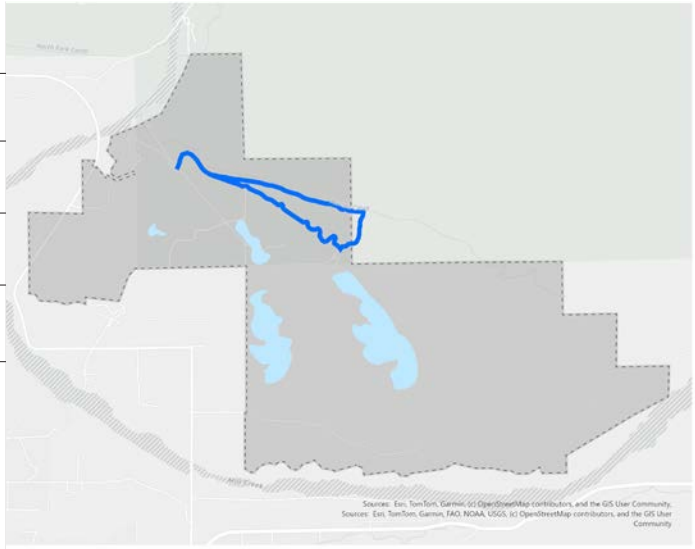
- Maintain variable width
- Clear vegetation in path
- Add directional signage at all trail intersections

Additional Uses

- Habitat/ mitigation credit access

MORTON CANYON OVERLOOK *Loop*

Priority	★★ **Medium**
Level of Difficulty	Moderate
Distance	2 miles
Elevation Change	500 feet
Surface Material	Compacted natural soil, overgrown vegetation
Existing Conditions and Access	Narrow path with average width 2 to 8 feet. Relatively exposed with no tree cover. Links to the Santa Ana River Trail off property.
Identity	Dominated by California sagebrush, brittlebush, and scrub oak. Sweeping views towards Mentone and Highland looking south and Morton Peak and Constance Peak looking north.



Potential Future Actions

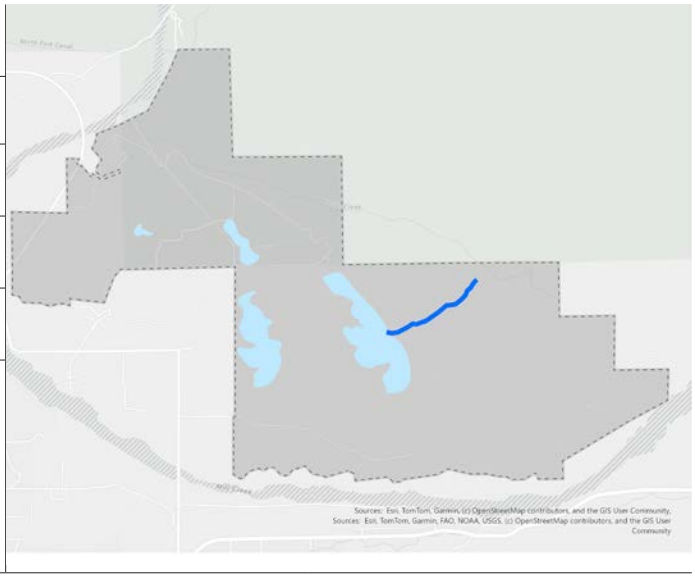
- Maintain variable width, minimum 3 feet
- Clear vegetation in path
- Plant large native trees for shade at key intersections
- Add directional signage at all trail intersections

Additional Uses

- Habitat/ mitigation credit access

SAN BERNARDINO VALLEY OVERLOOK *Trail*

Priority	★★ **Medium**
Level of Difficulty	Moderate
Distance	0.8 miles
Elevation Change	284 feet
Surface Material	Natural soil, vegetation
Existing Conditions and Access	Narrow path with average width 2 to 3 feet. Relatively exposed with no tree cover. Links to the Santa Ana River Trail (off property).
Identity	Sweeping views of the San Bernardino valley to the west.



Potential Future Actions

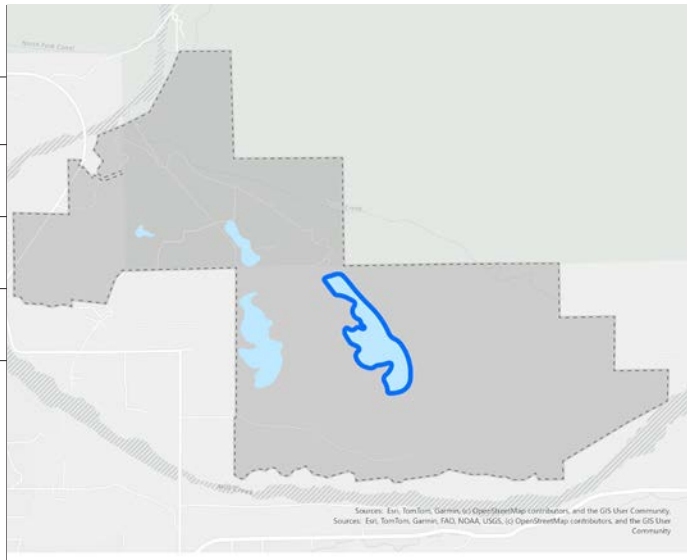
- Widen path to lookout, minimum 3 feet, and clear vegetation
- Add benches and native shade trees at lookout
- Add directional signage at all trail intersections

Additional Uses

- Maintenance road (portion of trail along reservoir)
- Habitat/mitigation credit access

MAIN RESERVOIR *Loop*

Priority	★ Low
Level of Difficulty	Easy
Distance	1.7 miles
Elevation Change	6 feet
Surface Material	Compacted natural soil
Existing Conditions and Access	Path would be shared with reservoir maintenance road. Shrubs, trees, and boulders would provide buffer and create informal resting places along the trail. Links to trails upland and below reservoirs.
Identity	Trail would pass a variety of terrestrial and aquatic habitats. It would offer east views to revegetated hillside and west views to the reservoirs, Mentone, and Highland.



Potential Future Actions

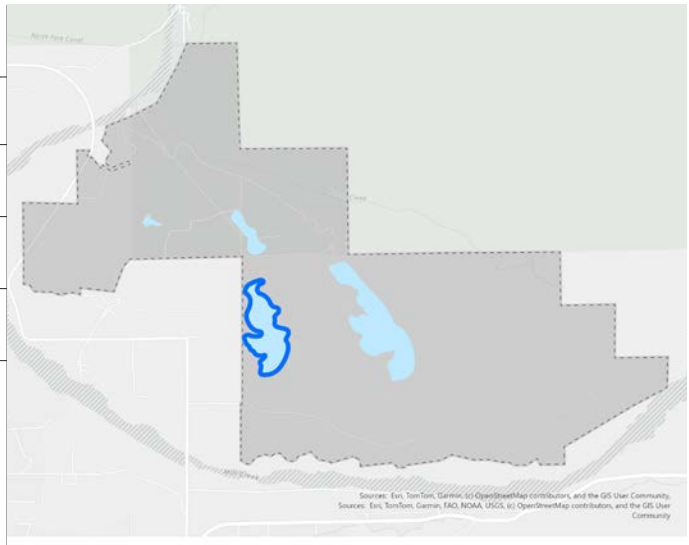
- Plant vegetation and native trees for shade to increase user comfort
- Create resting areas along path with benches and boulders
- Add interpretive signage
- Could provide a path for visitors with decreased mobility

Additional Uses

- Maintenance road
- Emergency vehicle access
- Firebreak

WESTERN RESERVOIR *Loop*

Priority	★ Low
Level of Difficulty	Easy
Distance	1.3 miles
Elevation Change	6 feet
Surface Material	Compacted natural soil
Existing Conditions and Access	Path shared with reservoir maintenance road. Well maintained and relatively flat. Links to trails located to the north and east
Identity	Trail would pass a variety of terrestrial habitats. It would offer east views to revegetated hillsides.



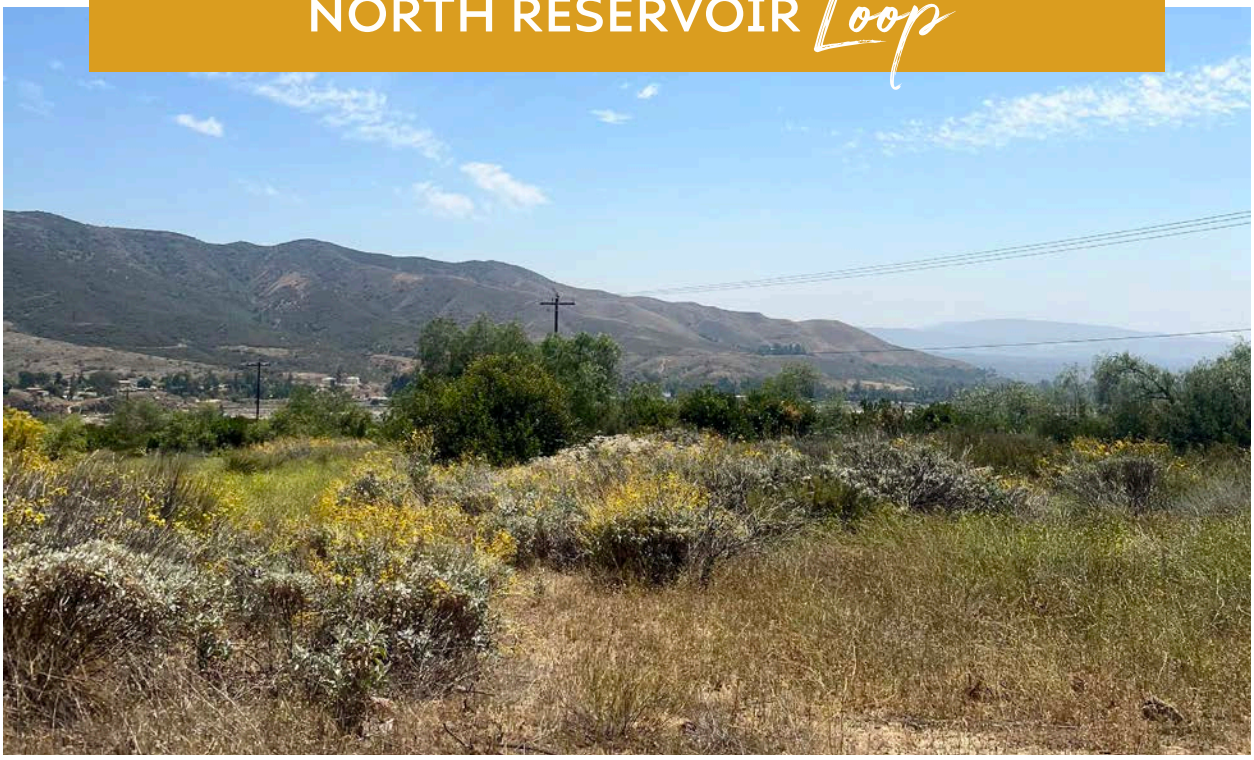
Potential Future Actions

- Plant vegetation and native trees for shade to increase user comfort
- Create resting areas along path with benches, boulders, etc.
- Add interpretive signage

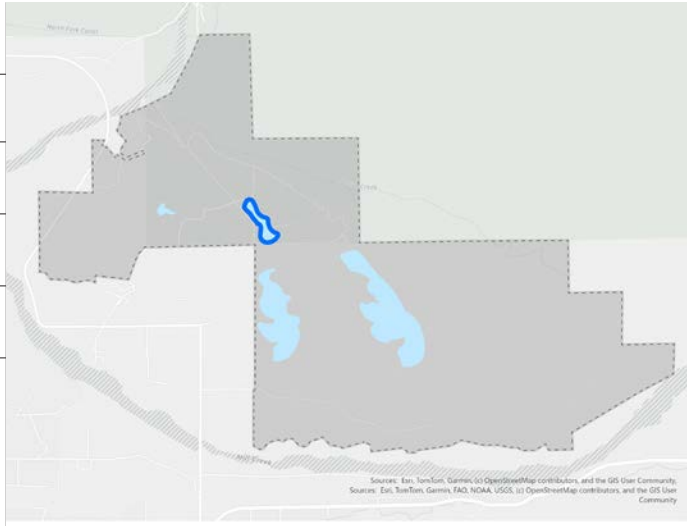
Additional Uses

- Maintenance Road
- Firebreak

NORTH RESERVOIR *Loop*



Priority	★ Low
Level of Difficulty	Easy
Distance	0.6 miles
Elevation Change	120 feet
Surface Material	Compacted natural soil
Existing Conditions and Access	Path shared with reservoir maintenance road. Well maintained and relatively flat. Links to trials to the north.
Identity	Trail would pass a variety of terrestrial habitats. It would offer views to revegetated areas to the east and west, and west views to the San Bernardino Valley.



Potential Future Actions

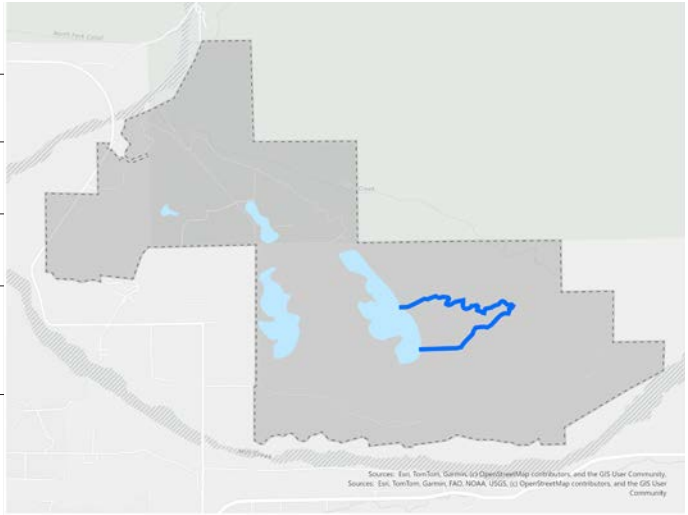
- Plant vegetation and native trees for shade to increase user comfort
- Create resting areas along path with benches and boulders
- Add interpretive signage

Additional Uses

- Maintenance road
- Fire break

MID RESERVOIR LOOP *Trail*

Priority	★ Low
Level of Difficulty	Hard
Distance	1.5 miles
Elevation Change	204 feet
Surface Material	Compacted natural soil, natural soil, and vegetation.
Existing Conditions and Access	Majority of trail overgrown and not easily traversed. Portion of trail shared with reservoir maintenance road.
Identity	Trail would pass a variety of terrestrial habitats. It would offer west views of the San Bernardino valley, and east views to revegetated hillsides.



Potential Future Actions

- Retire trail as it lies within designated critical habitat
- Add interpretive signage

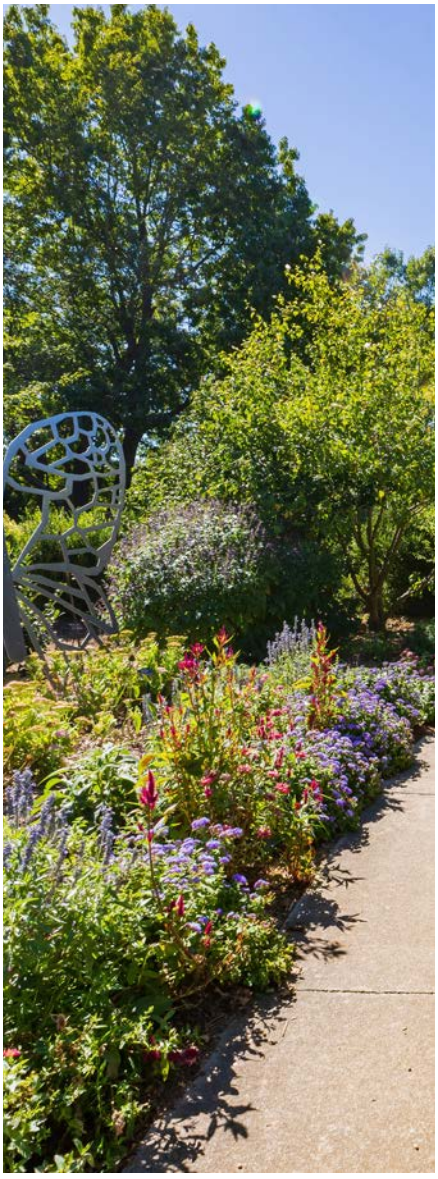
Additional Uses

- Habitat mitigation/banking access

3.2.2. Demonstration Garden Opportunities

With the 2024 adoption of the "Making Conservation a California Way of Life" regulation, education on efficient irrigation and water-wise landscaping has become more important than ever. Many community members are looking for inspiration and practical guidance on how to create beautiful, drought-tolerant yards and gardens that thrive in the Inland Empire climate.

An educational demonstration garden at Sunrise Ranch could serve as a living classroom—showcasing a variety of planting styles, native plant species, and suitable landscaping techniques suited to the region. Interpretive signage and pathways would help visitors learn about plant communities, irrigation practices, and design approaches that promote water efficiency and conservation.



Based on consideration of the site history and community needs, five Demonstration Garden Opportunities were identified:

- California Native Garden – Highlighting plants naturally adapted to the local environment.
- Ethnobotanical Garden – Featuring plants with traditional uses by Indigenous peoples and early settlers.
- Lush Low-Water Garden – Showing that vibrant, green landscapes are possible with minimal irrigation.
- Desert Garden – Displaying hardy, low-maintenance plants ideal for arid conditions.
- Fire-Safe Garden – Demonstrating landscaping approaches that reduce wildfire risk while maintaining beauty.

For maximum visibility and ease of access, the demonstration gardens would be located near future public facilities, described in the Facilities Opportunities chapter. **Figure 27** illustrates potential locations for these gardens within the site.

Figure 27. *Prospective Demonstration Garden Locations*

Demonstration GARDENS

California Native Garden

The California Native Garden would feature some of the most beautiful and resilient native plants from Southern California, demonstrating how they can be used to create attractive, low-maintenance landscapes that thrive in the region's climate.

This plant palette could be incorporated throughout the property—around buildings, outdoor gathering areas, parking lots, and even behind-the-scenes service areas—to unify the site with a natural, water-efficient aesthetic.

A special highlight of this garden could be a designated Monarch Butterfly Habitat, featuring milkweed and nectar plants to support pollinator health and provide educational opportunities about native wildlife.

Example plants: Desert Willow (Chilopsis linearis), Manzanita (Arctostaphylos 'Howard McMinn'), Cleveland Sage (Salvia clevelandii), Prostrate Chamise (Adenostoma 'Nicolas'), Asclepias eriocarpa

Desert Willow

Ethnobotanical Garden

The Ethnobotanical Garden would highlight plants that hold cultural, medicinal, and practical importance to the Indigenous tribes of Southern California, particularly the Serrano and Gabrieliño-Tongva peoples.

This garden would feature plants such as buffalo gourd and other unique species that are not commonly seen in modern landscapes but were historically used for food, medicine, tools, and ceremonial purposes. Informational signage and interpretive displays would help visitors understand how these plants were traditionally used and their significance within local Indigenous cultures.

To ensure authenticity and cultural sensitivity, the plant selection and garden design should be developed in collaboration with an ethnobotanist and local tribal representatives.

Example plants: Black Oak (Quercus kellogii), Deergrass (Muhlenbergia rigens), White Sage (Salvia apiana), Chaparral Yucca (Hesperoyucca whipplei), Buffalo Gourd (Cucurbita foetidissima)

Chaparral Yucca

Lush Low-Water Garden

The Lush Low-Water Garden would showcase how a vibrant, green, and inviting landscape can be achieved while using minimal water. This garden would feature a wide variety of drought-tolerant plants that stay colorful and full even during the hottest months of the year.

The goal is to demonstrate that homeowners and gardeners in the Inland Empire can create beautiful, pollinator-friendly landscapes that save water and incorporate native species.

Example plants: Chitalpa (Chitalpa x tashkentensis), Cedros Island Verbena (Verbena lilacina), Island Pink Yarrow (Achillea 'Island Pink'), Foothill Penstemon (Penstemon 'Margarita BOP'), UC Verde Buffalograss (Bouteloua dactyloides)

Foothill Penstemon

Demonstration GARDENS

Tree Aloe

Desert Garden

The Desert Garden would highlight the striking beauty and resilience of desert plants, showcasing a variety of cacti, succulents, and drought-tolerant species. Designed in the style of a traditional desert landscape, it would feature boulders, crushed stone mulch, and open space between plants to emphasize each specimen's unique form and texture.

This garden would primarily include California and North American native desert plants, many of which bloom seasonally to attract pollinators such as bees and hummingbirds. It would serve as both an educational and visual example of how desert-adapted plants can create stunning, low-maintenance landscapes.

Example plants: Palo Verde (Parkinsonia x 'Desert Museum'), Tree Aloe (Aloe x 'Hercules'), Beaked Yucca (Yucca rostrata), Beavertail (Opuntia basilaris), Golden Barrel Cactus (Echinocactus grusonii)

Golden Barrel Cactus

Fire-Safe Garden

The Fire-Safe Garden would demonstrate how beautiful, sustainable landscaping can also help protect homes and communities from wildfire risk. This garden would feature primarily California native plants that are recommended for fire-resistant landscaping—selected for their low flammability, high moisture content, and ability to slow the spread of fire.

The plant palette is based on guidance from the Counties of San Diego and Los Angeles, as well as the Theodore Payne Foundation, which specializes in fire-wise native landscaping for Southern California.

By showcasing these plants in a real-world setting, the Fire-Safe Garden would help visitors learn practical ways to design attractive, defensible landscapes that support both safety and sustainability.

Hardy Aloe

Example plants: Toyon (Heteromeles arbutifolia), Hardy Aloe (Aloiampelos striatula), Saltbush (Atriplex lentiformis), Bladderpod (Peritomea arborea), Hybrid Coyotebrush (Baccharis x 'Starn')

3.2.3. Recreational Amenity Opportunities

Beyond dedicated trails and demonstration gardens, several recreational amenities could be developed to enhance the visitor experience at Sunrise Ranch. These features would be carefully designed to provide educational and recreational value while minimizing impacts to local wildlife and native habitat. **Table 11** outlines the recommended amenities for the Board to consider.

Table 11. *Recreational Amenity Opportunities*

Site Amenity/Activity	General Benefit	Potential Location
Seating	Benches and picnic areas for visitors to use	Viewpoints and other designated areas throughout publicly accessible areas
Interpretive Signage	Directional and educational signs can help visitors navigate the site and provide visible geographical features, historical facts, or ecological information to enhance visitor experience by providing context to what they are observing Interpretive signage could be fixed, web-based QR codes, and/or digital kiosks, depending on the location, need, and site security	Throughout the site, see **Figure 28** for examples
Watershed Model	Educate visitors on the scale and complexity of the Santa Ana River watershed, the Santa Ana River and its tributaries, and the functions of the system	Designated strategic viewpoint at or near Headquarters building or Education Center that overlooks the headwaters and valley floor
Binoculars or Viewing Scopes	Allow visitors to view distant details and geographic markers across the San Bernardino Valley	Key lookout points
Trash and Recycling Receptacles	Provide designated waste disposal locations to minimize littering	Throughout the site
Bike Racks	A sustainable way to encourage cycling and outdoor activities	Key locations near buildings
Amphitheater	Create new event space with seating and small stage area to complement educational and informative events	Designated space; see **Figure 29** for example
Beekeeping	Authorize an approved entity to locate beehives on site	Designated space(s)
Unmanned Aircraft System	Authorize approved organizations, like the Inland Valley Development Agency, to operate on-site	Designated space(s)

Many of the proposed recreational amenities are designed to offer a passive and reflective experience with the natural environment. Through positive, self-guided interactions—such as walking, observing nature, or enjoying scenic views—visitors can build a stronger connection to the landscape and the watershed as a whole while also gaining a deeper understanding of the work that San Bernardino Valley does to protect and manage public resources. Open spaces at Sunrise Ranch provide meaningful opportunities for visitors with an opportunity to connect directly with nature and the Agency, fostering community pride and awareness of the region's water stewardship efforts. The recommended Recreational Amenity Opportunities encourage visitors to learn about the benefits of public programs, relax and recharge, and enjoy the beauty of the natural surroundings in a safe, calm, and sustainable setting.

Regulatory Signs
Located along trails or areas where public access is restricted

Trailhead Monument
Located near major trailheads

Trail Markers
Located at regular intervals along the trails

Directional
Located at key vehicular junctions, public parking, and open space areas

History/Education
Located along trails, near the Education Center, or near historical site features

Site Ecology
Located along trails and near the Education Center

Figure 28. *Example Sunrise Ranch Signage*

Figure 29. *Example Natural Amphitheater: Sunrise Circle Amphitheater in Boulder, Colorado*

In addition to hiking and bicycle trails and the passive amenities listed in **Table 11**, several other ideas were suggested by community members during the public input phase. Each of these suggestions was carefully evaluated and resulted in an initial recommendation—either to pursue further study or not to proceed at this time—based on reasons outlined in **Table 12**. If the Board of Directors chooses, San Bernardino Valley may revisit and further explore these potential uses in the future as site conditions, community needs, and priorities evolve.

Table 12. *Additional Activities Discussed*

Proposed Activity	Use Considerations
Activities Requiring Additional Analysis	
Native Plant Nursery	Strategic community partnerships could be pursued to fund this activity. If a viable partner was identified, this activity could benefit native planting and restoration activities in the long run by supplying San Bernardino Valley's own plant stock. Potential partners could include the local Universities or Resource Conservation Districts.
Equestrian	Many open space areas would support equestrian use, which can also include partnerships with community groups for trails maintenance and clearing. Potential negative interactions with hikers and cyclists are possible if they share trails with equestrian recreation. This use would require a dedicated staging area for horse trailers and potentially additional site security. There may be potential impacts to sensitive species and habitats, including transmission of invasive weeds into the site once restored. *This option could be considered pending further analysis and research of similar uses.*
Camping	Low impact recreation, like small group camping, provides opportunities for increased engagement with the site. Full-scale public campgrounds, including both tents and cabins, pose wildfire risk, safety and site security challenges, potential impacts to sensitive habitats, and negative impact to open space areas (and other uses). *However, opportunities for limited small group campouts (i.e., Scouts or school groups) at select locations with required significant safety protocols could be explored to determine if it is feasible.*
Passive Fitness Equipment	The addition of passive fitness equipment to facilitate pull ups, bar dips, crunches, and balance, could increase community engagement with the site in conjunction with the trails system. The use of passive fitness equipment poses some risks associated with injury and accident, as well as increased maintenance obligations. *This activity would require further analysis and research of similar uses.*
Activities Not Recommended At This Time	
Motorcycle	Motorcycle activity poses significant wildfire and accident risks. Motorcycles also pose a risk to sensitive habitat and people on site. *This activity is recommended to be eliminated from future consideration.*
Fishing	The introduction of game species into the future reservoir(s) for recreational fishing would likely result in inadvertent transmission of exotic fishes into the watershed downstream. *This activity is recommended to be eliminated from future consideration.*
Hunting	Hunting activities pose significant wildfire and accident risks. Hunting also poses a risk to sensitive habitat and people on site. *This activity is recommended to be eliminated from future consideration.*
Boating	Motorized and non-motorized boating pose significant safety concerns, potential to introduce invasive species into the water system, and water quality implications. *This activity is recommended to be eliminated from future consideration.*
Swimming	Swimming poses significant safety concerns, potential to introduce invasive species, and water quality implications. *This activity is recommended to be eliminated from future consideration.*

PUBLIC RECREATION
Summary

3.3. Summary Findings

In the short term, several actions are recommended to help move the Public Recreation Opportunities at Sunrise Ranch forward.

Begin long-term trail system design.
Based on the findings of this study, initiate the next phase of trail planning and design. This should include updating select existing trails, adding new ones, and retiring those that are less compatible with the overall site plan. The design should also incorporate features such as educational signage, viewpoints with seating, and other enhancements that enrich the visitor experience.

- **Integrate demonstration gardens into facility planning.** Include a Demonstration Garden Plan as part of future facility design efforts to showcase sustainable landscaping and water-efficient planting concepts.
- **Explore additional activities.** Continue researching and documenting potential recreational or educational activities that could be incorporated into the site in the future for further evaluation.
- **Develop community partnerships and potential outside funding sources.** Identify and engage potential partners—such as schools, nonprofits, or community organizations—that could help support educational and recreational programs through funding, volunteer efforts, or collaborative initiatives. Findings from this effort should be compiled into a summary report for Board review and direction.

While this plan presents a focused set of Public Recreation Opportunities for initial consideration, many more possibilities may emerge over time as Sunrise Ranch continues to evolve as a regional resource for education, recreation, and water stewardship.

Facilities
OPPORTUNITIES

CHAPTER 4. FACILITIES OPPORTUNITIES

The conceptual facilities in the Sunrise Ranch Master Plan support the functionality and experience of the water supply infrastructure, habitat mitigation, and recreation opportunities identified by the Board of Directors for San Bernardino Valley and the community at large.

Facilities Opportunities are presented in three categories:

1. Building Opportunities
2. Utilities Opportunities
3. Access and Transportation Opportunities

The facilities enable the operation, education, and experience of the natural resources of the site while demonstrating how water resources benefit the region. They are tied together by a conceptual Site Plan that describes the facility locations in relation to each other.

4.1. Existing Conditions

There are currently no buildings or utility connections located on the Sunrise Ranch property. The nearest utility services are approximately one to two miles away.

Existing roads within the property include Tres Lagos Drive and Newport Avenue (see **Figure 30**). Emerald Avenue, which runs just outside and parallel to the property boundary, also provides access to the site. Other on-site roads are limited-use maintenance roads that support operational needs but are not open for public access.

4.2. Evaluation and Assessment

Given the 1,685-acre size of the Sunrise Ranch property, there are multiple potential locations for future facilities. To identify the most suitable areas, a Siting Study was conducted to evaluate each location based on key planning drivers (outlined in **Table 13**) identified as priorities for San Bernardino Valley.

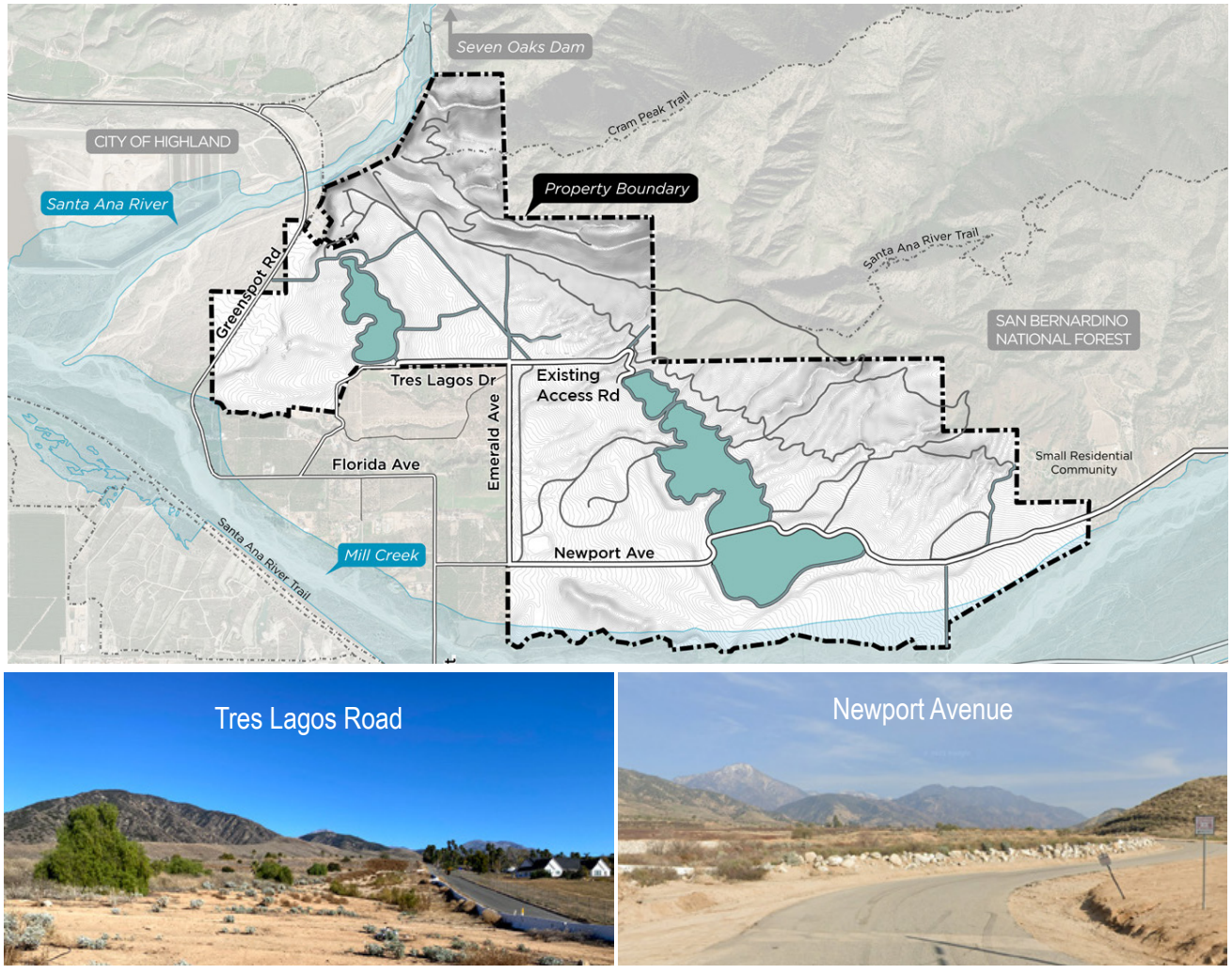


Figure 30. *Major roads at Sunrise Ranch*

After evaluating these locations, several potential facility layout options were developed and compared. The preferred site plan—based on the various opportunities and constraints—is shown in **Figure 31** and is referred to as the "Campus Layout" in the Siting Study. This option was found to best meet the planning objectives. This layout groups all buildings together near the conceptual Reservoir 2310, allowing for efficient operations, shared infrastructure, and cohesive design. A Siting Matrix with the complete results, including alternative layout concepts and advantages and disadvantages for each potential facility, is provided in the Appendix.

Table 13. *Site Assessment Planning Drivers*

Driver	Desirable	Less Desirable
Access Access is measured by distance to nearest vehicular road, nearby recreation amenities, and potential parking.	• Clear access for San Bernardino Valley employees, emergency services, and visitors	• Infrastructure far from road and/or recreation amenities
Cost Implications Associated cost implications include those just beyond the construction cost that would impact siting including road construction.	• Minimizes necessary road improvements	• Additional road improvements required
Habitat Impacts Habitat impacts relate to land disturbed from construction and the quality of habitat it could potentially displace.	• No impact or low impact to high-quality habitat that would not require extensive mitigation	• High impact to high-quality/ designated habitat preservation
Reservoir Connection The relationship of the facility site to the reservoirs is measured by construction phasing, distance from conceptual infrastructure to reservoir, and the potential of the reservoir to act as a fire break.	• Near the reservoir(s) and firebreak	• Distant from reservoir(s)
Topography / Views For the Headquarters and Education Center, views are measured by landmarks and vistas that users would experience from that site. For the Fire Training Facility, views consider user experience as well as the visibility of the building from the headquarters or areas above/below the property.	• Views of the mountain, landmarks, vistas, and the valley • Fire Training Facility not visible from Headquarters • Ability to blend with the foothills to minimize the visual impact to the community	• Obscured views across the site • Fire Training Facility visible from Headquarters • Creating a highly visible facility from the valley floor.

Once locations were assessed, facilities were studied together in various layouts. The preferred site plan (**Figure 31**), referred to as the "Campus Layout" in the Siting Study, best fulfills the planning drivers by co-locating all buildings next to a conceptual Reservoir 2310.

Figure 31. *Facilities Opportunities Site Plan*

Table 14 provides a summary of the preferred plan's characteristics as they relate to the planning drivers.

Table 14. *Preferred Site Plan Drivers Characteristics Summary*

Driver	Preferred Site Plan Characteristics
Topography / Views	• Using topography to optimize views to the valley and San Bernardino National Forest • Using topography to integrate facilities into the landscape and preserving scenic views of the property from below
Habitat Impacts	• Located within the grading area of Reservoir 2310, avoiding impact to other site areas • Consolidates development in one primary location on the site • Habitat enhancement is recommended with access to campus for educational opportunities
Access	• Access from Tres Lagos Dr. / Newport Ave. • Access to trail and recreational network • Pedestrian access between buildings on the campus • Easier to connect with community members • The campus layout enhances safety and access • Parking can be shared between Headquarters and Education Center
Reservoir Connection	• Body of water as a fire break • Source of water for fire suppression • Body of water providing evaporative cooling for the surrounding environment, creating a cooler microclimate
Cost Implications	• Minimizes necessary road improvements

4.2.1. Building Opportunities

The proposed Building Opportunities at Sunrise Ranch are designed to play a key role in San Bernardino Valley's future, creating spaces where policymakers, community leaders, technical professionals, academia, educators, and residents can come together to develop innovative solutions that advance water resiliency across the region.

The main building opportunities include:

- **New Headquarters**: A facility centrally located within our area of operations, that brings all San Bernardino Valley employees together under one roof, fostering collaboration, efficiency, and a strong sense of unity as a regional water agency.
- **Education Center**: A community-focused and partnership-based facility that provides educational programs, training, workshops, and interactive exhibits, helping to build awareness, partnerships, and stewardship among students, residents, and local organizations.
- **Fire Training Facility**: A specialized space, built and maintained by one or more local firefighting agencies as part of a long-term partnership-based effort, to support on-site fire prevention and suppression, as well as collaborative wildland and urban interface firefighting training to improve regional safety and preparedness.

Figure 32. *Conceptual San Bernardino Valley Headquarters*

Together, the Headquarters, Education Center, Fire Training Facility, and other future partnership opportunities would form a shared campus environment, strengthening collaboration, promoting innovation, and enhancing the community's connection to local water resources.

New Headquarters

A new San Bernardino Valley Headquarters represents an opportunity to create a forward-looking space that will guide the Agency into its next generation of service to the community. The envisioned campus would be a collaborative and innovative workplace for the Agency staff and Board, designed to connect seamlessly with the surrounding landscape—featuring indoor-outdoor work and meeting spaces, views of the reservoirs and the valley as a daily reminder of the entire region served, and a design that celebrates water as a vital, protected resource.

Constructing a new headquarters at Sunrise Ranch could bring numerous long-term benefits, including:

- **Uniting the Organization:** Bringing all of San Bernardino Valley's departments—currently spread across four geographically disconnected facilities—together on a single campus to foster collaboration, efficiency, teamwork, and a strong sense of connection between the employees, Board of Directors, and the public.
- **Creating Functional, Centralized Space:** Providing modern, purpose-built facilities where staff and the Board of Directors can effectively carry out their work, advancing San Bernardino Valley's mission and values from a central location.
- **Encouraging Collaboration and Partnerships:** Offering flexible meeting and event spaces where regional partners, community organizations, and educational groups can gather for conferences, workshops, and collaborative initiatives.
- **Connecting People to Water and the Landscape:** Designing a campus that physically and visually connects employees and visitors to the water resources and natural environment that sustain the region.
- **Demonstrating Climate Resilience:** Showcasing a state-of-the-art, sustainable campus that reflects San Bernardino Valley's ongoing commitment to climate resiliency, innovation, and natural resource stewardship.

To help shape the headquarters concept, San Bernardino Valley reviewed its existing administrative offices along with several comparable water district facilities across Southern California. These facilities differ in size, layout, and function but each offers valuable insights relevant to the future headquarters design.

The following locations were included in the study:

- *San Bernardino Valley– Existing Administrative Office*
- *East Valley Water District Headquarters*
- *Moulton Niguel Water District Headquarters*
- *Water Wise Community Center & Chino Basin Water Conservation District Headquarters*

The new headquarters concept draws inspiration from the unique strengths and design elements of each facility, helping to inform how the Sunrise Ranch campus can best serve staff, partners, and the community. Additional study details and comparisons are provided in the Appendix.

A benchmark analysis of the existing San Bernardino Valley headquarters was conducted to compare current conditions against standard space benchmarks for modern commercial office facilities. The review found that the existing building provides approximately 14,000 sf with much of the space dedicated to private offices, conference rooms, and the Board Room.

While functional, the current headquarters lacks collaborative work areas and sufficient conference room space for meetings, especially large regional meetings or conferences that are regularly hosted by San Bernardino Valley as the regional wholesale water agency. The current space also lacks connections to the outdoors and faces several operational limitations, including safety and security challenges due to the proximity to the Santa Ana River. The facility's approximately 10,000 square feet of usable space is insufficient to accommodate the agency's 38 staff members and offers no capacity for future growth. As a result, staff workstations are currently spread across multiple locations throughout the service area including the operations warehouse, pump stations, and other remote locations creating inefficiencies and limiting opportunities for teamwork.

Both Board members and staff have expressed a clear vision for a new headquarters—one that better supports Agency operations, provides a welcoming space for public engagement and board meetings, and allows for industry and community events of up to 150 attendees. The new facility should also enhance workspace efficiency for both staff and the Board, foster collaboration, and strengthen the Agency's connection to the community and the surrounding environment.

Concept drawings (**Figures 33 and 34**) illustrate the potential of a two-story headquarters design that meets these goals and reflects San Bernardino Valley's commitment to innovation and long-term sustainability.

Possible *Concepts*

Figure 33. *Headquarters conceptual first level layout*

Headquarters L1

LEVEL 1: The first level is envisioned as a collaborative space with a large multi-purpose room seating up to 150 people, several conference rooms, staff work space, Board suite, staff lounge, kitchenette, and reception area. This is a preliminary concept and there are a wide range of possibilities to consider in future design stages.

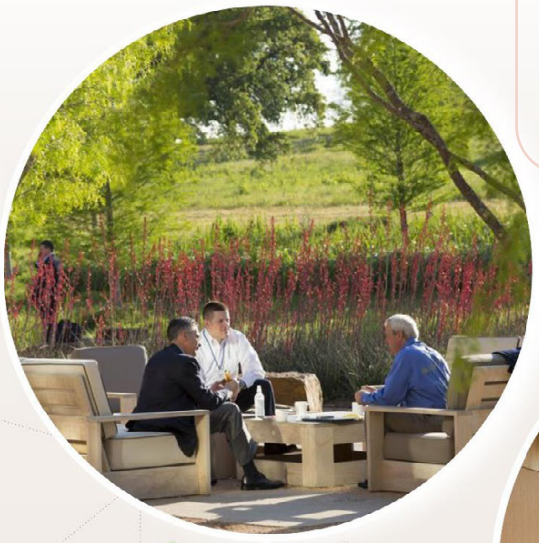


Figure 34. *Headquarters conceptual second level*

Headquarters L2

LEVEL 2: The second level of the building is primarily office space with a centralized informal meeting area. Access to the second level is provided by elevator or a staircase from the lobby space. A mezzanine level offers views out to the valley, with an opportunity for the mezzanine to also connect to the multi-purpose room below.

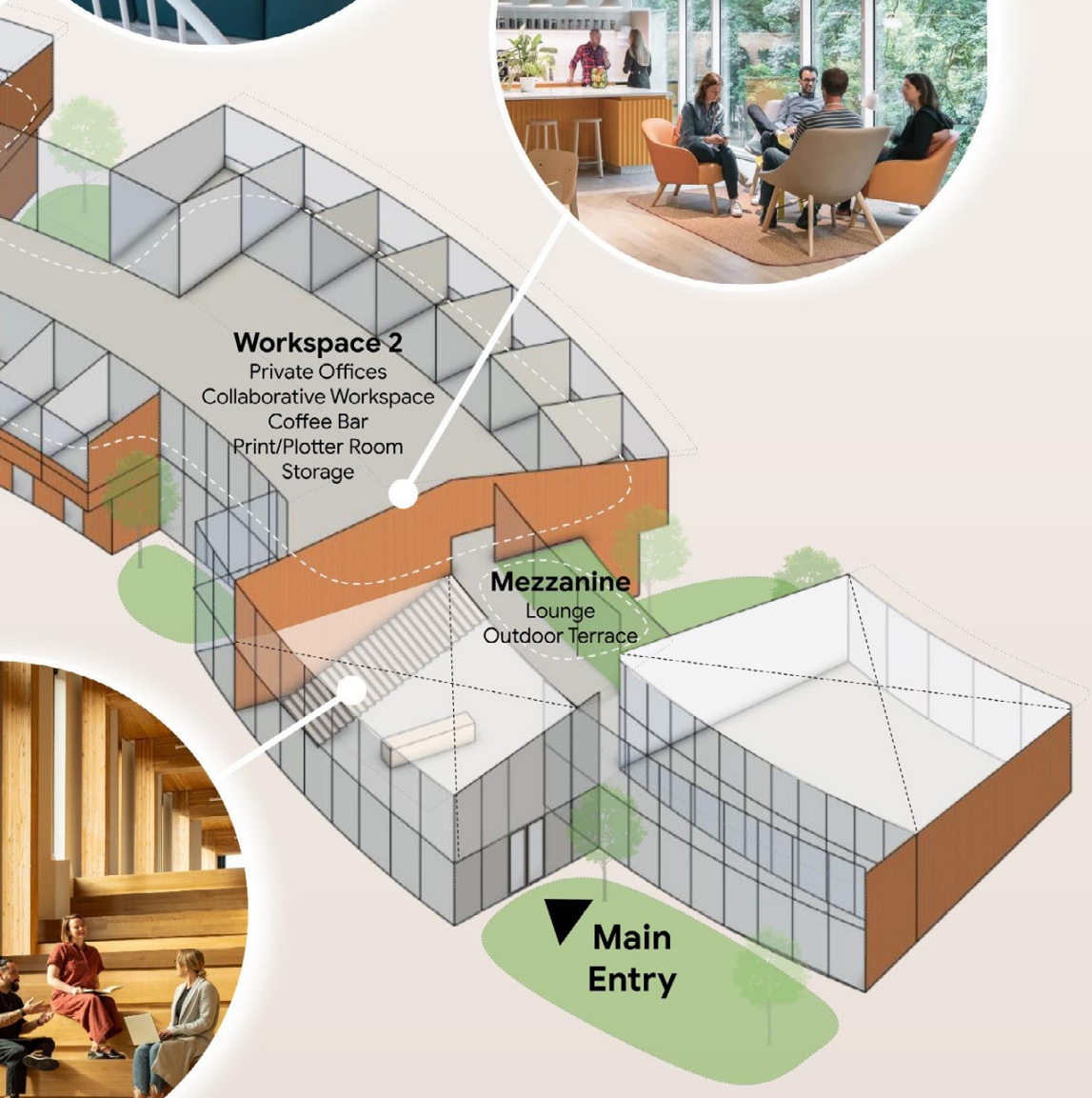


Table 15 outlines the functional spaces and approximate square footage breakdown that will guide the next stage of the headquarters design process. Specific elements such as Board of Directors preparation areas, public picnic spaces, and indoor special event areas—will require further evaluation and refinement based on the Board's direction in future planning phases.

Table 15. *Headquarters Square Footage Estimates*

Level	Space	Net Square Feet	Notes
1	Lobby	1,800	Reception, exhibition gallery, waiting area
1	Maintenance & Operations	2,250	Offices, collaborative work space, locker room, shower room
1	Workspace Support	1,500	8-person conference rooms (2), 4-person huddle rooms (4), library/resource room, storage room
1	Multi-purpose Room	3,000	Multi-layout configuration including 150-seat lecture, storage/AV support area
1	Board Suite	3,000	Board room with curved dais and 55 seated occupants, Board lounge, closed session conference room, dedicated restroom, kitchenette
1	Staff Lounge	1,000	Kitchen, wellness room (including fridge for lactation requirements)
1	Support	850	Restrooms, elevator
	Subtotal Level 1	13,400	
2	Workspace	9,600	Private offices (40), collaborative work space, coffee/lunch area, production room
	Subtotal Level 2	9,600	
	Net Square Feet	23,000	
		8,050	35% Gross Up (Circulation, Back of House)
	Gross Square Feet	**31,050 to 32,000**	Approximately doubling existing Administration building work space

Education Center

The Education Center is envisioned as a welcoming space that connects the public, including local school children, civic groups, scouting entities, and other interested parties with San Bernardino Valley's mission, offering hands-on learning and community engagement opportunities. It would serve as a hub for educational programs, interactive exhibits, and partnership initiatives. The Education Center is an opportunity to develop and expand partnerships with local and regional entities, non-profit groups, universities, retail water agencies, cities, and nearby park agencies to share and inspire the community about water resources, natural habitat and cultural heritage. The Education Center would be completed with the partnership of outside funding entities and grant opportunities.

A partnership-based education center at Sunrise Ranch would provide a range of community benefits including:

Educational Opportunities:

Offering educational programs for schools, community groups and visitors that explore the site's local history and heritage, water infrastructure, habitat, recreational trails, and environmental stewardship.

Community Engagement:

Encouraging residents and organizations to connect with the property through public programming, events, and volunteer activities that promote shared responsibility for water and the environment.

Collaborative Partnerships:

Creating opportunities to partner with local and regional organizations, including non-profits, universities, cities, park agencies, and retail water providers, to develop and operate the Center collaboratively.

Educational Installations and Exhibits:

Featuring interactive displays and outdoor exhibits that tell the region's water story, highlighting the importance of conservation, innovation, and sustainability.

The design and scale of the Education Center could evolve over time based on available funding and partnerships. It could begin as a simple open-air structure like a trail rest stop or shelter programmed with outdoor exhibits and interpretive signage. Over time and with potential sponsorships from outside funding sources, it could expand into a partially staffed pavilion and eventually grow into a fully equipped building with dedicated staff and regular operating hours. This phased approach allows the Center to develop flexibly and sustainably, adapting to partnerships, community needs, and funding resources over time.

500–1,000 square feet

- Open-air Structure
- Shaded Rest Area
- Outdoor Exhibits & Learning Gardens
- Water Fountains & Restrooms
- No Staff

Shelter Concept

1,000–2,000 square feet

- Open-air & Enclosed Structure
- Shaded Rest Area
- Outdoor Exhibits & Learning Gardens
- Water Fountains & Restrooms
- Enclosed Exhibit and Multi-Purpose Rooms
- Part-time Staff, Scheduled Programming

Pavilion Concept

6,000 square feet

- Open-air & Enclosed Structure
- Shaded Rest Area
- Outdoor Exhibits & Learning Gardens
- Water Fountains & Restrooms
- Enclosed Exhibit and Multi-Purpose Rooms
- Enclosed Offices & Support Spaces
- Dedicated Staff with Operating Hours & Scheduled Programming
- Audio Visual Equipment (e.g., projection, sound)

Building Concept

Educational Programming

Depending on the funding partners involved in development of the education center structure(s), the opportunity for program types and spaces is wide-ranging. At the basic level, education about the watershed, habitat, and site history are key components of the education center.

Initial concepts for education program opportunities include the following:

Habitat and Water Learning Experiences

Installations or exhibits can be located near any of the buildings or outdoors to help educate the community on the site's habitat and water story. These can vary in size and location and can be a part of a future partnership.

Science-Based Learning

A space could be developed to offer a laboratory learning space where scientific techniques used within the region could be modeled, including water sampling, species measurements, geologic analysis, and pipeline engineering.

Outdoor Learning Spaces

The vast open space at the property allows for outdoor learning spaces near the headquarters or the education center. These can be more natural, surrounded by vegetation and create spaces for presentations or informal gatherings. This can also include the demonstration garden described in Chapter 3.

Outdoor Historic Spaces

The property benefits from many historical irrigation and agricultural relics and is home to the Mill Creek Power House. These historic spaces can be used as educational opportunities for the community.

Fire Training Facilities

Sunrise Ranch is located within the Wildland–Urban Interface (WUI)—the transition area between developed communities and wildland vegetation—adjacent to the San Bernardino National Forest. This setting presents a valuable opportunity for local fire agencies to use the area for training exercises and to access the proposed reservoir as a potential water source for firefighting operations.

Although San Bernardino Valley is not a fire suppression agency, collaborating with regional fire partners are goals of the Headwater Resiliency Partnership, which focuses on protecting local water supplies through proactive forest and watershed management.

Establishing a fire training facility on-site could provide several important benefits:

- **Educational Outreach**: Hosting public education and outreach programs focused on fire safety, emergency preparedness, and community resilience, particularly for rural and suburban neighborhoods.
- **Training and Employment**: Providing a dedicated location for wildland fire training and related workforce development opportunities, supporting both professional training and regional employment in fire management fields.
- **Safety and Security**: Increasing organized activity near the future headquarters and education center to enhance site safety, discourage trespassing, and deter illegal activity.
- **Resource Staging**: Serving as a staging area during large-scale emergencies or natural disasters, accommodating equipment, supplies, and personnel needed for extended operations.

It is envisioned that San Bernardino Valley could form partnerships with regional fire agencies such as the US

Forest Service, CalFire, San Bernardino County Fire, and Yuhaaviatam of San Manuel Nation to develop a joint training facility at Sunrise Ranch.

At this stage, no conceptual design has been developed for the fire training facility. Further discussion with potential partners will be necessary to determine the needs for the facility's location, design requirements, access needs, and operational parameters. Potential funding sources—including agency contribution and grant opportunities would also need to be identified as part of the next phase of planning.

Promoting Sustainability

The Sunrise Ranch campus offers a unique opportunity to demonstrate environmental leadership by designing facilities that meet—or even exceed—current sustainability standards. As new buildings are developed, San Bernardino Valley may consider pursuing one or more recognized green building certifications, such as LEED (Leadership in Energy and Environmental Design), WELL Building Standard, or the Living Building Challenge.

These frameworks would help ensure that the campus prioritizes energy efficiency, water conservation, healthy indoor environments, and the responsible use of materials.

Table 16 outlines a range of strategies that can be applied to future facilities to reduce both embodied carbon (emissions from construction materials and processes) and operational carbon (emissions from building energy use). Together, these strategies will support San Bernardino Valley's commitment to sustainability, climate resiliency, and environmental stewardship.

Table 16. *Strategies to lower embodied and operational carbon*

Focus	Strategies
Lower Embodied Carbon Materials	• Local sourced timber in lieu of steel and concrete, where practical • Minimize concrete as possible, or low-carbon concrete • Minimal use of foams and plastics • As little steel as possible, specify domestic steel with high recycled content • Local or recycled materials, as practical
Water	• Collection and treatment of water on site, reuse for irrigation purposes • Consider using water direct from reservoir(s) for fire protection
Wellbeing	• Natural light • Natural ventilation • Visual access to the outdoors • Healthy indoor air

Sustainability

Strategies can support San Bernardino Valley's commitment to sustainability, climate resiliency, and environmental stewardship.

4.2.2. Utilities Opportunities

Sunrise Ranch has the potential to become a state-of-the-art, self-sustaining campus that embodies San Bernardino Valley's commitment to climate resiliency and environmental innovation. By strategically integrating new utility systems and renewable technologies, the site could serve as a model for sustainable water and energy management.

Utilities Opportunities include the following:

1. Water Utilities and Hydropower
2. Alternative Energy

Water Utilities and Hydropower

The Sunrise Ranch property lies within the City of Highland and the East Valley Water District retail water and wastewater services area. However, East Valley Water District does not currently have potable water distribution or sewer collection pipelines within one to two miles of the site. As a result, future development—such as the proposed headquarters and other facilities—would require off-site infrastructure improvements to connect to existing systems or the development of self-contained potable water and wastewater treatment systems on-site.

Water Demand

Projected water demand for the Sunrise Ranch campus has been estimated based on anticipated staff and visitor use of the concept buildings, including the headquarters, education center, and a trail restroom.

Landscape irrigation demand was also calculated in accordance with the Modified Water Efficient Landscape Ordinance (MWELO) to ensure compliance with water conservation standards.

Table 17 provides an overview of the estimated total water use for the campus. Detailed calculations and assumptions are available in the Appendix.

Table 17. *Total Estimated Water Usage*

	Yearly Usage (AFY)	Average Day Flow (GPD)
Indoor Water Use	2.8	2,484
Outdoor Water Use	3.8	3,411
Total Water Use	**6.6**	**5,895**

On-Site Water and Wastewater Systems

Because no potable water service currently exists at the Sunrise Ranch property, a standalone on-site potable water system will need to be designed. Several existing wells on the property could potentially be rehabilitated to meet projected water demand. If additional supply is required, a new well could be constructed to supplement the system.

Wastewater would be generated in the new headquarters, the education center, the fire training facility, trail restroom, and any additional future buildings at the site. A feasible solution for managing wastewater is to install a "package plant"—a prefabricated, self-contained treatment system brought to the site for local installation. These systems are widely used and can be configured to meet a variety of treatment needs based on the wastewater characteristics and desired quality of the treated water.

For Sunrise Ranch, the treated water would achieve Title 22 disinfected tertiary effluent quality, suitable for non-potable uses such as landscape irrigation (purple pipe systems) and toilet flushing.

Additionally, on-site stormwater could be managed through demonstration gardens and a demonstration parking lot with permeable substrate, offering an opportunity to educate visitors about sustainable water management practices while supporting on-site infiltration and groundwater recharge.

Alternative Energy

Construction of the proposed water reservoir system offers a unique opportunity to generate renewable energy on-site by using the movement and cycling of water between reservoirs to produce hydroelectric power for campus operations.

In addition, installing photovoltaic (solar) panels on shade structures, parking areas, and other suitable locations across the property would provide clean, on-site energy while also reducing the urban heat island effect and improving overall site comfort.

As the Sunrise Ranch campus continues to develop, there may be additional opportunities to explore emerging renewable energy technologies—furthering San Bernardino Valley's commitment to sustainability, energy efficiency, and climate resiliency.

4.2.3. Access and Transportation Opportunities

Vehicular circulation improvements are opportunities to improve access to the property and any future buildings.

The scale of future development at Sunrise Ranch—including the number of site occupants and visitors—will ultimately determine the level of road and access improvements required. In keeping with San Bernardino Valley's sustainability and habitat conservation goals, vehicular circulation planning will emphasize environmentally responsible road design, safety best practices, and the creation of buffers to safely separate vehicle traffic from pedestrian pathways.

Key Access and Transportation Opportunities identified for further consideration include:

- Vehicular Access
- Maintenance Roads
- Parking Opportunities
- Pedestrian Opportunities

Vehicular Access

Major vehicular roads—including Emerald Avenue, Newport Avenue, and the existing access road— may require improvements to support future development at Sunrise Ranch. To help minimize construction impacts and preserve the site's natural character, interior roads within the property that are not needed for daily access could be constructed of compacted soil or other low impact materials rather than full paving.

As the site development progresses, San Bernardino Valley would coordinate with the City of Highland and the County of San Bernardino to determine requirements for street design and off-site improvements, which may include final road alignment, street lighting, curbs, gutters, sidewalks, and potential public transportation connections.

The three main vehicular entrances to the site may include:

1. Emerald Avenue and Existing Access Road
2. Emerald Avenue and Newport Avenue
3. Existing Access Road and Emerald Avenue

The above-listed entrances are circled on **Figure 35** and could be designed in a way that made them accessible on foot and bicycle.

Entrances located near major roads could feature prominent signage identifying the Sunrise Ranch site and San Bernardino Valley's ownership. These access points would serve not only as gateways into the property but also as a welcoming and informative entry experience that sets the tone for visitors' time on site. Thoughtfully designed entry signage—or a distinctive gateway feature—would help orient visitors, promote safety, and enhance their understanding and appreciation of the site's natural, educational, and operational significance.

Maintenance Roads

Access to remaining on-site roads would be restricted to vehicles used for operations, maintenance, and emergency response. The existing maintenance roads vary in condition,

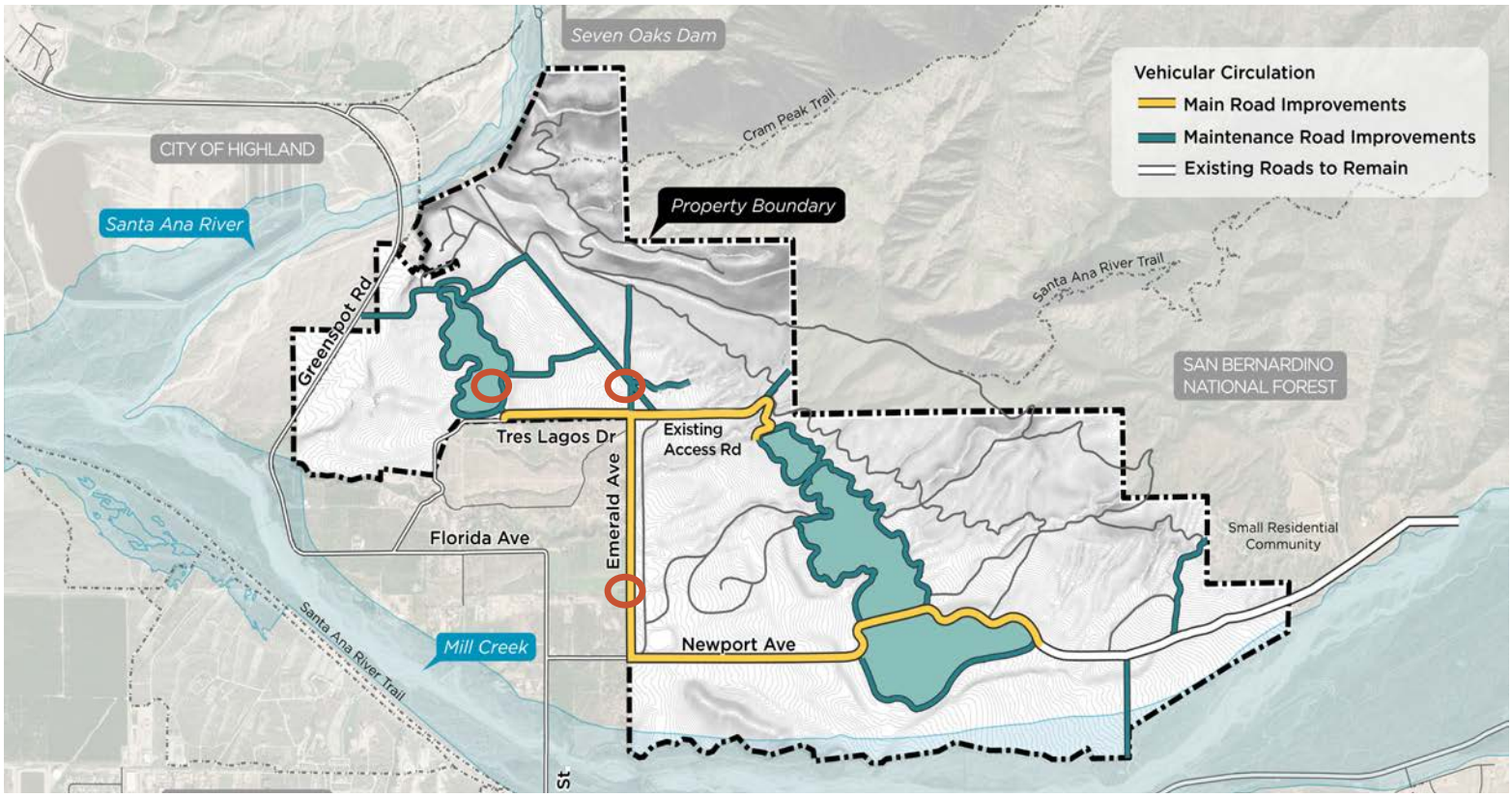


Figure 35. *Conceptual vehicular entry and circulation*

width, and slope but most are constructed of compacted natural soil—a surface type that should be preserved to minimize the need for heavy equipment and asphalt paving.

Because many of these roads also serve as multi-use trails, a vegetated buffer along their edges could help reduce maintenance needs and enhance the visitor experience. Potential features for this buffer include:

- Native tree plantings to provide shade for hikers and bikers,
- Bioswales to manage stormwater runoff naturally, and
- Re-purposed boulders that double as informal seating areas.

New maintenance roads constructed around the proposed reservoirs would also use compacted natural soil surfaces and could be shared with hikers and cyclists where appropriate. The edge conditions along the reservoirs and surrounding hillsides would intentionally vary—both to create diverse experiences for visitors and to support local habitat needs.

Parking Opportunities

Parking for the proposed headquarters building is envisioned to be located underground, directly beneath the facility, if feasible. This approach would reduce the visual impact of surface parking, provide added security to Agency fleet vehicles, preserve open space, and help maintain the site's natural character.

An underground parking structure could be partially naturally ventilated and designed with direct connections to the main building and surrounding landscape for ease of access. Architectural screening, specialty materials, or vegetation could also be used to visually soften the structure and blend it into the environment.

Public parking areas would be strategically incorporated on the site in close proximity to facilities approved by the Board of Directors, ensuring convenient access for visitors while maintaining consistency with the overall site design and sustainability goals.

Pedestrian Access Opportunities

Within the envisioned campus layout, pedestrian access across the Sunrise Ranch site could be enhanced through the creation of special outdoor spaces such as learning gardens, employee gathering areas, and pathways along the reservoir edge. These spaces would encourage walking, interaction, and connection with the surrounding landscape.

The Education Center could serve as a key hub, linking walking paths to both the trail network and the reservoir, allowing visitors to move seamlessly between educational, recreational, and scenic areas of the property.

State-of-the-art facilities such as a new Headquarters, Education Center, and Fire Training Facility would support the functionality and experience of the water supply infrastructure, habitat mitigation, and recreation at Sunrise Ranch.

FACILITIES *Summary*

4.3. Summary Findings

The study of potential site configurations identified strong benefits of a Sunrise Ranch Campus concept that clusters all buildings in one area—adjacent to a proposed reservoir(s)—and takes advantage of scenic views of the valley, surrounding mountains, and water features.

The campus approach positions Sunrise Ranch to become a state-of-the-art facility that reflects San Bernardino Valley's commitment to regional water resiliency, sustainability, and collaboration. By co-locating key facilities, the campus can strengthen partnerships with regional organizations while serving as a convening space for water management, education, scientific, and community engagement.

Headquarters: The new San Bernardino Valley Headquarters would be designed to foster collaboration, provide room for growth, and offer flexible spaces for events, seminars, and conferences. This facility would bring all employees together under one roof, addressing the current limitations of workspace spread across multiple locations throughout the service area.

Education Center: A new Education Center at Sunrise Ranch would create opportunities for community learning and engagement through partnerships with local agencies, schools, and organizations. Visitors could learn about the watershed, habitat, and cultural history of the site in an immersive setting that combines indoor and outdoor learning spaces, enhanced with shade structures, seating, and interpretive exhibits.

Fire Training Facility: The inclusion of a fire training facility on site presents an opportunity to align shared missions focused on community safety, watershed protection, and emergency preparedness. However, realizing this vision would depend on establishing partnerships with local fire agencies to develop and operate the facility.


Next STEPS

CHAPTER 5. NEXT STEPS

Sunrise Ranch offers San Bernardino Valley an exciting opportunity to advance its mission of providing a reliable and sustainable water supply for the region. Through future projects—such as a potential new water storage reservoir(s), habitat mitigation credit areas and new campus facilities—the site can play a key role in supporting water resiliency, environmental stewardship, and community benefits.

The research conducted throughout this process revealed a range of promising opportunities for the Board to consider as it determines next steps. These opportunities are designed to align closely with the Agency's mission and advance its long-term goals. **Figure 36** represents potential pathways for continued growth, innovation and community benefit.

Figure 36. *Geographic visualization of opportunities*


EDUCATION CENTER
HEADQUARTERS
TRAIL LOOKOUTS
LEGEND
SBKR CRITICAL HABITAT AREA
UPPER SAR HCP
PRIMARY CUT/FILL AREA
HIKING/BIKING TRAILS
VEHICULAR ACCESS
MAINTENANCE ROAD ONLY
TRAIL LOOKOUTS
PRIMARY PUBLIC PARKING
PIPELINES
BEAR VALLEY HIGHLINE
EXISTING
PROPOSED
REDLANDS AQUEDUCT
EXISTING
PROPOSED
GREENSPOT PIPELINE
EXISTING
PROPOSED
EYES OF THE WORLD
FISH HATCHERY RD.
2,310'
MILL CREEK
MILL CREEK POWERHOUSE
MILL CREEK RD.

PHASED IMPLEMENTATION PLAN

To ensure thoughtful, efficient, and coordinated progress at Sunrise Ranch, the project should advance through a series of structured phases. This phased approach will help maximize the site's long-term potential, align with San Bernardino Valley's strategic goals, and ensure that all efforts deliver multi-beneficial outcomes for water resiliency, habitat, and the community.

5.1. Phase I – Foundational Planning and Integration

The first phase focuses on creating a strong foundation for future development by coordinating all aspects of the Master Plan and establishing key partnerships.

Element One

Develop an Integrated Design that brings together all Master Plan elements desired by the Board for inclusion into a cohesive site vision.

The Integrated Design Plan will serve as a comprehensive framework that brings together all elements of the Sunrise Ranch Master Plan (**Figure 37**)—including water infrastructure, habitat conservation, recreation, education, and administrative facilities—into a cohesive, functional, and sustainable site vision.

The Integrated Design Plan will transform the Master Plan's concepts into a comprehensive, actionable, and visually cohesive site strategy including preliminary engineering and planning elements - ensuring that Sunrise Ranch evolves as a sustainable, multi-benefit campus that meets operational needs while delivering lasting community and environmental value.

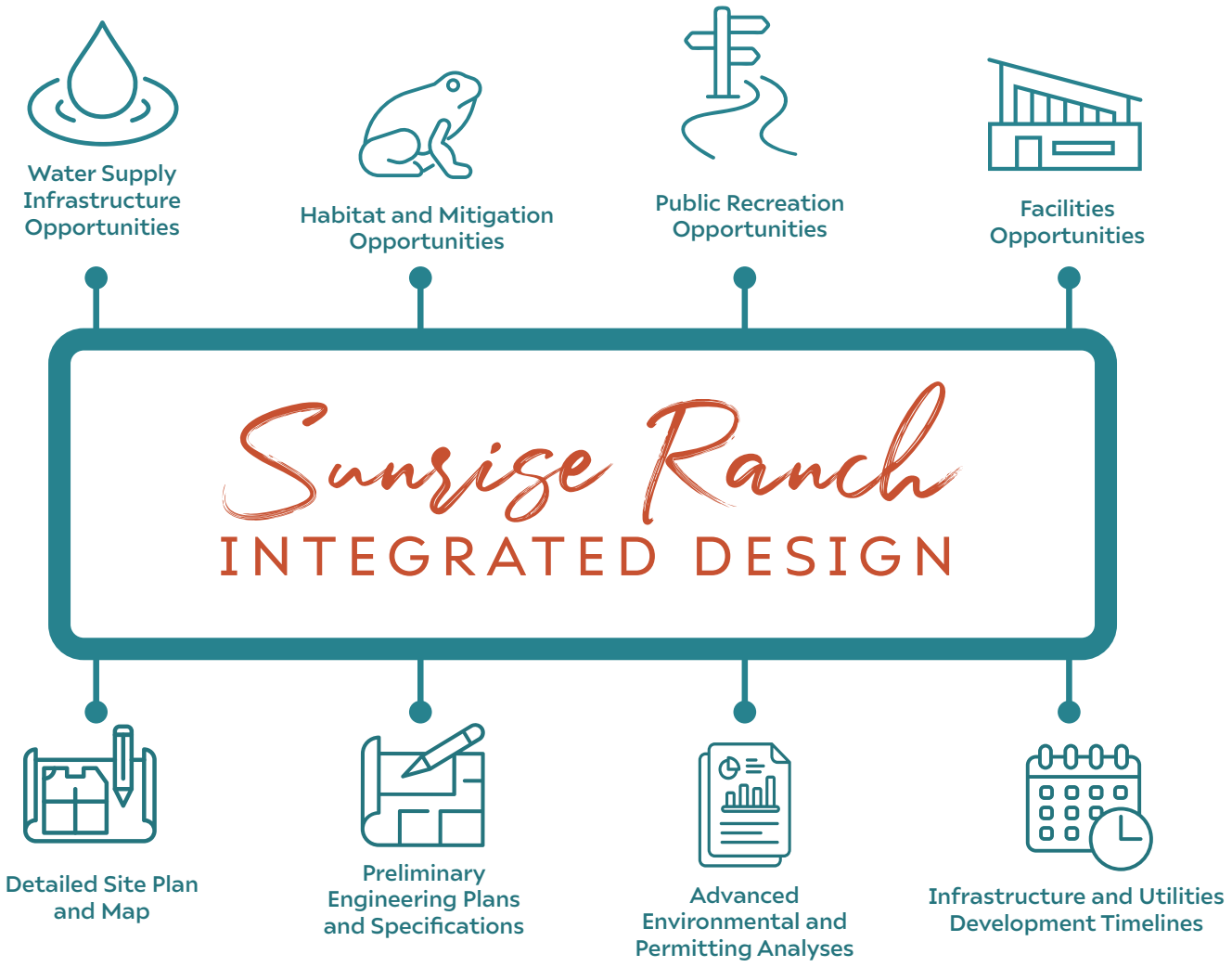


Figure 37. *Sunrise Ranch Integrated Design and Elements*

Key Goals and Outcomes of an Integrated Design Plan are:

- Unify All Site Components
  - Coordinate the design of reservoirs, buildings, trails, habitat areas, and utilities into one harmonized plan.
  - Ensure that physical layouts, aesthetics, and operations function together efficiently.

- Maximize Multi-Benefit Outcomes
  - Balance water storage, environmental restoration, recreation, and education opportunities.
  - Create synergies between infrastructure and natural systems—for example, using habitat buffers around reservoirs or educational trails that align with mitigation areas.

- Support Sustainability and Climate Resiliency
  - Integrate renewable energy, low-impact development practices, and water-efficient landscaping.
  - Design systems that minimize environmental impact while improving long-term adaptability to changing climate conditions.

- Guide Phased Implementation
  - Establish a clear roadmap for future design, permitting, and construction phases.
  - Identify logical project sequencing, cost efficiencies, and potential funding opportunities.

- Strengthen Partnerships and Collaboration
  - Provide a common visual and technical reference for partner agencies, community stakeholders, and funding partners.
  - Facilitate collaboration through shared design principles and project goals.

- Enhance the Visitor and Community Experience
  - Create a cohesive campus identity that connects the Headquarters, Education Center, Fire Training Facility, and public spaces through trails, signage, and landscape design.
  - Celebrate the site's natural beauty, water heritage, and ecological function.

Element Two

Establish and Engage a Partnership/Sponsorship Network

Develop a partnership and sponsorship network to foster collaboration with our public agencies, private entities, educational institutions, nonprofit organizations, and community groups that share San Bernardino Valley's goals of water resiliency, education, and sustainability. There are several governmental agencies, tribal nations, institutional organizations, community groups, and public utilities identified in the Master Plan whose goals and missions align with San Bernardino Valley. Strong partnerships and coordination with these like-minded organizations, and reaching out to new potential partners, could help advance the Sunrise Ranch vision. This network will:

- Identify potential partners for program development, funding potential, and facility operations (e.g., Education Center exhibits, research projects, or habitat management).
- Explore sponsorship opportunities to offset project costs through corporate, institutional, or foundation support.
- Build long-term relationships with local schools, universities, and regional agencies to develop shared programs, internships, and public engagement activities.
- Encourage shared use of facilities and coordination of events that connect the community to the mission of San Bernardino Valley.

Ultimately, this effort will create a foundation for collaboration and investment, ensuring that Sunrise Ranch serves as a regional hub for education, innovation, and environmental stewardship.

Partnership Network

While the Master Plan recognizes several partnership opportunities below, the Sunrise Ranch Partnership Network is expected to grow and change as the needs of the community and San Bernardino Valley evolve.

Successful partnerships can help advance the opportunities forward. This process begins with thorough research to identify partners whose goals and missions align with San Bernardino Valley. **Table 18** offers insight into the initial interests, influence, and involvement of potential partners, particularly those with a vested interest in the Plan's implementation.

Table 18. *Partnership Network Opportunities*

Governmental Agencies/Tribal Nations	
City of Highland	The City's Community Trails Committee helps organize an adopt-a-trail program called "Eyes on the Trail," which allows community groups and businesses to take care of maintenance responsibilities. San Bernardino Valley could collaborate with the city to incorporate designated trails into their existing program.
Fire Suppression Agencies	U.S. Forest Service, CalFire, San Bernardino County Fire Department, and Yuhaaviatam of San Manuel Nations have expressed interest in developing a fire facility on the property. The facility could be used for training purposes and provide a strategic position within the wildland-urban interface to respond to wildfires.
San Bernardino County Regional Parks	The County is dedicated to finishing the Santa Ana River Trail, which is shown in plans to cross through the property. They could be a key joint participant in planning, and connecting the SAR trail with the Sunrise Ranch trails.
United States Geological Survey (USGS)	USGS is an agency of the United States government whose work spans the disciplines of biology, geography, geology, and hydrology. There may be potential for them to partner or operate on the property.
Yuhaaviatam of San Manuel Nations	Engaging with the nearby Yuhaaviatam of San Manuel Nations is an important step to honoring the site's cultural diversity and history. Tribal members could be involved in the development of the ethnobotanical garden and in future education endeavors.
Other Tribes	The Gabrieliño-Tongva San Gabriel Band of Mission Indians also have historical claims in the region and could be involved in education opportunities.
Community Groups/ Public Utilities	
Scout Guides	Scouting America (Former Boy Scouts of America) and Girl Scouts of the USA are youth organizations with a long history in the outdoors, including trail building, wilderness preparedness, and environmental awareness. San Bernardino Valley could partner with scout troops in the San Bernardino region to help with trail building, open space maintenance, community engagement, and educational efforts. This could occur through regular volunteer days or workdays organized by the participating troops.

Boys and Girls Clubs	Boys and Girls clubs set out to enable young people to reach their full potential as productive, caring, responsible citizens. Partnered activities on-site could facilitate education and hands-on outdoor experiences.
Southern California Edison	SCE is a subsidiary of Edison International and one of the largest electric utilities in the United States. It has been providing electricity to Central, Coastal, and Southern California. There may be potential for them to partner or operate on the property.
Institutional Organizations	
Educational Institutions	Local elementary, middle, and high schools could utilize the proposed education center for field trips to learn about California flora and fauna. Higher education institutions like the University of California at Riverside, University of Redlands, California State University (CSU) San Bernardino, and Loma Linda University could participate in outdoor and agriculture-related programs on site, such as beekeeping and habitat restoration.
Conservation Organizations	Local organizations involved in conservation work, including Rivers and Lands Conservancy, Endangered Habitats League, San Gorgonio Wilderness Association, Audubon Society, and Wildlands Conservancy, could become partners in the education and maintenance of habitat areas and gardens on the site. The rare bird species and critical habitats on site may serve as the basis for organized passive recreation activities or community workdays.
Santa Ana River Conservancy (SARCON)	SARCON developed the Santa Ana River Parkway and Open Space Plan in 2018 to guide the development and management of future projects within the Santa Ana River corridor. As a portion of the Santa Ana River Trail touches the property, SARCON could be a resource for trail development and applying for grant funding if the Santa Ana River Trail extends through the site as currently planned.
Redlands Conservancy	Redlands Conservancy is a non-profit organization that protects and preserves the City of Redlands' built, agricultural, and natural environment. Some of their projects include leading a citrus preservation group, maintaining city trails, and restoring habitat at the San Timoteo Nature Sanctuary. They could be an informational resource for maintaining regional open space and habitat resources. If San Bernardino Valley explores developing a working orchard on site, the Redlands Conservancy citrus group could participate in the planning and education process.
Crafton Hills Open Space Conservancy	The Crafton Hills Open Space Conservancy maintains the Crafton Hills Open Space and the trails in Yucaipa Regional Park. Crafton Hills offers hiking, biking, and equestrian trails. In contrast, Yucaipa Regional Park, built by San Bernardino Valley and leased by San Bernardino County Regional Parks, offers amenities for fishing, swimming, picnicking, camping, hiking, biking, and general passive recreation. Due to their location just south of Mill Creek, the Conservancy is well-suited to provide suggestions and collaborate on maintaining public open space areas.
Other Organizations	
Various organizations	Private development partnerships require careful planning, transparent communication, and a commitment to shared goals. Various opportunities like public sector collaboration, land rents, and developer-led opportunities can be explored with private organizations.

Element Three

Prepare a Comprehensive Plan of Finance

Develop a Comprehensive Plan of Finance to guide and support the phased implementation of the Sunrise Ranch project, incorporating a variety of funding mechanisms to ensure financial sustainability and long term project success.

Sunrise Ranch was originally acquired for its potential to support water infrastructure development and to offset mitigation requirements associated with projects identified in the Upper Santa Ana River Habitat Conservation Plan (HCP). Most of the projects proposed in this Master Plan including the reservoir(s) and headquarters remain conceptual. At this stage, detailed cost estimates and defined funding sources have not yet been established. To advance the most promising concepts, additional financial analysis will be required. This could be accomplished through a Plan of Finance, which would refine project-specific funding needs, identify potential funding sources, and align future investments with the Board's priorities and implementation schedule.

This plan will outline the financial framework, funding sources, and cost strategies needed to move each project component—from design through construction—forward in a coordinated and sustainable manner. Key objectives of the financing plan include:

- Identifying funding sources, such as agency capital reserves, existing assets, state and federal grants, partnerships, sponsorships, and potential revenue from mitigation credit sales.
- Developing cost estimates for planning, design, permitting, construction, and long-term operations and maintenance.
- Establishing funding priorities that align with the project's phased approach and Board direction.
- Exploring creative funding mechanisms, including public-private partnerships, grant matching, and potential philanthropic or community contributions.
- Ensuring long-term financial sustainability to support ongoing maintenance, educational programming, and site operations.

This Comprehensive Plan of Finance will serve as a strategic roadmap for responsible investment, ensuring that each phase of the Sunrise Ranch Master Plan is financially feasible, transparent, and aligned with San Bernardino Valley's fiscal policies and goals.

Potential Funding Sources

There are many promising funding opportunities available for a project of this scale—especially one that delivers such wide-reaching benefits. With multiple pathways for support, we have a strong foundation for bringing this transformative vision to life. Table 19 highlights several initial examples of funding sources that could support the implementation of the Opportunities outlined in the Master Plan.

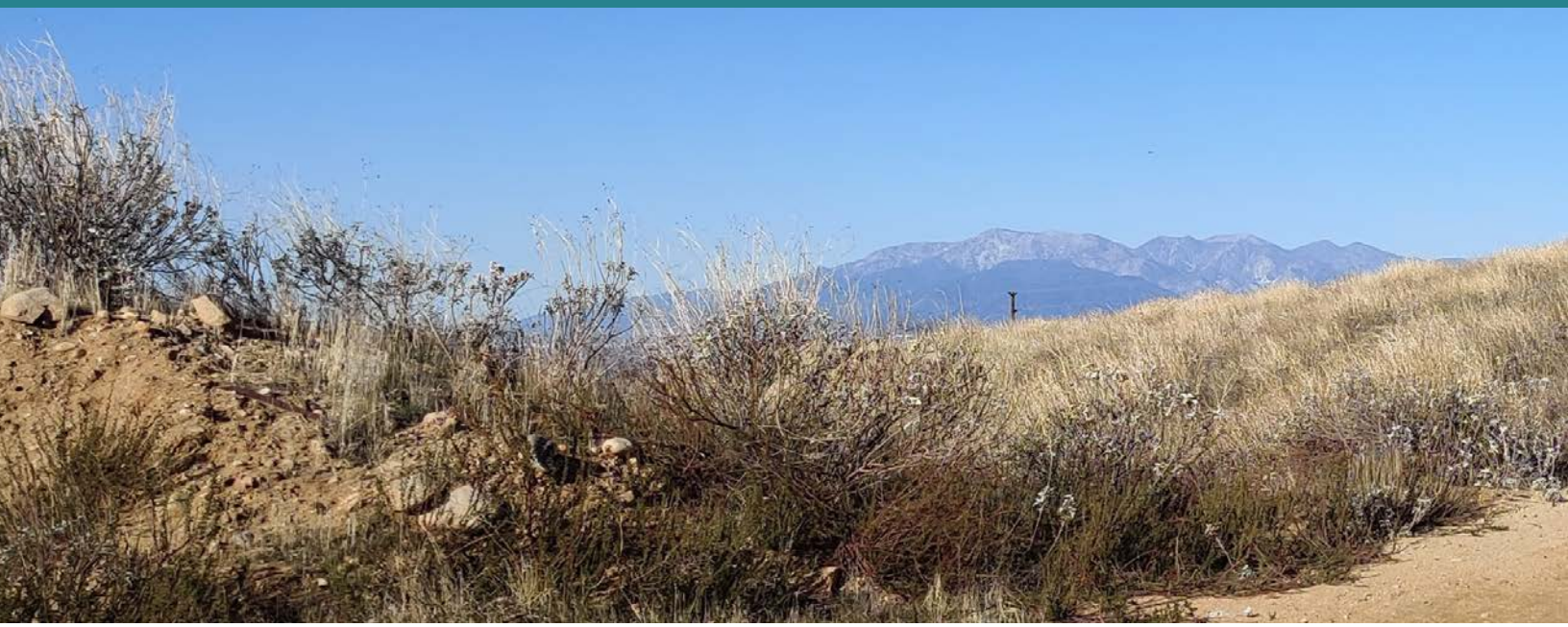
This includes potential grants for open space, recreation, and habitat conservation projects, which could complement revenue from mitigation credit sales. The funding sources are only a starting point—many additional opportunities can and should be explored to fully leverage available resources and align with the Board's priorities.

Federal and state grants, in particular, offer tremendous potential due to the multi-benefit nature of this vision. Beyond providing financial support, they help expand programs, strengthen partnerships, and build long-term capacity. By prioritizing grant funding, the Agency can maximize regional benefits while reducing overall project costs.

Table 19. *Potential Water and Site Related Funding Sources*

Water Related	
Drinking Water State Revolving Fund (DWSRF)	The DWSRF program assists with financing water infrastructure projects to maintain or achieve compliance with the Safe Drinking Water Act. Eligible infrastructure construction costs include treatment facilities, water sources, storage, and distribution systems.
Proposition 4	The 2024 voter approved Proposition 4 to safeguard communities, natural resources and the future in the face of climate change. From wildfire prevention and safe drinking water, to protecting biodiversity and increasing access to nature, these funds will support projects that make a real, lasting difference in the lives of people and communities across California in phases.
Public-Private Partnership (PPP)	Long-term contract where a private partner designs, builds, and finances a public asset in exchange for availability payments or user fees with defined risk transfer. This would be a mutual benefit: a public agency gets predictable costs sooner, performance guarantees, and the private partner gets a long-term contracted revenue stream and returns for supplying capital and expertise tied to meeting targets.

Site Related	
Land and Water Conservation Fund (LWCF)	The LWCF grants provide funding for the acquisition or development of land to create new outdoor recreation opportunities for Californians' health and wellness. Since 1965, more than 1,000 parks have been created or improved with LWCF assistance throughout California.
Proposition 68	The California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 (Prop 68) provides grant funding for projects that improve wildlife corridors or habitats and develop future recreational opportunities. The funding could be used for the planning or implementation phases of projects. The California Department of Fish and Wildlife updated evaluation guidelines in January 2024.
Recreational Trails Program	The Recreational Trails Program (RTP) provides funding for the development and maintenance of recreational trails and trail-related facilities for non-motorized and motorized trail use. At least 40% of the total funds are set aside for diversified trail use, such as trails open for hiking and biking. The program is administered by State Parks and the Department of Transportation's Active Transportation Program.
Habitat Conservation Fund	Administered by the Office of Grants and Local Services of State Parks, the Habitat Conservation Fund protects, restores, and enhances wildlife habitat. The fund allocates approximately $2 million annually to seven categories, including riparian habitat, rare, endangered, threatened, or fully protected species habitat, and trails.
Public Access Program	The Public Access Program is one of the original Wildlife Conservation Board programs and funds projects that facilitate public access to natural and wild areas. While initially focused on promoting hunting and fishing opportunities, the use of funds has grown to include trails, interpretive signs, and bird observation shelters.
Mitigation Credit Agreement	San Bernardino Valley is in the process of entering into a Mitigation Credit Agreement with the California Department of Fish and Wildlife. Acreage within Sunrise Ranch can be incorporated into the agreement to benefit water projects identified within the Upper Santa Ana River Habitat Conservation Plan and remaining acres can be made available as credits for other project permitting needs. The pricing for mitigation credits is market driven, with extensive demand in this region today for transportation, housing, and infrastructure projects. While there are costs associated with restoring and maintaining mitigation habitat, the potential revenue received from credit sales is anticipated to surpass those needs. Revenue in excess of mitigation needs could be used to fund local projects.
Communications and Engagement	The future of Sunrise Ranch is of interest to the community and regional stakeholders. Based on direction from the Board, it will be important to engage with the public throughout the process so that they understand the intention of the Board, the value being brought to the property for the public good, the timeline for implementation, and provide opportunities to gather feedback. Stakeholders participated in the community feedback process during the research for this document, with continuing communication moving forward. Communication could include materials like website content, events on site, listening workshops, and presentations to community groups.



Element Four

Finalize Mitigation Acreage Identification and Incorporate into the Mitigation Credit Agreement

Confirm and document the specific acreage on the Sunrise Ranch property that will be designated for habitat mitigation and conservation purposes. This process will ensure that the identified areas align with regulatory requirements, environmental priorities, and San Bernardino Valley long-term mitigation strategy. Key objectives include:

- Verifying the boundaries and total acreage of land suitable for mitigation based on biological studies, habitat value, and compatibility with proposed infrastructure.
- Coordinating with regulatory agencies (such as the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and U.S. Army Corps of Engineers) to confirm eligibility and compliance with mitigation standards.
- Integrating the identified acreage into the existing or proposed Mitigation Credit Agreement to enable credit generation, tracking, and sales.
- Establishing management and monitoring guidelines for the mitigation areas to ensure long-term ecological success and regulatory compliance.

This step will provide the foundation for a self-sustaining mitigation program, allowing San Bernardino Valley to both offset environmental impacts from future projects and generate revenue through credit sales, supporting continued investment in water resiliency and habitat protection.

Element Five

Enhance Communication and Engagement with Neighboring Communities and Stakeholders

Strengthen communication and collaboration with neighboring communities, partner agencies, and key stakeholders to promote transparency, trust, and shared understanding throughout the planning and implementation of the Sunrise Ranch project. Key objectives include:

- Developing a comprehensive Communication and Outreach Plan that provides regular updates on project milestones, environmental progress, and community benefits.
- Hosting informational meetings, workshops, and open houses to gather feedback and answer questions from local residents and interested organizations as the project progresses.
- Creating accessible communication tools, such as a project website, newsletters, and visual materials, to ensure information is easy to understand and widely available.
- Building partnerships with local schools, civic groups, local tribal leaders, and regional agencies to support education, volunteer opportunities, and stewardship programs tied to the project.
- Maintaining open dialogue with neighbors to proactively address concerns about construction, access, and environmental protection. This ongoing engagement effort will ensure that the Sunrise Ranch project reflects community values, enhances regional collaboration, and demonstrates San Bernardino Valley's commitment to transparency and public partnership.

5.2. Phase II – Design, Environmental Review, and Early Implementation

Building on the foundational work completed in Phase I, this phase focuses on advancing the technical design, environmental review, and initial implementation of key project components. The goal is to translate the Integrated Design into actionable steps that prepare the project for construction while maintaining environmental stewardship and regulatory compliance. This phase would require future Board approval to move forward. Key actions include:

- **Conduct CEQA Review**: Complete the California Environmental Quality Act (CEQA) process based on the integrated site design to evaluate potential environmental impacts and develop mitigation measures.
- **Initiate Mitigation Credit Sales:** Begin the sale of mitigation credits to generate funding that can support future design, permitting, and construction activities.
- **Finalize Reservoir and Pipeline Design:** Complete detailed engineering and design work for the proposed reservoir system and associated pipelines, ensuring functionality, safety, and integration with regional water infrastructure.
- **Obtain Required Permits:** Secure construction, environmental, and operational permits from applicable local, state, and federal agencies to move forward with development.
- **Formalize Partnerships:** Establish and finalize partnership and sponsorship agreements with collaborating agencies, educational institutions, and organizations to coordinate shared resources, programs, and funding.
- **Begin Early Construction Activities Where Possible:** Implement initial trail segments, recreational features, and other low-impact improvements that enhance community access and visibility of project progress.

5.3. Phase III – Construction and Implementation

The third phase marks the transition from planning and design to full-scale construction and implementation of the Sunrise Ranch project, approved by the Board. This stage will focus on building the approved facilities and infrastructure while maintaining a strong emphasis on safety, environmental stewardship, and long-term performance. This phase would require future Board approval to move forward. Key actions include:

- **Construct Approved Facilities and Infrastructure:** Complete the construction of all project components identified and refined during Phases I and II—the reservoir system, pipelines, administrative and educational buildings, trails, and related site improvements. Construction efforts will be coordinated to minimize environmental impact and maintain access for operations and public safety.
- **Implement Monitoring and Adaptive Management:** Establish and maintain an ongoing monitoring and adaptive management program to evaluate project performance, ensuring that operational, environmental, and community objectives are consistently met. Findings from this monitoring will guide adjustments and improvements over time to ensure continued success.

NEXT STEPS

Summary

5.4. Next Steps Summary

Sunrise Ranch has the potential to deliver significant regional benefits for the community served and the environment. While the Master Plan provides overall guidance for future decisions about the property, the next steps could focus on putting that vision into action through a phased approach. Key priorities may include developing an integrated site design, strong partnerships, a comprehensive financial plan, creation of a Mitigation Credit Agreement, and advancement of a strategic communications and outreach program.

An Integrated Design would bring all of the Master Plan elements together and refine them to coordinate phasing, schedules, and preliminary engineering. The design would be incrementally progressed under direction of (and reporting to) the Board as appropriate and would be flexible enough to accommodate change and growth over time.

Additional financial analysis is necessary to refine funding needs and designate funding sources specific to projects that move forward based on the priorities of the Board. This work could be conducted in the form of a Plan of Finance that, similar to the Integrated Design, would review all Master Plan elements together to identify and coordinate grants, programs, and other paths for funding.

Identification of specific acreage for the benefit of the Upper Santa Ana River Habitat Conservation Plan and additional areas for mitigation credit sales with the wildlife agencies within San Bernardino Valley's Mitigation Credit Agreement will facilitate designation for restoration and preservation. This will also provide more context as to the potential revenue from mitigation credit sales which can be used to fund local projects.

The future of Sunrise Ranch is of great interest to both the community and regional stakeholders. Based on direction from the Board, it will be essential to engage with the public throughout the process to ensure a clear understanding of the Board's intention, the public benefits being realized through the property's development, anticipated implementation timeline, and opportunities for community feedback and participation.

Summary of Appendix

The Appendix provides the foundational research, documentation, and supporting materials that informed the development of the Sunrise Ranch Master Plan. It consolidates a wide range of background information, technical data, and community input used to identify opportunities and constraints for the property. The following sections outline the key components of the Appendix:

Overview of the Sunrise Ranch Property

This section presents a comprehensive overview of the property, including its historical context and cultural significance to the San Manuel people, agricultural legacy, evolution of local water bodies, and the site's topographic characteristics. These elements provide important context for understanding the land's physical and cultural setting.

Existing Conditions

A detailed assessment of the current conditions on the property, including trail networks, regional climate, water resources, and hydrologic systems. This information establishes a baseline for evaluating future design and management strategies.

Community Engagement

Documentation of public engagement activities, including workshops, events, and community programs such as Trails Day. This section summarizes the feedback and insights gathered from participants, which were instrumental in shaping the planning vision and priorities.

Summary of Historical Studies

A compilation and summary of relevant historical documents, technical studies, and previous planning efforts. Organized chronologically, this section provides a clear record of the research and planning history that has informed the current Master Plan.

Summary OF APPENDIX

SAN BERNARDINO VALLEY

A REGIONAL WATER AGENCY
SINCE 1954