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# **Proposed Mitigated Negative Declaration/Initial Study for the Sonoma Valley Regional Park Expansion Master Plan**

May 4, 2017



***Prepared for:***

Sonoma County Regional Parks  
2300 County Center Drive, Suite 120A  
Santa Rosa, CA 95403



***Prepared by:***

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**PRUNUSKE CHATHAM, INC.**

## Proposed Mitigated Negative Declaration

Sonoma County Regional Parks has reviewed the proposed *Sonoma Valley Regional Park Expansion Master Plan* described herein to determine whether it could have a significant effect on the environment, which is described as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, objects of prehistoric, historic, or aesthetic significance, and the built environment as it affects human safety and quality of life.

**Project Location:** Sonoma Valley Regional Park, 13630 Sonoma Highway, Glen Ellen, Sonoma County

**Summary of Project Description:** The project is approval and implementation of the *Sonoma Valley Regional Park Expansion Master Plan*, which describes public access improvements, natural resource management activities, ongoing operations and maintenance, and community engagement for two new parcels totaling 70 acres that have been added to the existing Sonoma Valley Regional Park. It is intended to complement the Sonoma Valley Regional Park Master Plan that was prepared in 1983 for the original extent of the Park. The *Expansion Master Plan* describes the Expansion properties and identifies objectives and actions that will help meet Regional Parks' goals for the newly added parcels, which are to:

1. Protect the scenic and open space values of the Expansion properties,
2. Protect, restore, and enhance the properties' natural resources and habitats,
3. Encourage public education about the properties' unique natural resources,
4. Design and develop visitor-serving facilities that are sensitive to the Park's natural environment,
5. Create a park that will be accessible and enjoyed by county residents and visitors,
6. Expand trail access from existing Park trails and trailheads,
7. Provide the public with a range of passive recreation opportunities, and
8. Balance recreational use with resource protection.

**Findings:** Regional Parks finds approval and implementation of the *Sonoma Valley Regional Park Expansion Master Plan* will not have a significant effect on the environment in light of the environmental protection and mitigation measures contained in this Proposed Mitigated Negative Declaration/Initial Study (MND/IS) and incorporated into the project that will avoid or reduce any potential effects to a less-than-significant level. Analyses of potential impacts and mitigation are found in the Initial Study, which identified potential impacts in the following categories:

### Beneficial Effects

- Recreation

### Less-than-significant Effects

- Biological Resources
- Cultural Resources
- Geology
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation

No potentially significant impacts that could not be avoided or mitigated to a less-than-significant level were identified. Environmental protection measures are included in the Project Description. Where required, impact avoidance and mitigation measures are discussed in detail in each resource section of the Initial Study. In summary, proposed mitigation measures to reduce impacts to less-than-significant levels include:

- BIO-1: Measures to monitor for and prevent unauthorized uses of the Expansion properties
- BIO-2: Measures to address potential impacts on sensitive biological resources during construction, restoration, and maintenance activities
- BIO-3: Measures to protect California red-legged frog
- BIO-4: Measures to protect bird nesting
- BIO-5: Measures to protect special-status and common bat species
- BIO-6: Measures to protect native vegetation and soil during focused grazing
- CUL-1: Monitoring requirements for identified historic resources
- CUL-2: Measures to address discovery of previously undocumented cultural resources
- CUL-3: Measures to address discovery of previously undocumented human remains
- GEO-1: Prevent exacerbation of existing potential for landslides when working in a mapped landslide-prone area
- HAZ-1: Measures to reduce potential impacts from herbicide use
- HAZ-2: Measures to reduce potential fire hazard risks
- HWQ-1: Measures to avoid or minimize erosion and reduce potential impacts on water quality
- NOI-1: Measures to avoid or minimize potential noise impacts on an adjacent private residence
- TRA-1: Measures to ensure adequate sight distance from Arnold Drive

**PUBLIC REVIEW PERIOD: [May 12, 2017 through June 12, 2017]**

This MND/IS is available for review at: Sonoma County Regional Parks  
2300 County Center Drive, Suite 120A  
Santa Rosa, CA 95403  
or  
On-line at: <http://parks.sonomacounty.ca.gov/>

On or before 3 pm on Monday, June 12, 2017, any person may:

1. Review the Proposed MND/IS; and
2. Submit written or email comments regarding the information, analyses, and impact avoidance and mitigation measures in the Proposed MND/IS to:  
Karen Davis-Brown, Park Planner II  
Sonoma County Regional Parks  
2300 County Center Drive, Suite 120A  
Santa Rosa, CA 95403  
[Karen.Davis-Brown@sonoma-county.org](mailto:Karen.Davis-Brown@sonoma-county.org)



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Exhibit 1: Location and Regional Context

Exhibit 2: Sensitive Species Occurrences in Vicinity and Wildlife Corridor

Exhibit 3: Soils

Exhibit 4: Plant Communities

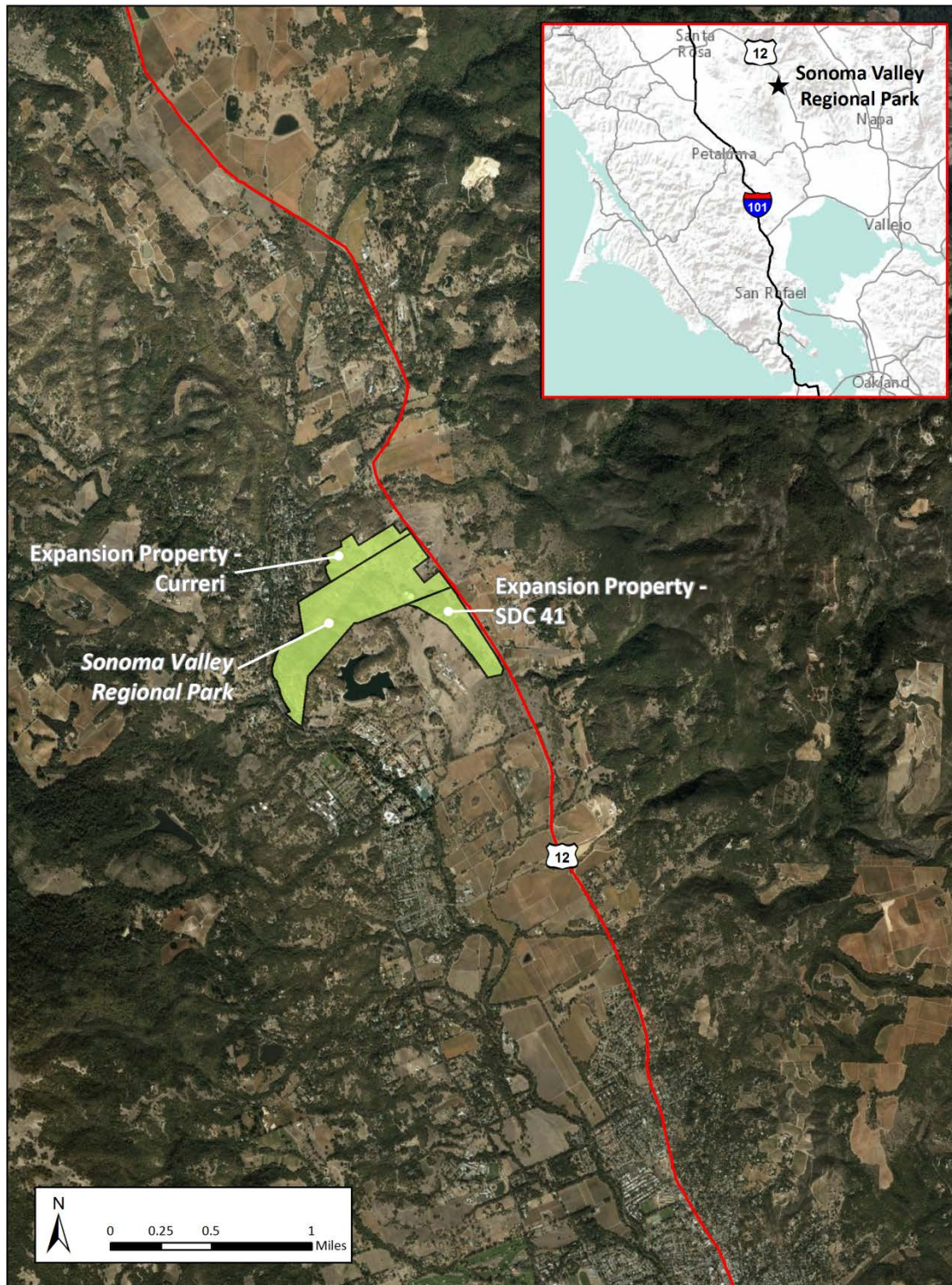
Exhibit 5: Access and Trails

Exhibit 6: Restoration and Enhancement Opportunities/Areas of Management Concerns

Appendix 2: *Biological Resources Evaluation Sonoma Valley Regional Park Expansion*

Appendix 3: *Traffic Impact Study for the Sonoma Valley Regional Park Expansion*

**Figure 1: Project Location**



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# CEQA INITIAL STUDY

## 1 Project Information

### 1.1 Project Summary

Project Title:	Sonoma Valley Regional Park Expansion Master Plan
Lead agency name and address:	Sonoma County Regional Parks 2300 County Center Drive, Suite 120A Santa Rosa, CA 95403
Contact person and phone number:	Karen Davis-Brown, Park Planner II 707.565.1359
Project Location:	Sonoma Valley Regional Park, 13630 Sonoma Highway, Glen Ellen
Project sponsor's name and address:	Sonoma County Regional Parks 2300 County Center Drive, Suite 120A Santa Rosa, CA 95403
General plan description:	Public/Quasi-Public
Zoning:	Public Facility within a Scenic Resources Combining District
Description of project:	Adoption and implementation of a master plan which includes resource management protect conservation values, low-impact recreational uses, address resource management, direct operations and maintenance, and engage community involvement and stewardship on the Expansion properties at Sonoma Valley Regional Park
Public agencies whose approval is required (e.g. permits, financial approval, or participation agreements):	The Park Expansion properties are protected by easements with the Sonoma County Agricultural Preservation and Open Space District; see details in Section 1.5 below. If work would occur within a stream or riparian zone, permits may be required from the San Francisco Bay Regional Water Quality Control Board and California Department of Fish and Wildlife. Should work occur that would involve fill within a stream or wetland or potential impacts on federally listed species, permits may be required from the U.S. Army Corps of Engineers, NOAA's National Marine Fisheries Service, and U.S. Fish & Wildlife Service.
Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code §21080.3.1? If so, has consultation begun?	Yes, consultation has been initiated with the Lytton Rancheria of California; see details in Section 1.6.1 below.



## **1.2 Project Background**

Sonoma Valley Regional Park (Park) is owned and operated by Sonoma County Regional Parks (Regional Parks). Its several miles of trails are a popular destination for hiking, biking, and equestrian use. Recently, two adjacent parcels totaling 70 acres (Expansion properties) were added to the Park's original 167 acres to offer additional opportunities for public enjoyment, to help link the Park to extensive nearby protected lands, and to serve as a scenic backdrop from Highway 12, as well as to provide panoramic views of the Sonoma Valley to the east, Sonoma Mountain to the west, and San Pablo Bay to the south.

## **1.3 Project Location and Setting**

The Expansion properties are located at 13630 Sonoma Highway and are mapped on the Glen Ellen USGS quadrangle (38°21'42"N and 122° 30'31"W); elevations range from approximately 320 feet at Highway 12 to approximately 480 feet on ridgetops. The Expansion is made up of two parcels: the 29-acre Curreri parcel (APN 054-270-035) on the Park's northern boundary and the 41-acre Sonoma Developmental Center (SDC) addition (SDC 41; APN 054-150-012) along Highway 12 and adjacent to the Park's southeast boundary. To the east, south, and southwest, the Park and Expansion properties are surrounded by protected public and private lands that extend east and upslope into the Mayacamas and west and upslope onto Sonoma Mountain, such as the remaining State-owned SDC immediately to the south and southwest and Audubon Canyon Ranch's Bouverie Preserve to the east; see **Exhibit 1**. Other adjacent facilities include the Elizabeth Perrone Dog Park and a CalFire station, both located between the existing parking lot and Highway 12. In addition, a mixture of residential, rural residential, and agricultural lands is present to the north and northwest.

The Park and Expansion properties protect a scenic swath of the Sonoma Valley just south and east of the community of Glen Ellen in Sonoma County. They consist of moderately hilly terrain supporting oak woodlands, ephemeral drainages, vernal pools and seasonal wetlands, the man-made Damselfly Pond, and grassland plant communities typical of the coastal ranges of California. The properties' gently rolling oak woodlands and grasslands studded with wildflowers form a portion of the Sonoma Valley Wildlife Corridor (Corridor) between the Mayacamas Mountains and Sonoma Mountain, which is one of California's most biologically diverse critical linkages for wildlife; see **Exhibit 2**. Wildlife corridors are bands of habitat that are large and intact enough to provide animals with an important bridge between larger blocks of habitat. This corridor encompasses over 10,000 acres from Sonoma Mountain east across Sonoma Valley to the crest of the Mayacamas Mountains and is part of a much larger network of linkages connecting habitats in Marin County to those in eastern Napa County.

### **1.3.1 Existing Parking and Access**

The existing Park access for vehicles is from Highway 12. The parking lot located at the main entrance provides 20 standard spaces, five 45-foot pull-through spaces for equestrian use, and two ADA-accessible spaces for a total of 27 spaces. The estimated pre-project demand for parking is 21 spaces; see details in **Appendix 3: Traffic Impact Study for the Sonoma Valley Regional Park Expansion** (W-Trans 2016).

The Expansion properties are also currently accessed via a trailhead entrance on Arnold Drive, Carmel Avenue in Glen Ellen, or through the SDC property on the Park's southern edge. The Arnold Drive trailhead includes on-street parking and is approximately 1.3 miles from either of the Expansion properties. The Carmel Avenue access offers no parking and is walk-in only; it is approximately 0.8 miles from Expansion property trails. Access from SDC's Lake Suttonfield is also walk-in only; it is a few hundred feet from the Park boundary to the nearest Park Expansion trail. See **Exhibit 5** for a map of access and trails.

Estimated user patterns for the existing Park are that approximately 40% of visitors park and enter at the main parking lot, 25% park on the street and enter from Arnold Drive, and 5% park on the street or walk in from either Carmel Avenue or Lake Suttonfield. It is conservatively estimated that the final 30% of users are present exclusively

to use the dog park. Those visitors typically access the dog park from the main entrance or park on the street and enter alongside Highway 12.

### **1.3.2 Existing Trails**

The original Park has approximately 3.7 miles of trail including a 1.3-mile paved, non-motorized multi-use trail that begins at the main entrance and ends at Arnold Drive and 2.4 miles of non-paved, multi-use trails; see **Exhibit 5**. As part of initial public access to the Expansion properties, a 0.6-mile ranch access road on the Curreri property was renovated into the multi-use Cougar Trail, and the fire break alignment along Highway 12 on the SDC 41 property is now named the Sonoma Valley Trail and provides an additional 0.7 miles of multi-use trail, for a total of 1.3 miles.

### **1.3.3 Existing Signage and Appurtenances**

Existing appurtenances at the Park include regulatory, directional, and interpretive signage, benches, and picnic tables. Restrooms are provided as portable toilets at the main parking area. Water is drawn from a Sonoma County Water Agency pipeline and held in two storage tanks; it is also available for Park operations use only on the Curreri parcel. Water is provided to visitors through existing drinking fountains at the main parking area.

## **1.4 Existing Natural and Cultural Resources**

The Expansion properties are ecologically rich and host a variety of natural communities, including oak woodlands, seasonal wetlands, spring-fed Damselfly Pond, and grasslands. Habitats on the properties offer both common and special-status animals nesting opportunities, food, shelter, and water, as well as important movement corridors. Known cultural resources are limited to minor remnants from the historic Sonoma Developmental Center on the SDC 41 parcel.

### **1.4.1 Watershed**

The Park and Expansion properties lie within the Sonoma Creek watershed. See **Exhibit 3**. They drain to the north into Stuart Creek or Calabazas Creek near the confluence of those streams with Sonoma Creek, into Butler Canyon Creek to the south, or to the southwest directly into Sonoma Creek itself. Only ephemeral drainages are present on the Expansion properties.

The Curreri parcel includes two northwest-trending ridges, as well as gently sloping areas in between the two and on the eastern edge of the parcel. The artificially impounded, spring-fed Damselfly Pond is present between the two ridges; see **Exhibit 4**. An excavated channel leads from the southern side of the pond to the southeast, where it feeds into a natural swale on the existing Park property. Another natural swale leads from the pond embankment to the north.

The SDC 41 parcel includes one northwest-trending ridge and lowlands to its east. A swale runs along the southeastern border of the parcel parallel to Highway 12 and into Butler Canyon Creek on the main SDC property to the south. Numerous other swales drain from the ridge onto the lowlands.

### **1.4.2 Soils and Erosion**

The soils within the Expansion properties are mapped as Spreckels loam, Goulding cobbly clay loam, Red Hill clay loam, Tuscan cobbly clay loam, and Los Robles gravelly clay loam; see **Exhibit 3**. The soil types on the easternmost edge of the properties are of relatively recent alluvial origin, while the other soil types are derived from older volcanic and metamorphic rock of the Glen Ellen Formation. There are areas of active erosion on the properties along dirt roads and seasonal drainages.

### **1.4.3 Plant Life**

Plant communities within the Expansion properties are made up of oak woodland, including blue oak<sup>1</sup> and mixed oak stands; annual non-native grassland; native perennial grassland; and wetland vegetation associated with the pond, vernal pools, seeps and drainages. **Exhibit 4** provides a general map of vegetation types, based on field surveys (PCI 2016) and draft data provided by the Sonoma County Vegetation Mapping and LiDAR Program. No special-status plant species were observed during the 2016 biological evaluation surveys for the *Expansion Master Plan*. However, two vernal pool species have been recorded on or adjacent to the Expansion properties: dwarf downingia (*Downingia pusilla*) and Sonoma sunshine (*Blennosperma bakeri*). See detailed information on vegetation and plant lists in **Appendix 2: Biological Resources Evaluation Sonoma Valley Regional Park Expansion** (PCI 2016).

### **1.4.4 Wildlife**

A number of special-status wildlife species have potential to occur on the properties, including northern western pond turtle, California red-legged frog, burrowing owl, Cooper's hawk, grasshopper sparrow, special-status bats, breeding birds, and white-tailed kite. Also, as discussed in Section 1.2 above, the Park and Expansion properties are located at the core of the Sonoma Valley Wildlife Corridor and serve as an important movement conduit at both a local and regional scale; see **Exhibit 2. Appendix 2** contains detailed information on wildlife use with impact avoidance recommendations that have been incorporated into the Project Description and mitigation measures below.

### **1.4.5 Cultural/Archaeological Resources**

A cultural resources inventory, including literature and records review and a surface survey, was conducted as part of project development (ALTA 2016). The Expansion properties lie within the Sonoma Development Center Historic District. The Center was established in 1891 and is the oldest facility in California designed to serve the needs of individuals with developmental disabilities. The Historic District encompasses the original SDC property holdings and about 1,000 acres of land. Four features associated with the Historic District were identified on the Expansion properties: two rock piles, a cistern, and concrete slab; no prehistoric features were identified. The 1983 Park Master Plan provides additional information on the cultural resources of original parklands.

## **1.5 Conservation Easements and Other Agreements**

The Sonoma County Agricultural Preservation and Open Space District (District) holds two conservation easements on the Expansion properties, one on each parcel, and a Recreation Covenant on the Curreri parcel. The County also maintains a number of other agreements with neighboring landowners. The conservation easements are provided in full in Appendix A to the *Expansion Master Plan*.

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<sup>1</sup> Latin names for common plants on the Expansion properties are provided in the biological resources report in **Appendix 2**; for special-status plants, they are provided within the text.

### **1.5.1 SDC 41 Conservation Easement**

The purpose of the District's conservation easement on the SDC 41 parcel is to preserve the scenic, open space, and natural resource values of the property while providing low-intensity public outdoor recreation. Under the terms of the easement, uses and practices must be consistent with the 1983 Park Master Plan.

Per the terms of a 2007 Matching Grant Agreement between Regional Parks and the District, and subsequent extensions provided by the District, Regional Parks is required to:

- Prepare and present a Management Plan to the District for approval,
- Prepare a California Environmental Quality Act (CEQA) document for the Management Plan,
- Prepare and present a signage plan for review by the District prior to opening the property for public use, including signs identifying the source of acquisition funding as the voters' approval of the sales tax for open space,
- Maintain a fire break along the Highway 12 boundary as required by the State, and
- Open the property for public use no later than October 31, 2016.

The Matching Grant Agreement also calls for boundary fencing, which has already been installed. Regional Parks was required by the State to install fencing along the boundary with SDC to secure horses on the State's retained property.

### **1.5.2 Curreri Conservation Easement**

The purpose of the District's conservation easement on the Curreri parcel is to protect scenic and open space values, natural resources and connectivity, and recreational and educational values. Use of the property is restricted to natural resource preservation and protection and recreational and educational uses. The parcel is available to mitigate adverse environmental impacts resulting from on-site permitted uses and activities; however, it cannot be used to mitigate for adverse environmental impacts resulting from projects located off site.

The parcel is to be open to the public for low-intensity public outdoor recreation and education, provided that these uses are designed and undertaken in a manner compatible with natural resource preservation and protection and the particular management needs associated with ensuring promotion of wildlife movement and passage. The conservation easement states:

“[I]n the event, however, that the preservation and protection of one Conservation Value becomes irreconcilably inconsistent with the preservation and protection of another Conservation Value, the following priorities shall be followed: preservation and protection of scenic resources, then natural resources, and then recreational and educational uses.”

Recreational uses may include hiking, bicycling, equestrian, and public educational programs. Recreational and educational special events, such as non-motorized trail race events, are allowed up to six times per year. The conservation easement permits Regional Parks to install benches, picnic tables, informational display cases, and trash and recycling containers without notice to and approval from the District; however, installation of any trails, restrooms, drinking fountains, and other similar improvements does require written approval.

### **1.5.3 Curreri Recreation Conservation Covenant**

The purpose of the Recreation Conservation Covenant (Covenant) on the Curreri parcel is to assure the perpetual recreational use of the parcel consistent with the conservation easement. The Covenant assures that the parcel will be continuously used, maintained, and operated as a public park and open space preserve in perpetuity. It specifies that the operation and maintenance of the parcel must be for public open space. It requires the parcel remain available for public hiking, picnicking, and nature study no less than six hours per day, seven days per week, except on a temporary basis to protect public health or safety or for preservation of conservation values.

#### **1.5.4 Other Agreements**

The County maintains several other agreements with adjacent landowners and utilities. These include gate agreements with three property owners adjacent to the Curreri parcel, which preserve existing rights for pedestrian, bicycle, and equestrian access, subject to Park hours of operation. A number of other easements for utility access, water diversion, and ingress and egress are also in existence.

### **1.6 California Environmental Quality Act Requirements**

Implementation of the project is subject to the provisions of the California Environmental Quality Act (CEQA), which requires a public agency, in this case Regional Parks, to identify, document, disclose, and avoid or mitigate potential significant environmental effects of a proposed action. The proposed action herein is approval and implementation of the *Expansion Master Plan*. This MND/IS has been prepared under the direction of Regional Parks to comply with the requirements of CEQA (Public Resources Code [PRC] §§2100-21177) and the State CEQA Guidelines (California Code of Regulations [CCR], Title 14, §§15000-15387).

Section 15063(d) of the CEQA Guidelines enumerates the content requirements of an Initial Study:

An Initial Study shall contain in brief form:

- 1) A description of the Project including the location of the Project;
- 2) An identification of the environmental setting;
- 3) An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
- 4) A discussion of the ways to mitigate the significant effects identified, if any;
- 5) An examination of whether the Project would be consistent with existing zoning, plans and other applicable land use controls; and
- 6) The name of the person or persons who prepared or participated in the Initial Study.

#### **1.6.1 Tribal Consultation**

In May of 2016 during preparation of the archaeological survey report for the *Expansion Master Plan* (ALTA 2016), a query was sent to the Native American Heritage Commission (NAHC) requesting a sacred lands survey. NAHC responded that there are no records in their files but recommended Regional Parks contact Tribal representatives from the Federated Indians of Graton Rancheria (FIGR) and the Lytton Rancheria of California (Lytton Rancheria). Pursuant to PRC §21080.3.1, Regional Parks' staff followed up with letters to the Tribal representatives on the NAHC list. A timely response from Brenda L. Tomaras of Tomaras & Ogas, LLP, the designated representative of Lytton Rancheria, the California Native American tribe that is traditionally and culturally affiliated with the geographic area of the Expansion properties, was received. Written communications in October 2016 between Karen Davis-Brown, Regional Park Planner II, and Ms. Tomaras document that the Lytton Rancheria has no concerns with the Park Expansion project but requests that if Tribal resources are found they will be avoided.

### **1.7 Americans with Disabilities Act Compliance**

Regional Parks has voluntarily incorporated the proposed Americans with Disabilities Act (ADA) Section 16 Accessibility Guidelines for Outdoor Developed Areas (ADA Guidelines) into designs for the Park Expansion trail system, where possible. The ADA Guidelines establish accessibility standards for developed areas; they include trail standards to provide the highest level of access to the natural environment to persons with disabilities, without causing damage to the natural and cultural resources of a site. Currently, the ADA Guidelines are only required in national parks and other outdoor areas developed by the federal government.



## 2 Project Description

The *Sonoma Valley Regional Park Expansion Master Plan* documents trails and park amenities to be developed on the 70 acres of newly added parklands and contains a number of objectives and actions to achieve the goals for the Expansion properties to create easily accessible low-impact recreational opportunities that balance public use with resource protection. The types of recreational activities proposed for the Expansion include nature study and outdoor educational programs, hiking, docent-led walks, mountain biking, horseback riding, picnicking, and other types of passive recreation, all in keeping with Sonoma Valley Regional Park's existing low-impact uses. Proposed management activities include new trail construction; decommissioning of selected existing trails to minimize potential erosion, protect habitat, or provide gentler alignments; resource habitat enhancement; and operations and maintenance.

### 2.1 Recreational Use and Facilities

The project will allow expansion of the recreational opportunities available at the existing Park and is expected to increase the number of annual visitors by about 14,000 people. The Park Expansion is not expected to change use entry patterns because Expansion property trails will augment the Park's limited miles of trails and will mostly enhance existing visitors' experience by offering more and a greater variety of trail routes. Access and parking facilities will remain essentially the same, and the Expansion properties will comply with the existing Park's hours of operation (i.e., open year-round for day-use only between sunrise and sunset).

#### 2.1.1 Projected Visitor Use

Baseline use figures were compiled by the Park Operations Division for the period from July 1, 2014, through June 30, 2015, before the Expansion properties were open to the public. There were approximately 48,000 visitors to the Park in that year (of which 14,400 were for the dog park only). The following fiscal year, from July 1, 2015, to June 30, 2016, public access to the Cougar and Sonoma Valley Trails on the Expansion properties provided an additional 1.3 miles of trails, and visitor use increased to 50,400 (15,120 of which were for the dog park only), which is an approximately 5% increase in Park use.

However, in order to conservatively estimate projected visitor use, the *Expansion Master Plan* utilized a simple formula. The Park Expansion's 70 acres represent a 42% increase over the existing 167 acres. Assuming the number of visitors (excluding dog park users) increases proportionally with acreage, an increase of 14,112 users per year would be expected with the full opening of new trails as described in the *Expansion Master Plan*.

#### 2.1.2 Access and Parking

The primary public access point for the Park Expansion will be through new and existing Park trails. No new parking is proposed as part of the Expansion project. See **Exhibit 5** for a map of access and trails.

#### 2.1.3 New Trail Construction

Approximately three miles of new trails, structural trail treatments, and drainage improvements are proposed on the Expansion properties; see details in **Table 1** below and map in **Exhibit 5**. Most will be multi-use trails, designed for concurrent use by hikers, mountain bikers, and equestrians, except the new Moon View Trail will be limited to hikers only. Although the trails will be designated as multi-use, Park staff will be able to close trails to specific uses based on erosion concerns, flooding, or other factors. A 0.1-mile section of Cougar Trail will be re-aligned to set back 50 feet from the Expansion boundary at a neighboring property to allow space for new native vegetation that will provide screening between trail users and the neighboring property, as well as shade for trail users; it will also tie into a larger site of oak savanna restoration. An existing strip along Highway 12 on the SDC 41 parcel that is

traditionally mown for fire hazard reduction will be renovated into a trail, and additional new trails proposed for SDC 41 will provide another 1.9 miles of multi-use trail.

**Table 1: Park Expansion Trails<sup>2</sup>**

Trail Segment	Approximate Mileage	Description
Cougar	0.6	Moderate grade from the main Park entrance road past Damselfly Pond along the ridgeline and connecting to an existing Park trail. Renovated from existing ranch road for initial public access. 12' width from Park entrance to pond and 5' width beyond pond. Includes spur to picnic table.
Moon View	0.1	New hiker-only, 5' wide trail on a moderate grade to a clearing with 180° west-facing views of surrounding valley and Sonoma Mountain. Hiking only to protect adjacent wildflower displays and to provide a place of quiet respite; possible ranger/docent-led night hikes.
Bobcat	0.5	New, 5' wide multi-use, moderate grade trail from the Park trailhead picnic area to Damselfly Pond.
Sonoma Valley	0.8	Existing, 5' wide, easy grade, multi-use trail from the existing Valley of the Moon Trail paralleling Highway 12 will be improved and relocated in some places to avoid sensitive areas. Possible trail re-alignment in the future with development of regional trail, which may be up to 12' wide.
Zoe	0.9	New moderate grade 5' wide trail with stunning views of Glen Ellen, Sonoma Mountain, and San Pablo Bay.
Woodland Star	0.2	Easy grade, 5' wide realignment of a portion of existing Woodland Star Trail.

Plan objectives for trail construction are to select routes and layouts that protect native habitats, prevent erosion, and provide enjoyable user experiences; to ensure that trails are accessible for all intended users; and to employ construction methods that minimize the need for ongoing maintenance and minimize impacts to the landscape. Plan actions include designing trails to maintain average slopes of 8.3%, minimize steep running slopes, incorporate grade breaks, outslope and allow water to sheet across, and avoid sudden transitions between open, straight sections of trail and tighter, curvy sections. See Biology, Geology and Soils, and Hydrology and Water Quality Avoidance and Mitigation Measures in the Initial Study for additional trail design and construction actions.

#### **2.1.4 Signage and Other Park Appurtenances**

All Expansion area appurtenances will be designed and installed in conformance with the terms of the Expansion properties' easements with the District and existing Regional Parks sign program standards; see **Table 2** below for

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<sup>2</sup> See **Table 4** below for trails to be decommissioned.

standard Park infrastructure sizing. New appurtenances for the Park Expansion will include regulatory, directional and interpretive signage, benches, and picnic tables. In addition, unneeded fencing will be removed between the existing Park boundary and the Expansion properties, and boundary fencing repairs or installation will meet current wildlife-friendly standards.

**Table 2. Standard Park Infrastructure Sizing**

Type	Details	Typical or Maximum Size
Boundary Markers	As needed along perimeter boundaries	4"x 9" signs; ±500' on center
Signage	Open Space District Trail Map Standard Panel on Curreri Park Expansion	Typically 4' x 6'; not to exceed 32 ft <sup>2</sup> per Conservation Easement
	Directional and regulatory signage at new trailheads	Typically 18" wide; maximum width 24"
	Trail marker post (directional) at all new trail intersections	Conform to Regional Park trail marker standards, typically 4" x 5"
	As needed within the Park Expansion to inform for visitor safety	Typically 3' x 4'; not to exceed 32 ft <sup>2</sup> per Conservation Easement
Interpretive Signage	Panels at new trailheads, entry points, or viewpoints to inspire and educate visitors	Typically 3' x 4'; not to exceed 32 ft <sup>2</sup> per Conservation Easement
Picnic Areas	Picnic tables on natural or other permeable surface	Leveled area not to exceed 400 ft <sup>2</sup>
Benches	Wooden benches	Leveled area not to exceed 144 ft <sup>2</sup>

In addition to updated signage in the existing Park, new signage will be installed on the Expansion properties to guide and educate trail users, facilitate user enjoyment, enhance public safety, and protect natural resources and scenic values by directing people to stay on designated trails. Picnic areas will consist of level sites with one table each, and bench sites will provide a level area with one bench. Benches and tables will be strategically located to provide rest, solitude, and a place to enjoy the surrounding view.

## **2.2 Resource Management**

The *Expansion Master Plan* includes objectives with actions designed to guide Regional Park staff in balancing the multiple goals of conserving scenic and natural resource values while providing passive outdoor recreation and education. Like all natural systems, the Expansion properties and Park landscape will change over time, especially with climate change and increased public use. Effective long-term natural resource management will require observing and understanding those changes, as well as making decisions about how to adjust management strategies accordingly. This section of the document provides context for resource management actions; for specific actions, also see Sections 2.5 (General Environmental Protection Measures) and 4.5.4 (Biological Resources Impact Avoidance and Mitigation Measures).

### **2.2.1 Habitat Conservation and Restoration**

A fundamental goal of Park Expansion management is to conserve and restore existing habitat during visitor use, infrastructure development, and maintenance activities. See Section 2.5, General Environmental Protection Measures, for specific actions to conserve habitat.

There are a number of opportunities for restoring or enhancing habitat on the Expansion properties. Restoration efforts will focus on areas where existing conditions can be improved to address biological resource concerns, primarily on the Curreri property near Damselfly Pond and in trail decommissioning locations; see *Expansion Master Plan* **Exhibit 4** for pond location and **Exhibit 5** for trails to be decommissioned. In particular, riparian and oak woodland species will be planted around the eastern end of the pond to improve wildlife habitat. New vegetation along the 0.1-mile section of Cougar Trail that will be re-aligned and set back 50 feet from the Park boundary will also provide screening between the trail and the private residence to the north. Enhancement of the disturbed grassland just south of this location is also proposed, with plantings of native oak woodland species.

Planting native grasses, perennials, shrubs, and trees in other areas will help prevent erosion, improve wildlife and pollinator habitat, and slow the spread of invasive species. See **Exhibit 6** for locations of proposed restoration efforts. *Expansion Master Plan* Appendix C provides recommendations for suitable plant species for restoration plantings, and Appendix D contains an overview of habitat restoration methods.

### **2.2.2 Wildlife Species Protection**

The *Expansion Master Plan* provides clear objectives and actions to protect wildlife both during ground-disturbing activities and on-going use of the Expansion properties; see Section 2.5. It also includes measures to address invasive animals that may outcompete native species; see Section 2.2.5. Control and eradication of invasive plants will be important to protecting wildlife habitat conditions; see Section 2.2.4. Regional Parks will also remove fencing that is impeding the movement of wildlife; see **EPM BIO-1** in Section 2.5 below. The existing boundary fencing along the SDC boundary is constructed as required by the State and per the terms of the Matching Grant Agreement with the District; it is designed to prevent horse movement and will stay in place.

### **2.2.3 Hydrology and Erosion Control**

The primary alterations to natural hydrology on the Expansion properties are Damselfly Pond and the roads and trails. For example, the entry road on the Curreri parcel and a parallel old ranch road cross through wetlands with two culverts providing the connection. As part of initial access to the Expansion, the old ranch road was decommissioned by smoothing out ruts and seeding; however, a remnant elevated roadbed and an associated culvert that is partially functional but appears to be collapsing remain along the lower portion of the road.

The SDC 41 parcel drains to two areas, a culvert leading east under Highway 12 and a swale in the southern tip leading south towards Wilson Creek. The swale is located along the existing firebreak trail, and water runs along both the swale and the trail itself, resulting in erosion.

Reducing erosion by revegetation, limiting new soil disturbance, monitoring the trail network and culvert crossings, and careful trail design, alignment, and repairs will help protect soil and plant resources, downstream water quality and aquatic species habitat quality. See **EPMs HWQ-1, 2, and 3** below.

### **2.2.4 Invasive Plant Management**

Invasive plant species that tend to grow and spread rapidly are present on the Park and Expansion properties, primarily in disturbed grassland and seasonally moist areas. They often create dense stands where little else can grow and change habitat conditions in ways that are detrimental to native plant species and native wildlife. The objectives for management of invasive plant species are to prevent further establishment or spread and to eradicate or control existing invasive populations. Eradication will occur where feasible for those species that have

high ecosystem impacts and for those species that are not yet widespread and can be readily removed. Control methods will be used for species that are very widespread or for those with more limited ecosystem impacts.

Preferred methods for removing or limiting existing stands of invasive species are manual or mechanical removal, planting with competitive native species, and otherwise influencing habitat conditions to suppress undesired species (e.g., shading out with a native overstory or limiting ground disturbance). If non-chemical approaches are implemented but found to be unsuccessful, and Regional Parks determines that the risk to the Expansion's natural resources from the infestation is high, herbicide use may be considered on a case-by-case basis. Regional Park's policy allows for the use of chemical pesticides only in situations where other methods are not effective or feasible (e.g., cannot be sustained due to budgetary or other constraints). Any applications will use pesticides with the least toxicity to humans and the environment and be performed by qualified applicators following the manufacturers' specifications and consultation with a licensed Pest Control Advisor (PCA).

Regional Parks also plans to use short-duration, high-intensity cattle grazing for management of invasives in the vernal pool areas of the Park and Expansion properties (see **Exhibit 6**, which shows wetland locations). Grazing reduces grass and thatch cover, which may in turn encourage germination of annual forb species native to vernal pool habitat, including dwarf downingia and Sonoma sunshine. Livestock grazing can also have other effects on plant community composition; animals can bring in invasive plant seeds on their feet, fur, and in their droppings. Their trampling and feeding can disturb soil, making it easier for invasive species to establish, and their droppings add nutrients to native soil, which further facilitates invasive plants. Regional Parks will monitor grazed areas to determine whether grazing is bringing about desired changes, to identify any detrimental effects on native vegetation, soil, or water quality, and to detect any increases in weed infestations. Regional Parks will work with the grazing contractor to prevent any detrimental effects and adjust grazing practices as needed based on monitoring results. Livestock fencing will be limited to wildlife-friendly perimeter fencing, temporary electric fencing, and fenced exclosures needed to protect oak seedling regeneration.

**Table 3** below lists high and moderate priority invasive species that are present on the Expansion properties and management methods, and **Exhibit 6** maps locations of isolated invasive species and representative locations for widespread invasive plants. Priority is based on the feasibility of control and level of ecosystem impacts caused by the invasive species. Removal will be accompanied by restoration plantings and other habitat restoration measures; Appendix C in the *Expansion Master Plan* provides a list of suitable species for revegetation.



**Table 3. Invasive Plant Species Management Guidelines**

For all species: Minimize soil disturbance. Dispose of all invasive plant parts with potential to re-sprout in a landfill. Other plant parts may be chipped and/or left in place for wildlife habitat if desired. Accompany extensive invasive removal efforts with seeding or planting of natives, monitoring for resprouts, and prompt re-treatment as needed. Herbicide-based treatments are not included here. If an herbicide is to be used, consult with a licensed PCA.

Species	Distribution on Properties	Management Guidelines
<b>HIGH PRIORITY</b>		
Olive ( <i>Olea europaea</i> )	Many saplings in oak understory on SDC 41.	ERADICATE. Remove saplings by pulling or digging out.
Acacia ( <i>Acacia dealbata</i> )	Two small trees on NE corner of Curreri.	ERADICATE. Remove by cutting to base and continue monitoring for and removing resprouts.
French broom ( <i>Genista monspessulana</i> )	Dense, spreading stand along trail to residential area on western edge of Curreri.	CONTROL. Pull by hand or with weed wrench, in spring or early summer before seeds have formed. Note that the resulting ground disturbance may facilitate a flush of new seedling germination. Return to treated sites to remove seedlings by pulling or hoeing, or suppress by tarping or deep mulching; treat consistently until seed bank is depleted. For large plants, cut with loppers or saw as close to the base as possible, and repeat with any resprouts.
Himalayan blackberry ( <i>Rubus armeniacus</i> )	Isolated patches in moist, disturbed areas including north of vernal pool on Curreri.	CONTROL. Dig out by hand. If cuttings were made before seed set, debris may be left in piles for wildlife habitat or chipped; otherwise, remove from the site.
Fennel ( <i>Foeniculum vulgare</i> )	Disturbed areas along fire road on southern SDC 41.	ERADICATE. Dig out plants manually or mechanically, including root crown, when soil is moist. Removing mature plants will entail ground disturbance and should be done in conjunction with native revegetation (see text). Repeated treatments may be needed until seedbank exhausted. Until stands are removed, cut flowering stalks to minimize seed production.
Klamath weed ( <i>Hypericum perforatum</i> )	Common, scattered in grasslands.	CONTROL. Remove by hand, including rhizomes.
Teasel ( <i>Dipsacus sativus</i> )	Dense stand in low, moist area along the eastern border of SDC 41.	ERADICATE. Cut plants to a few inches below the root crown. If removal of entire stand is not feasible, work from edges in toward center of patch to gradually decrease extent. Cutting is most effective just after flowering and before any seed develops, but if done at this time, all inflorescences should be removed from the site for disposal. Revegetate this area with native perennial moisture-adapted species.
Yellow starthistle ( <i>Centaurea solstitialis</i> )	Disturbed areas, including adjacent to water tanks and along fire road on southern SDC 41.	CONTROL. For small infestations, hand pull or hoe young plants prior to flowering. For larger infestations, mow or string trim as low to ground as possible, when 2-5% of inflorescences are in flower. Monitor regrowth and repeat mowing as needed to control flowering/seed production. Consider seeding with native grasses and native late-blooming Aster family species (e.g., <i>Hemizonia</i> spp.)
<b>MEDIUM PRIORITY</b>		
Italian thistle ( <i>Carduus pycnocephalus</i> )	Common throughout Expansion properties; dense in some areas, typically under oak canopy, likely where cattle congregated in past.	MONITOR. If this species is found to be spreading or threatening native habitat, develop control plan.

Species	Distribution on Properties	Management Guidelines
Medusahead ( <i>Elymus caput-medusae</i> )	Common, in patches throughout grasslands, including near vernal pool and southern SDC 41. Potentially high ecological impacts but difficult to control and widespread on the site.	MONITOR. If this species is found to be spreading or threatening native habitat, develop control plan.
Eucalyptus ( <i>Eucalyptus globulus</i> )	One small tree on NE corner of Curreri. Not currently spreading.	MONITOR. If this species is found to be spreading or threatening native habitat, develop control plan.

### 2.2.5 Invasive Animal Management

Like invasive plants, invasive animal species can have deleterious effects on native biodiversity. They displace native species, compete with and consume native wildlife, carry diseases, and change the food web by displacing or destroying native food sources. Without proper management and monitoring, problematic species can become quickly established and pervasive.

Two non-native wildlife species were documented on the Expansion properties: American bullfrog and European starling. Non-native opossum and wild turkey have also been documented along the Corridor and on the adjacent SDC lands, and they are likely to occur on the Expansion properties as well. Other species of potential concern on the properties are wild turkey and feral cats.

Damselfly Pond supports a robust population of American bullfrogs that is of particular concern because they may preclude California red-legged frogs from successfully breeding at the pond. Although local populations of California red-legged frog are known to coexist with bullfrogs at Annadel State Park, the pond may be serving as a source population to allow bullfrogs to colonize other nearby stream and reservoir habitats. Bullfrogs are at a competitive advantage due to their larger size and longer breeding season and have been known to prey upon and outcompete red-legged frogs.

Plan actions to prevent the establishment of new invasive animal populations and control existing populations include annually documenting invasive animal occurrences, developing and implementing a bullfrog management plan at Damselfly Pond, educating visitors, and participating in local management programs if any become established.

### 2.2.6 Climate Change Adaptation

Changing climate is likely to influence many ecological variables relevant to the management of the Expansion properties, from the geographic ranges of species, plant life cycles, and species interactions, to insect infestations and disease outbreaks. The region's climate is becoming warmer and more variable, which is increasing water stress for California vegetation. This may reduce natural regeneration of many species, including native oaks, and could reduce the extent of aquatic habitats like vernal pools. Warmer conditions also typically lead to more frequent outbreaks of disease, and stressed or dying vegetation provides greater fuel for fires. In the face of climate change, an important conservation strategy is to manage for healthy ecosystem function so that the environment can retain maximum ability to adapt.

Plan objectives for climate change adaptation and mitigation are to minimize the carbon footprint of management activities and support the natural carbon sequestration functions of habitats, protect resilience to climate change

by supporting habitat connectivity and protecting water resources, and plan for changing conditions in restoration efforts. See Global Climate Change Considerations in Table 5 for plan actions to meet these objectives.

### **2.2.7 Management of Public Uses**

New trails on the Expansion properties will add more hiking, biking, dogwalking, and equestrian options to the already popular network of trails. While trails help fulfill a primary purpose of a park's existence—to facilitate public experience and enjoyment of the natural world—trail use can also have impacts on natural resources, such as trampling of vegetation, soil erosion and compaction, litter, and both indirect and direct effects on wildlife. Public uses of the Park and Expansion properties warrant careful consideration, adherence to resource protection measures, and an adaptive management approach.

Plan objectives for public use management are to facilitate responsible trail use, minimize the effects of higher-intensity uses, and prevent unauthorized uses to protect natural resources and public safety. Actions will include using signage to direct visitors to stay on the established trail network, maintaining adequate clearance for intended user types, monitoring trail usage during the wet season for erosion, soil compaction, and vegetation damage, and keeping the Park closed from sunset to sunrise to protect wildlife and discourage illegal after-dark activities. See **Mitigation BIO-1** for additional public use management actions.

### **2.2.8 Integration with Other Regional Conservation Efforts**

The Park and Expansion properties are ecologically connected to woodlands, grasslands, wetlands, and drainages on adjacent properties. The Sonoma Valley Wildlife Corridor is a good example of the need to look beyond property boundaries when trying to protect ecosystem functions. Changing climate and shifting species distributions, spread of invasive species, and fire management are other examples.

The *Expansion Master Plan* includes an objective of collaborating with neighbors and regional conservation partners to improve stewardship efforts. Actions include participating in regional efforts to monitor wildlife corridor use and vernal pool species staying apprised of current regional climate change research; and collaborating with neighbors on weed management efforts.

## **2.3 Operations and Maintenance**

Maintaining and operating the Expansion properties in a resource-sensitive way will be critical to protecting conservation values. On-going activities will involve trail maintenance, road and trail decommissioning, and litter removal. In addition, Regional Parks will provide protection of cultural resources, address contaminants and pathogens that results in ecological challenges such as Sudden Oak Death (SOD), and manage to prevent the risk of fire.

### **2.3.1 Trail Maintenance**

Approximately three miles of trails are present or proposed on the Expansion properties. Keeping established trails readily passable, well identified, and stable will help the public enjoy the Park, stay on formal trails, and prevent erosion from informal trail use. Steeper trails or those that pass through wetter areas may require more regular maintenance to manage potential erosion and flow concentration that can degrade trails and impact downstream aquatic habitats.

The plan objective for trail maintenance is to keep trails accessible for all intended users, using practices that protect wildlife and native plants. For related actions, see **EPM GEO-1** and **EPM HWQ-1** in Table 5.

### 2.3.2 Road and Trail Decommissioning

A total of 0.8 miles of existing ranch road or trail will be decommissioned; these will either be replaced with alignments that are less steep or have lower visual impact, or eliminated if the routes are no longer needed; see **Table 4** below and map in **Exhibit 5**. In addition to the Cougar Trail realignment, a temporary route around Damselfly Pond and other trails that lead off-property will be decommissioned and revegetated with appropriate native species to facilitate restoration efforts. Decommissioning will include scarification of the road or trail tread surface to break up the compacted soils to allow new vegetation to grow. The restored areas will be blocked using logs, limbs, brush, rocks, or other native material from the area to restrict visitor use, and staff will monitor for the development of informal trails and decommission them promptly. Informal trails will be addressed using measures that will improve habitat quality and visual values.

**Table 4: Trail Segments Proposed for Decommissioning**

Trail Segment	Approximate Mileage	Description
Curreri Access	0.07	Decommission Curreri property ranch road to address erosion issues.
Trail Adjacent to Bobcat	0.2	Replace with Bobcat Trail to provide gentler grade.
Damselfly Pond	0.1	Remove initial public access trail to improve pond habitat for wildlife.
Curreri at Moon View	0.03	Realign Moon View Trail to provide accessible grade.
Curreri at Cougar Trail	0.1	Realign existing ranch road that was converted to trail for initial public access to provide room for oak woodland restoration/screening and close existing trail's footprint.
Water Tank Access	0.3	Decommission ranch road on poor grade alignment near water tanks.

### 2.3.3 Litter Removal

With the increased human presence and use of the Park and Expansion properties, the control and management of trash will need attention. Trash can be a major source of soil and water contamination and can be detrimental to wildlife. Litter can also degrade a visitor's experience at the Park. Trash collection and removal is already part of the current Park operations, but meeting the Plan objective to keep the Expansion properties free of litter will require additional staff effort and user education and cooperation. Volunteer efforts may also be helpful. Plan actions include emptying trash and recycling receptacles at least once weekly, installing educational signage for visitors if littering becomes common, and patrolling trails at least twice monthly to remove trash.

### 2.3.4 Cultural Resources Protection

Based on the cultural resources study completed by ALTA in 2016, implementation of the project is not expected to disturb cultural resources. However, the proposed Zoe Trail does come near the historic cistern and rock piles; see **Exhibit 6** for locations. Regional Parks follows standard guidance for monitoring and protecting archaeological, historic, and Tribal cultural resources during maintenance and improvement efforts and on-going Park use. See Section 4.6 for specific Plan actions to protect cultural resources and **Mitigations CUL-1, CUL-2, and CUL-3**.

### 2.3.5 Contaminant and Pathogen Control

At this time, no serious plant pathogens such as *Phytophthora ramorum*, which causes SOD, have been documented on the Park or Expansion properties. The relatively warm, dry setting of the Expansion properties and limited numbers of the most SOD-susceptible species (e.g., coast live oak, bay) may help limit infestations. However, there are documented occurrences of *P. ramorum* in forested areas to the east and west of the Park.

Plan objectives include minimizing the spread of pathogens into and within the Park, and minimizing the use of chemicals. See **Mitigation HAZ-1** for limitations on use of herbicides and **EPM BIO-7** for measures required to reduce the risk of contamination by SOD and other plant diseases.

### **2.3.6 Fire Risk Abatement**

Wildfire prevention and suppression are the norm in Sonoma County, although there is some concern about the effects of fire suppression on the rich mosaic of woodland, chaparral, and grassland habitats that characterize much of the County. As a result, prescribed burns are one tool land managers use to control unwanted vegetation and invasive species and allow for natural regeneration in fire-adapted communities. However, given the complexity of managing prescribed burning near developed areas, its use is not recommended in the *Expansion Master Plan*. Use of fire as a management tool could be considered in the future. This would require development of a burn plan; coordination with neighbors, regulatory agencies, and fire agencies; and additional environmental review.

Plan objectives include reducing the risk of fire ignition from park uses and maintenance, maintaining capacity for prompt fire response, and ensuring that natural resources are protected during vegetation management for fire risk abatement. See **Mitigation HAZ-2** for measures required to reduce fire risks and maintain capacity for prompt fire response.

## **2.4 Community Engagement and Stewardship**

Regional Parks intends to engage the community in stewardship of the Expansion properties and in learning about the Park and its natural resources. Long-term conservation, educational, and recreational goals of the Park and Expansion area will be supported by reaching out to and engaging community members. Several existing volunteer programs at the Park can incorporate or expand to include the Expansion properties, including volunteer monitoring of the vernal pools, exotic plant species removal, restoration planting, guided hikes, star gazing night hikes, and other interpretive programs highlighting both natural and cultural resources. Regional Parks also conducts regular activities that can utilize the Expansion properties, including the Trails Challenge, family hikes, and wildflower and bird watching walks. Other activities may include participation in regional citizen science efforts, such as the Laguna Foundation's Adopt-a-Vernal Pool program, Audubon's Christmas Bird Count, and Bio Blitzes, and class field trips and educational partnerships.

## **2.5 General Environmental Protection Measures**

Management objectives and actions contained in the *Expansion Master Plan* are intended to guide development of recreational activities and to protect and enhance native habitats and sensitive biotic resources. Project implementation will improve the health of the properties' natural resources. However, any activity that involves work in an area with sensitive resources, no matter what the intent, has the potential for short-term adverse impacts. The following Environmental Protection Measures (EPMs) were developed to describe the minimum level of impact avoidance and minimization for management actions. The EPMs are an essential part of the Project Description.



**Table 5. Required Environmental Protection Measures (EPMs) for Park Expansion Activities**

EPM ID	EPM Action	EPM Description
<b><i>Aesthetic Resources Protection</i></b>		
<b>EPM AES-1</b>	<b>Locate new Expansion facilities away from areas of sensitive or high-quality habitat and ensure trails and signage do not detract from visual experience</b>	<ol style="list-style-type: none"> <li>1. Locate new facilities such as interpretive signage and picnic areas away from areas of sensitive or high-quality habitat, including vernal pools, wildflower fields, and native grass stands (see Exhibit 6). If signage specifically addresses the sensitive habitat, or its placement is intended to restrict public use, Regional Parks shall ensure that signage does not detract from the users' visual experience and is placed outside the sensitive area.</li> <li>2. Plant native woody species (i.e., blue oak, manzanita, and coyote brush) along Curreri parcel's northern boundary's trail realignment to provide a visual buffer and ensure that planting blends in with nearby mature vegetation.</li> <li>3. Use locally sourced, recycled, and/or renewable materials for trail construction where feasible. Locally sourced materials tend to blend into the landscape well, reducing visual impacts.</li> </ol>
<b><i>Biological Resources Protection</i></b>		
<b>EPM BIO-1</b>	<b>Plan and maintain trails to protect habitat connectivity for wildlife and prevent erosion</b>	<ol style="list-style-type: none"> <li>1. Limit development of new trails to those identified in the <i>Expansion Master Plan</i> to maintain crucial habitat connectivity for wildlife.</li> <li>2. Remove all non-critical fencing to facilitate wildlife movement. If boundary fencing is needed, ensure it is wildlife-friendly and does not impede movement or result in death or injury (e.g., low enough so that larger wildlife can jump over them, high enough so small animals can crawl under them, and constructed of material that minimizes potential for entanglement or injury). Retain the existing boundary fencing along the SDC boundary, which is designed to prevent horse movement from SDC.</li> <li>3. Ensure fences have smooth top and bottom wires and are no more than 42 inches in height with bottom wires at least 18 inches off the ground.</li> <li>4. Avoid trails through sensitive habitats including wetlands, wildflower fields, and native grass stands.</li> <li>5. Avoid alterations to soil or hydrology of vernal pools unless those alterations are part of a future restoration effort to improve vernal pool ecological function.</li> <li>6. Route trails to the uphill side of trees to reduce impacts on roots and to use the structural support they provide.</li> <li>7. Minimize the removal of native trees during trail layout and construction.</li> <li>8. Plant riparian and upland vegetation around Damselfly Pond to improve wildlife values and provide corridors of cover between existing woodland and the pond; focus plantings on the west, north, and east sides, and leave some areas free of dense shrubby vegetation for wildlife access and basking sites.</li> <li>9. Ensure no fill is placed at the outlet of Damselfly Pond above the drainage swale; the outlet area supports seasonal breeding habitat for amphibians.</li> </ol>
<b>EPM BIO-2</b>	<b>Provide vegetated buffers between sensitive resources and Expansion development</b>	<ol style="list-style-type: none"> <li>1. To the extent feasible, maintain vegetated buffers between sensitive resources and new Expansion development (e.g., new trails, benches, and picnic tables): <ul style="list-style-type: none"> <li>▪ 500 feet from Butler Canyon Creek,</li> <li>▪ 100 feet from vernal pools,</li> <li>▪ 50 feet from other wetland habitats, and</li> </ul> </li> </ol>

EPM ID	EPM Action	EPM Description
		<ul style="list-style-type: none"> <li>25 feet from the edge of native grasslands and wildflower fields.</li> </ul>
<b>EPM BIO-3</b>	<b>Restore habitat functions and native biodiversity</b>	<ol style="list-style-type: none"> <li>1. Revegetate locations where invasive plant populations are targeted for removal; include an array of native shrubs, perennials, grasses, and, if needed, trees from genetically appropriate stock; include some species that are vigorous, can compete with remnant invasive plants and that occupy similar ecological niches as the removed plants and consider installing educational signage to describe the restoration and other management issues for visitor education.</li> <li>2. Revegetate locations of decommissioned trail. For relatively wide, compacted trails, de-compact and seed or plant. If topsoil is not present, incorporate compost into upper six inches of soil to improve water holding and plant-supporting capacity. For smaller trails, block pedestrian access to allow for natural regeneration. Monitor for establishment of invasive plant species in subsequent seasons.</li> <li>3. Plant native woody species and perennials (e.g., rushes, sedges, black oak, and live oak) along the swale at the southeastern edge of SDC 41, as feasible, to enhance habitat values and protect from erosion.</li> </ol>
<b>EPM BIO-4</b>	<b>Prevent establishment and spread of invasive plant species</b>	<ol style="list-style-type: none"> <li>1. Clean vehicle and equipment tires and undercarriages of all soil and vegetation fragments before entering uncontaminated areas.</li> <li>2. Ensure that seed, straw, mulch, or other plant material brought onto the site for revegetation, landscaping, or erosion control purposes is weed-free.</li> <li>3. Avoid or limit ground-altering activities in extent and duration, especially in otherwise undisturbed habitat.</li> <li>4. When ground disturbance must occur, revegetate promptly with an appropriate suite of native species suitable to the habitat type; include natives that grow rapidly or that have growth habits and seasonal timing similar to potential invaders to help suppress invasive populations.</li> <li>5. Use only species native to the Sonoma Valley for restoration, landscaping, and erosion control.</li> <li>6. Educate staff, visitors, and volunteer trail watchers to recognize invasive species, report new infestations promptly, and help prevent their spread.</li> </ol>
<b>EPM BIO-5</b>	<b>Manage existing populations of invasive plant species</b>	<ol style="list-style-type: none"> <li>1. Manage or eliminate existing infestations already present, focusing first on eradicating new occurrences, plants at the edge of an existing infestation, or infestations within high-quality native habitat. In large patches, work from the edges inward.</li> <li>2. Use hand and mechanical methods where feasible.</li> <li>3. Minimize ground disturbance during invasive species removal, and apply erosion control and/or native revegetation treatments for any substantial disturbance area.</li> <li>4. Avoid the use of herbicides. If required, follow requirements in <b>Mitigation HAZ-1</b> and use only to spot treat high-priority infestations that have not been controlled by manual efforts. Consult a licensed PCA for specifications regarding application of herbicides.</li> <li>5. During invasive removal, avoid damage to existing native plants, which, if left</li> </ol>

EPM ID	EPM Action	EPM Description
		<p>intact, may help suppress the invasive plant growth.</p> <ol style="list-style-type: none"> <li>Remove all invasive plant material with any potential to germinate (e.g., seeds, rhizomes, stem fragments for stoloniferous species) and dispose of in an approved landfill.</li> <li>Schedule vegetation removal to minimize impacts on breeding birds; see <b>Mitigation BIO-4</b> for details.</li> <li>Establish locally native species that are competitive with target weeds in invasive removal areas. Propagate the plants from Park sources if possible, or from other sources within Sonoma County.</li> <li>Monitor results of invasive species removal efforts annually to assess effectiveness and identify follow-up needs.</li> <li>At least once annually, engage a qualified biologist or staff person trained in natural resources to monitor invasive species conditions and develop updated recommendations for management.</li> </ol>
<b>EPM BIO-6</b>	<b>Control invasive animal species</b>	<ol style="list-style-type: none"> <li>Monitor Park and Expansion properties for the presence of introduced animal species.</li> <li>At least once annually, engage a qualified biologist or staff person trained in natural resources to document invasive animal species conditions and develop updated recommendations for management.</li> <li>If needed based on these findings, develop and implement an American bullfrog management plan at Damselfly Pond. Bullfrog management techniques could include periodic pond draining to break the reproductive cycle of the population and keep it from increasing, egg mass surveys and removal, and adult and juvenile frog capture and removal.</li> <li>Educate visitors through signage about the importance of keeping the Park and Expansion properties free of non-native animals and to avoid intentional introductions and accidental or intentional feeding of wildlife.</li> <li>Participate in local management programs to control invasive animals (e.g., wild turkey) if such programs become established.</li> </ol>
<b>EPM BIO-7</b>	<b>Manage to reduce the risk of contamination by SOD and other plant diseases</b>	<ol style="list-style-type: none"> <li>Confirm that the nursery follows current BMPs for preventing the spread of Sudden Oak Death (SOD) or other plant diseases before purchasing any nursery stock for restoration plantings; consult the California Oak Mortality Task Force, <a href="http://www.suddenoakdeath.org">www.suddenoakdeath.org</a>, for current standards) and other plant pathogens.</li> <li>Inspect all plant materials for symptoms of SOD or other plant diseases before delivery onto the property.</li> <li>Train Park staff on host species, symptoms, and disease transmission pathways for <i>Phytophthora ramorum</i> and other <i>Phytophthora</i> species, and on BMPs to prevent the spread of SOD: <ol style="list-style-type: none"> <li>Clean equipment before and after working in woodland habitats, including chainsaws, boots, and truck tires (spray with a 10% bleach solution or other disinfectant, then rinse).</li> <li>Work in woodlands in the dry season instead of the wet season when spores are being produced and infections are starting. Avoid or minimize pruning oaks and bays in wet weather.</li> <li>Leave potentially infected downed trees on site instead of transporting the</li> </ol> </li> </ol>

EPM ID	EPM Action	EPM Description
		<p>material to an uninfected area. Where infection is already known to be present, leaving <i>P. ramorum</i>-infected or killed trees on site has not been shown to increase the risk of infection to adjacent trees. Removal from the Park is only recommended if it is the first infected tree to be detected in the area, if fire risk is high, or for aesthetic, safety, or other reasons. If infected material is removed from site, dispose of at an approved and permitted dump facility within the quarantine zone.</p> <p>d. If necessary to reduce safety or fire hazards, infected trees can be cut, branches chipped, and wood split. Do not leave firewood and chips in an area where they might be transported to an uninfected location.</p> <p>4. Educate Park users about measures to prevent the spread of SOD.</p> <p>5. Participate in the annual SOD Blitz sponsored by the California Oak Mortality Task Force and UC Extension to identify any infected trees and help monitor the spread of SOD.</p>
<b>Geology and Soils Protection</b>		
<b>EPM GEO-1</b>	<b>Avoid and address erosion from trails and roads</b>	<ol style="list-style-type: none"> <li>1. Implement erosion control measures for all ground-disturbing activities and promptly revegetate with native plantings.</li> <li>2. Walk trails regularly to identify obstacles, remove litter, and identify maintenance needs. Monitor for the establishment of new, unauthorized trails during routine patrols.</li> <li>3. Complete twice-annual surveys by a qualified Operations/Maintenance manager in winter and spring of the entire trail network to evaluate trail performance and monitor for active erosion areas, chronically wet areas, and debris build-up in drainage structures. If chronically wet trails are noted and accompanied by soil compaction and/or erosion and prompt repair is not practical, implement seasonal closures. Install closure signage at each entry point of the closed section of trail.</li> <li>4. Use only methods that enhance habitat, such as revegetation, for erosion treatments. Use biodegradable materials. If biodegradable materials are not available or are prohibitively expensive, remove materials from the site promptly upon project completion. All erosion control blankets and wattles used on site shall be enclosed in 100% biodegradable material, not plastic, which can trap and kill snakes and other small animals.</li> <li>5. Use full bench construction (i.e., full tread width is supported by undisturbed soil without the need for fill on the downhill side) where feasible.</li> <li>6. See also measures in <b>EPM BIO-1</b> and <b>Hydrology and Water Quality Protection</b>.</li> </ol>
<b>Global Climate Change Considerations</b>		
<b>EPM GCC-1</b>	<b>Protect Expansion resilience to climate change</b>	<ol style="list-style-type: none"> <li>1. Protect drainages, which are naturally resilient to changes in moisture, provide thermal refugia for wildlife, and serve as corridors for wildlife movement. Ensure that native vegetation and other wildlife resources in drainages are protected.</li> <li>2. Avoid fragmenting intact habitat with trails or other Park development.</li> </ol>
<b>EPM GCC-2</b>	<b>Plan current and future restoration efforts to address GCC</b>	<ol style="list-style-type: none"> <li>1. Select plant palettes with changing conditions in mind; include multiple species from within plant lifeform types; review species' known geographic distributions as a guide to how changing conditions may affect plantings.</li> </ol>

EPM ID	EPM Action	EPM Description
		<ol style="list-style-type: none"> <li>2. Select plant propagule sources with changing conditions in mind; capture genetic diversity and a range of environmental tolerances by collecting from a variety of individuals and a range of microhabitats relative to moisture, solar exposure, and elevation.</li> <li>3. Monitor conditions such as tree regeneration to facilitate adaptive management strategies to meet changing circumstances.</li> <li>4. Work collaboratively with private property owners and resource agencies (e.g., State Parks, Dept. of General Services, Audubon Canyon Ranch) to address management issues.</li> </ol>
<b>EPM GCC-3</b>	<b>Minimize carbon footprint of management activities and support natural carbon sequestration</b>	<ol style="list-style-type: none"> <li>1. Use hand labor where possible rather than gas-powered equipment.</li> <li>2. Facilitate the continued establishment of mature native trees and understory species and protect soils from disturbance to protect long-term carbon sequestration.</li> <li>3. Encourage bicycling or walking to the Park; identify pedestrian access points on maps; provide safe, accessible approaches to trails and a bike rack at the primary entrance.</li> </ol>
<b>Hydrology and Water Quality Protection</b>		
<b>EPM HWQ-1</b>	<b>Avoid or minimize erosion and impacts on water quality during planning and design</b>	<ol style="list-style-type: none"> <li>1. When possible, locate new trails on existing trails, roads, or other disturbed areas and minimize new ground disturbance.</li> <li>2. Align trails generally along contours and minimize steep running slopes to the extent feasible.</li> <li>3. Construct trail bed with pervious material. Appropriate materials are native soil, stabilized soil, and gravel.</li> <li>4. Outslope trails to allow water to sheet across naturally.</li> <li>5. Use armored rolling dips at moderate seasonal drainage crossings to minimize erosion and sediment impacts and provide all-weather access for trail users.</li> <li>6. Use rolling dips to direct water off the trail for minor seasonal drainage crossings and at appropriate intervals to effectively dewater trail based on trail slope.</li> <li>7. Ensure that wood structures (e.g., puncheons) are constructed of material free of toxic chemicals such as chromate copper arsenate (CCA) that may leach into water or soil.</li> <li>8. Prevent erosion along Damsfly Pond outlet ditch by planting native shrubs along top of bank and native rushes and sedges in the drainage bed. Monitor and consider further restoration if erosion continues.</li> </ol>
<b>EPM HWQ-2</b>	<b>Avoid or minimize erosion and impacts on water quality during project construction and maintenance activities</b>	<ol style="list-style-type: none"> <li>1. Schedule grading and other trail bed maintenance during the dry season, generally April 1 through October 31. Exceptions may be made in cases such as catastrophic failure due to a large storm or other event that causes water quality or public safety concerns.</li> <li>2. Schedule vegetation removal to minimize impacts on water quality: <ul style="list-style-type: none"> <li>▪ August 15–October 15 is preferred to allow prompt replanting with natives in time to take advantage of cool, wet winter weather for establishment.</li> <li>▪ October 16–February 14 is preferred for removal of invasive perennials (e.g., broom, Himalayan blackberry, fennel); however, ground-disturbing</li> </ul> </li> </ol>

EPM ID	EPM Action	EPM Description
		<p>work shall only proceed if no rain is predicted for 48 hours and erosion control BMPs are in place following removal.</p> <ul style="list-style-type: none"> <li>▪ February 1–August 15 is limited to vegetation removal that can take place if bird nesting surveys are completed; see <b>Mitigation BIO-4</b> for details.</li> </ul> <ol style="list-style-type: none"> <li>3. Protect all disturbed areas from erosion and promptly revegetate with native plantings.</li> <li>4. Temporarily fence off sensitive habitat outside the necessary limit of disturbance and ensure trail construction staff is aware of resource protection requirements.</li> <li>5. Prepare and implement a spill prevention and clean-up plan, Stormwater Pollution Prevention Plan, or similar document when a project involves grading or work within or adjacent to a stream, waterway, or other sensitive habitats. The plan shall address polluted runoff and spill prevention policies, erosion control materials required to be available on site in case of rain or a spill (e.g., straw bales, silt fencing), clean-up and reporting procedures, and locations of refueling and minor maintenance areas.</li> <li>6. Ensure that if rain occurs while materials are temporarily stockpiled, materials will be covered with plastic that is secured in place. Silt fencing or wattles shall be installed on contour around all stockpiles.</li> </ol>
<b>EPM HWQ-3</b>	<b>Ensure compliance with requirements for planting and monitoring after soil disturbance</b>	<ol style="list-style-type: none"> <li>1. Implement soil protection measures including seeding or planting promptly with appropriate native species; cover with weed-free straw mulch or biodegradable erosion control fabric.</li> <li>2. Use seed or propagules of local origin collected from the property itself if a viable source is present. If not, propagules shall be from within Sonoma County with exceptions being made only after review by a qualified staff member or consultant. Make collections that capture natural genetic variation (e.g., collect from a range of elevations and from plants exhibiting varied phenology).</li> <li>3. Avoid the use of fertilizers. If topsoil is not present, limited organic, weed-free amendments may be used to help establish restoration vegetation. Organic fertilizers may be used only above the ordinary high water mark of the pond or any waterways. No chemical fertilizers are allowed.</li> <li>4. For management actions that have removed native vegetation, post-construction revegetation success shall be based on individual site conditions, but will generally be based on the following: <ol style="list-style-type: none"> <li>a. Establishment of native trees and shrubs at a ratio of 1:2 living after five years (or the ratio mandated by regulatory permits),</li> <li>b. Establishment of herbaceous cover equal to that of adjacent undisturbed ground within three years, and</li> <li>c. No increase in invasive species populations (or no greater cover of invasive species than that of adjacent undisturbed ground).</li> </ol> </li> <li>5. If needed, an irrigation system shall be installed to ensure establishment of vegetation; when vegetation is sufficiently established, irrigation materials shall be removed.</li> </ol>

### 3 Determination

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

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

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## 4 Initial Study of Potentially Affected Resources

The *Expansion Master Plan* is intended to serve as the guiding vision to protect conservation values and to direct land use and management, natural resource enhancement, and the development of trails, trailheads, and other passive recreational facilities within the properties. It provides a long-range vision for the Park Expansion that is integrated with the existing Park and trails while protecting the significant conservation values of the land.

Potential impacts from implementation of the *Expansion Master Plan* are assessed and mitigation measures are proposed below.

### 4.1 Assessment Standards and Process

The Initial Study Checklist utilized herein was updated by the State of California in 2016. Based on the Project Description, answers to the questions fall into one of four categories:

- No Impact
- Less-than-significant Impact
- Less-than-significant Impact with Mitigation Incorporated
- Potentially Significant Impact

A “No Impact” response indicates that no change would result from implementation of the project. A “Less-than-significant Impact” response indicates that an adverse effect could occur, but the magnitude of the impact would not result in an important difference in the resource, that the impact would be avoided through defined measures, or that it would be beneficial. A “Less-than-significant with Mitigation Incorporated” response indicates that an adverse effect may occur, but, with implementation of the identified mitigation measures, the impact would be less than significant. A “Potentially Significant Impact” response indicates that there is substantial evidence that the impact may be significant if mitigation measures are unknown, infeasible, or not proposed. Each finding is discussed at a level of detail commensurate with the potential for adverse effects.

The discussion in each resource section of the Initial Study can include different components. Where necessary to understand the project’s potential to result in environmental impacts, additional site information specific to the resource being evaluated is included in a short *Existing Conditions* discussion within the resource heading. Every checklist item has an *Analysis and Findings* section that addresses whether the project would result in potential adverse environmental impacts followed by a discussion of *Impact Avoidance and Mitigation Measures*.



## 4.2 Aesthetics

### 4.2.1 Existing Conditions

The Expansion properties consist of moderately hilly terrain supporting oak woodlands, seasonal wetlands, a spring-fed pond, and grassland plant communities typical of the coastal ranges of California. They provide panoramic views of the Sonoma Valley to the east, Sonoma Mountain to the west, and San Pablo Bay to the south, and also serve as a scenic backdrop from Highway 12. Protection of aesthetic values is a fundamental requirement in Regional Parks' conservation easements with the Sonoma County Agricultural Preservation and Open Space District. The SDC 41 parcel easement mandates that Parks preserve the scenic, open space, and natural resource values of the property while providing low intensity public outdoor recreation. The Curreri parcel conservation easement states:

*"[I]n the event ... that the preservation and protection of one Conservation Value becomes irreconcilably inconsistent with the preservation and protection of another Conservation Value, the following priorities shall be followed: preservation and protection of scenic resources, then natural resources, and then recreational and educational uses."* [Emphasis added.]

A number of trail segments will be decommissioned by replacing them with alignments that are less steep. *Expansion Master Plan* **Objective OM-5** requires Regional Parks to fully decommission unneeded or unauthorized trails and roads so that the abandoned routes blend into the landscape visually and ecologically. Regional Parks sign standards are designed to create a cohesive and consistent image across the Park landscape so that signs do not overwhelm the natural beauty of the land or otherwise detract from trail users' experience.

### 4.2.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.2.3 Analysis and Findings

- The proposed recreation and management actions will not alter the scenic vistas from or of the Park Expansion properties. The open space character of the land is being protected in perpetuity. No impact will occur.
- Highway 12 is a State Scenic Highway. Although new trails and signage are proposed, **EPM AES-1** includes measures to protect aesthetic values, including use of locally sourced, recycled, and/or renewable materials that blend into the landscape well to reduce visual impacts for trail construction where feasible. In addition, **EPM AES-1** requires that signs be designed and installed in a way that is consistent with existing Sonoma Valley Regional Park signs; that directional and regulatory signage guide Park visitors in a clear and consistent way that does not detract from Park views; and that signage be installed to accentuate Expansion features by

placing below view sight lines. Views of new trails from Highway 12 will be very limited due to screening by existing vegetation and topography. The Zoe and Sonoma Valley Trails are the only new trails that will cross open habitat in the Highway 12 viewshed. The Zoe Trail will be 3 feet wide. Where it is not screened from view by existing mature trees along the highway, it travels within native woodland, minimizing its visual impact. The Sonoma Valley Trail travels along an existing fire break, and will not create a new visual impact. Impacts will be less than significant.

- c) Regional Parks has included **EPM AES-1** in the Project Description to ensure activities on the Expansion properties will not cause a change in the visual character or quality of the site and its surroundings from outside the Expansion. Impacts will be less than significant.
- d) No new lighting is proposed. The project will not produce any new source of light or glare that will adversely affect day or nighttime views in the area. No impact will occur.

#### **4.2.4 Aesthetics Impact Avoidance and Mitigation Measure**

With use of **EPM AES-1**, no significant Impacts are anticipated; therefore, no mitigation is required.

### 4.3 Agriculture and Forestry Resources

#### 4.3.1 Existing Conditions

Sonoma Valley Regional Park is designated as Public/Quasi-Public in the Sonoma County General Plan and zoned as a Public Facility within a Scenic Resources Combining District. The original 33.56-acre Curreri property and the SDC 41 property were zoned as Land Intensive Agriculture with a minimum lot size of 20 acres. The 29-acre Curreri Expansion parcel and the SDC 41 parcel were rezoned to Public Facility. The purpose of the Public Facilities district is to provide sites that serve the community or public need and to protect the area from encroachment of incompatible uses. Permitted uses include any facilities owned or operated by a city or county.

#### 4.3.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause re-zoning of, forest land (as defined in PRC §12220(g)), timberland (PRC §4526), or timberland zoned Timberland Production (Government Code §51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.3.3 Analysis and Findings

a-e) The proposed recreation and management actions in the *Expansion Master Plan* will not result in conversion of farmland; will not conflict with existing zoning for agricultural use or a Williamson Act contract or with existing zoning of agricultural or timber lands; will not result in loss or conversion of forest land; and will not involve changes in the existing environment that could result in conversion of farmland. No impacts will occur.

#### 4.3.4 Agriculture and Forestry Resources Impact Avoidance and Mitigation Measures

No impacts are anticipated; therefore, no mitigation is required.

## 4.4 Air Quality

### 4.4.1 Existing Conditions

Air quality in California is regulated under three mechanisms depending on the type of effect:

- **Small Local Effects** – Small, local effects, such as noxious odors, are evaluated as part of CEQA and under nuisance laws in some jurisdictions.
- **Criteria Pollutants** – Chemicals with potential basin-wide effects are regulated under the federal Clean Air Act (CAA) in two groups: 1) toxic air contaminants with immediate, acute toxicity effects and 2) criteria pollutants that are common chemicals with long-term health effects. Acutely toxic chemicals are problematic at any concentration; however, the effect of criteria contaminants depends on the amount of exposure over time. Accordingly, the EPA sets limits on maximum atmospheric concentration for each pollutant. The State of California is required to use these limits but may also set higher standards when the California Air Resources Board (CARB) determines that tighter limits would protect human health. See **Table 6** below for State and federal standards.
- **Greenhouse Gases** – Chemicals that cause changes in earth's temperature and energy regulation, known as greenhouse gases (GHGs), are regulated at the State level and by regional planning. GHGs are assessed in Section 4.8.

#### Small Local Effects

Air pollutants can be locally problematic when they occur at high densities or when the source is close to a sensitive receptor. For this project, very limited pollution production will occur from gas-powered vehicle or equipment use by Park visitors, trail construction, and vegetation management. There are no sensitive receptors in the area, such as schools or hospitals, because the Park is in a rural residential and open space area. There are residences in close proximity to the Park, especially at the northern edge of the Curreri property.

Small local effects can also be generated by concentrations of highly toxic/hazardous substances. For this project, the only toxic substances that may be used are pesticides/herbicides. Although applied by spray applicator, they are very focused, settle quickly, and do not create any airborne effects beyond the immediate application area. This project has no potential for air quality effects from toxic substances.

#### Criteria Pollutants

A region's success in promoting good air quality is measured by comparing the concentration of pollutants in the atmosphere to the known safe level set as a State or federal standard. In the project area, maintaining these levels is enforced by the Bay Area Air Quality Management District (BAAQMD). When an area is at or below the regulatory standard, it is said to be "Attainment" for that pollutant. **Table 6** below provides the attainment status for BAAQMD.

**Table 6. Air Quality Standards and Bay Area Air Quality Management District Attainment Status**

Pollutant	Averaging Time	California Concentration Standard	California Attainment Status	National Concentration Standard	National Attainment Status
Ozone	8 Hours	0.070 ppm (137 µg/m <sup>3</sup> )	N	0.070 ppm (137 µg/m <sup>3</sup> )	N
Carbon Monoxide	8 Hours	9 ppm (10 mg/m <sup>3</sup> )	A	9 ppm (10 mg/m <sup>3</sup> )	A
Nitrogen Dioxide	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	A	0.100 ppm (188 µg/m <sup>3</sup> )	U

Pollutant	Averaging Time	California Concentration Standard	California Attainment Status	National Concentration Standard	National Attainment Status
Sulfur Dioxide	24 Hour	0.04 ppm (105 µg/m³)	A	0.075 ppm (196 µg/m³)	A
Particulate Matter (PM10) <sup>1</sup>	24 Hours	50 µg/m³	N	150 µg/m³	U
Particulate Matter - Fine (PM2.5)	Annual Arithmetic Mean	12 µg/m³	N	12 µg/m³	U/A
Lead	California 30-day Average/ US Calendar Quarter	1.5 µg/m³	A	1.5 µg/m³	A
Sulfates <sup>2</sup>	24 Hours	25 µg/m³	A	No standard	Not Applicable
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	U	No standard	Not Applicable
Vinyl Chloride	24 Hours	0.01 ppm (26 µg/m³)	---	No standard	Not Applicable
Visibility-reducing Particles	8 Hour (10:00 to 18:00 PST)	0.23 extinction /km	U	No standard	Not Applicable

A = attainment; N = non-attainment; U = unclassified (monitoring not done in the area); U/A = unclassified/attainment. Information reflects designations as of December 2015. EPA plans to issue new designations on October 1, 2017.

Although the Bay Area, as a whole, is not attaining targets for ozone and particulate matter, these pollutants tend to be concentrated at the points of highest emission in urban areas and along major freeways, as well as downwind areas. 2015 data from individual monitoring stations shows that the project area has good air quality. The closest assessment station that is similarly located, in a constrained valley connected to the northern/eastern edge of San Francisco Bay, is in Napa. While the Bay Area as a whole had 12 days that exceeded acceptable ozone levels, one day that exceeded nitrogen dioxide levels, one day that exceeded gross particulate levels, and nine days that exceeded fine particulate levels, the Napa monitoring station only had one day that exceeded the fine particulate matter standard; it did not exceed any others. The monitoring station to the west of the project in Sebastopol had no exceedances.

#### 4.4.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.4.3 Analysis and Findings

a) Nothing in this project will violate or conflict with any air quality plan; there will be no impact.

b-c) The project has a very minor potential to generate criteria pollutants from construction activities and vehicle traffic accessing the Expansion properties; however, potential impacts would be less than significant. As described in Section 4.17 Transportation below, it is unlikely that the project will generate substantial new vehicle traffic, and trail construction and maintenance will generally be done by volunteers using hand tools with occasional use of a small tractor. Other sources commonly considered in assessing emissions, such as stationary sources, land-use conversion, and ongoing energy consumption, are not part of this project as no land-use conversion will occur, the project creates no new stationary sources, and there will be no change in energy required after construction. No substantial emission of criteria pollutants is anticipated. There will be no significant impact on criteria pollutants.

d) The only sensitive receptors potentially affected by project activities are the residences to the north. These receptors may smell noxious odors from construction equipment (e.g., small tractor) during the brief interval required to move the existing trail away from the northern property boundary, these odors will be temporary and not a threat to health. Any nuisance value will be reduced by implementation of **Mitigation NOI-1**:

*Regional Parks shall conduct any road or trail work that requires motorized equipment and will occur within 1000 feet of the private residence between the hours of 9 am and 5 pm.*

The effect is not a significant impact; no mitigation is necessary.

e) Very few people will be affected by the odors of construction, mostly the construction workers. There will be no impact on a substantial number of people.

#### 4.4.4 Air Quality and Greenhouse Gas Emissions Impact Avoidance and Mitigation Measures

No significant impacts on air quality are anticipated. Therefore, no mitigation is necessary.

## 4.5 Biological Resources

### 4.5.1 Existing Conditions

A fundamental goal of Park Expansion management is to conserve and restore existing resources during infrastructure development, visitor use, and maintenance activities. All of the Expansion property areas, other than annual grassland, are considered sensitive biological communities and are relatively high-quality habitats that merit careful protection. Even annual grasslands provide important services, such as habitat for wildlife and protection of soil from erosion. The *Biological Resources Evaluation for Sonoma Valley Regional Park Expansion* (PCI 2016) provides detailed information about the flora and fauna present on the Expansion properties; see **Appendix 2**. Its conclusions and general recommendations based on the background literature, data search, and an on-site evaluation include:

- The site is located at a pinch point within the Sonoma Valley Wildlife Corridor, and the management and protection of these lands are vital to helping preserve this crucial wildlife link; see **Exhibit 2**.
- The Expansion properties support oak woodlands, primarily dominated by blue oaks.
- The Expansion properties support grasslands, which are dominated by non-native annuals but which also support substantial populations of native perennial grasses and native forbs (wildflowers). Work is proposed adjacent to some areas supporting these native stands.
- The Expansion properties support a seasonal pond, vernal pools, and other small seasonal wetlands; these sensitive habitats support common native and non-native herbaceous wetland plant species. Work is proposed adjacent to some of these areas.
- One special-status species, dwarf downingia (CA Rare Plant Rank 2B.2)<sup>3</sup>, was documented in 2009 in the vernal pool on both sides of the entrance road, and another species, Sonoma sunshine (listed as endangered by the State and federal government), has been documented in adjacent vernal pools on the existing Park. The site supports breeding/wintering/foraging habitat for a number of special-status bird species (e.g., burrowing owl, Cooper's hawk, grasshopper sparrow, white-tailed kite, burrowing owl). Breeding birds are protected under the Migratory Bird Treaty Act and California Fish and Game Code.
- The sites support habitat for a variety of native wildlife species (e.g., birds, reptiles, amphibians, mammals, invertebrates).
- The site supports potential habitat for special-status California red-legged frog and northern western pond turtle.
- The sites support potential roosting and foraging habitat for special-status and common bat species.

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<sup>3</sup> CA Rare Plant Rank 2B.2 is moderately threatened in CA (20-80% of occurrences threatened/moderate degree and immediacy of threat) but more common elsewhere.

#### 4.5.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.5.3 Analysis and Findings

a) Actions proposed in the *Expansion Master Plan* that may result in adverse effects, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special status include construction of trails, including user-created unauthorized ones, and on-going use of trails that results in trampling of vegetation, habitat fragmentation, soil erosion and compaction, litter, and both indirect and direct effects on wildlife. Following trail best management design standards, monitoring for the establishment of unauthorized trails, performing ongoing clean-up, providing clear and simple regulatory signage and targeted interpretive signage, and enforcement of rules by Regional Park staff will help to ensure that natural resources, visitor safety, and quality of experience are protected. In addition, **Mitigations BIO-3 through BIO-5** contain species-specific requirements to protect California red-legged frogs, northern western pond turtle, nesting birds, and special-status and common bat species, respectively; they are proposed to reduce potential impacts on candidate, sensitive, or special-status species to a less-than-significant level.

b) Actions proposed in the *Expansion Master Plan* that may result in adverse effects on riparian habitat or other sensitive natural communities include trail construction and use. Vegetated buffers will be maintained between sensitive resources and new park development (see **EPM BIO-2**), with the following exceptions:

- The proposed paved Sonoma Valley Regional Trail is not part of this project; setback requirements specific to that paved trail will be considered separately at a later date. The unpaved Sonoma Valley Trail on the SDC 41 property that is part of this project does extend into the Butler Canyon Creek corridor. However, it is



located on an existing fire road and no new disturbance to riparian vegetation will occur. Note that this trail alignment is expected to be reviewed in the future during planning for the Sonoma Valley Regional Trail.

- Both Moon View and Zoe Trails are proposed to pass within the vegetative buffers of existing wildflower stands in order to enable users to enjoy the wildflowers; see required buffer widths in **EPM BIO-2**. Moon View Trail will be restricted to pedestrian use and will be monitored for impacts on the wildflower stand. Alignment of Zoe Trail is intended to keep the trail at the recommended buffer from the wildlife corridor along Butler Canyon Creek; because of the wildlife corridor's regional significance, wildlife protection is considered the highest priority in this case. Measures to minimize and mitigate for impacts are described in **Mitigation BIO-1** below.

**Mitigation BIO-2** is also proposed to reduce potential impacts on riparian habitat or other sensitive natural communities to a less-than-significant level.

c) Actions proposed in the *Expansion Master Plan* that may result in adverse effects on the only area of the Expansion properties that is federally protected under §404 of the Clean Water Act (i.e., vernal pool on the Curreri parcel) include focused grazing to reduce thatch in vernal pools. **Mitigation BIO-6** is proposed to ensure impacts during focused grazing to reduce thatch in vernal pools are reduced to a less-than-significant level and to prevent introduction or spread of weed seed by grazing animals.

d) Actions proposed in the *Expansion Master Plan* will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The additional presence of trail users on the Sonoma Valley Trail could have a limited impact on wildlife use of the corridor. **Mitigation BIO-2**, monitoring of wildlife use relative to trail development, and adaptive management measures if impacts are observed, is proposed to reduce potential impacts to a less-than-significant level. Regional Parks will also remove unnecessary fencing to improve wildlife habitat connectivity throughout the Expansion properties, except for existing fencing along the SDC boundary by the State to prevent horse movement from SDC. **EPM BIO-1 through EPM BIO-3** are included in the Project Description to ensure protection of wildlife movement corridors, provide vegetated buffers between sensitive resources and Expansion development, and restore habitat functions and native biodiversity, respectively. Impacts will be less than significant with mitigation incorporated.

e) Actions proposed in the *Expansion Master Plan* will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No impacts will occur.

f) Actions proposed in the *Expansion Master Plan* will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impacts will occur.

#### **4.5.4 Biological Resources Impact Avoidance and Mitigation Measures**

**Mitigation BIO-1: Monitor for and prevent unauthorized uses of the Expansion properties to protect natural resources**

Regional Parks shall:

- Post signage at trail entrances identifying allowed and prohibited uses and at both ends of hiking-only trails (i.e., Moon View).
- Require that dogs be physically controlled on a leash no longer than six feet at all times.
- Provide clear signage indicating that dogs must be on leash, dog waste must be properly disposed of, and that users must keep dogs on established trails.

- Add dog waste bag and trash receptacles at the main Park entrance. Ensure that bags are kept stocked and picked up along the trail network.
- Prohibit Park users from allowing dogs into Damselfly Pond or along its edges via signage. Monitor visitor use. If heavy foot traffic is observed or visitors are bringing dogs to the pond off-leash, especially during the winter and spring amphibian breeding season, Regional Parks shall make adjustments in Expansion use or access to the area.
- Prohibit recreational motor vehicles, hunting, harvesting, and collection of plants and native wildlife in the Park and Expansion properties.
- Maintain an active presence by Regional Parks' staff to monitor for and discourage unauthorized uses and patrolling trails as frequently as feasible to establish an authoritative presence and monitor visitor uses.
- Monitor for development of unauthorized trails, decommission promptly, and educate Park visitors on the impacts of unauthorized trails via outreach to user groups or signage.
- Monitor for off-trail use in or near sensitive habitats, including Moon View, Cougar, and Zoe Trails near wildflower fields. If off-trail use is observed that may damage sensitive resources, Regional Parks shall evaluate and implement adaptive management strategies that may include installation of signage or barriers such as low fencing, or close trail to public use. If needed, Regional Parks shall develop a restoration plan with guidance from a restoration specialist.

**Mitigation BIO-2: Protect sensitive biological resources during construction, restoration, and maintenance activities**

Regional Parks shall minimize and mitigate for impacts to sensitive biological resources during construction, restoration, and maintenance activities by:

- Monitoring wildlife use on the Expansion properties to assess effects of additional trail development and public access on wildlife movement. If monitoring reveals detrimental effects on wildlife, implement adaptive management strategies, which may include seasonal trail closures, interpretive signage to inform and guide user behavior, or trained docents stationed on trails at key times to inform and guide the public.
- Performing pre-construction wildlife surveys prior to significant ground disturbance (e.g., trail construction, mowing for fire abatement). Surveys on the day preceding work and/or ahead of the construction crew shall be performed by a qualified biologist to ensure that no special-status species or common wildlife are occupying the area. If wildlife are observed within the work area or immediate surroundings, these areas shall be avoided until the animals have vacated the area, or, with approval from regulatory agencies, until the animals have been relocated out of the area by a qualified biologist.
- Completing additional surveys if the work area is left unattended for more than one week following the initial surveys.
- Conducting ongoing monitoring during construction to ensure animals have not moved back into the area or are not being impacted by activities.
- Educating field staff about the Park's natural resources and all protection measures relevant to their work. This training could be held on an annual basis or in conjunction with specific projects, and it could be combined with training for other similar Regional Park properties. The training shall be conducted by a qualified biologist or natural resource specialist and shall discuss the sensitive biological resources within the Expansion properties, the potential presence of special-status species and their habitats, protection measures, maintenance activities, and other biological conditions outlined in the *Expansion Master Plan*.
- Monitoring vernal pools annually for presence of special-status species and collaborate with regional monitoring efforts, such as the Laguna Foundation's Adopt-a-Vernal Pool Program, to survey for Sonoma sunshine and dwarf downingia.

### **Mitigation BIO-3: Protect California red-legged frogs**

Regional Parks shall:

- Assume presence of California red-legged frogs at Damselfly Pond unless protocol-level surveys are performed with negative findings, and implement avoidance measures for any significant ground-disturbing project within 500 feet of the pond.
- Monitor for the presence of California red-legged frog at Damselfly Pond to guide management and public use of the area and help determine the need for bullfrog management activities undertaken at the site.
- Maintain drainage and ponded areas between Damselfly Pond and the outlet swale to protect seasonal amphibian breeding habitat.

### **Mitigation BIO-4: Protect birds and nests during breeding season**

Regional Parks shall:

- Schedule work outside of the critical breeding bird period (February 15 through August 15) during vegetation trimming and removal or ground-disturbing activities as feasible. If activities must occur during this period, work areas shall be surveyed prior to site disturbance by a qualified biologist or trained staff. If it is determined that construction would not affect an active nest or disrupt breeding behavior, construction can proceed without restrictions. The determination of disruption shall be based on the species' sensitivity to disturbance (which can vary among species), the level of noise or construction disturbance, and the line of sight between the nest and the disturbance.
- If the qualified biologist determines that activities would likely disrupt breeding or nesting activities, a no-disturbance zone shall be placed around the nesting location, and vegetation trimming and removal or ground-disturbing activities shall avoid those areas plus a 50-foot buffer for small songbirds (e.g., small passerines, woodpeckers, hummingbirds) and 250-foot buffer for larger birds (e.g., owls, raptors). The no-disturbance zone shall include the active nest or breeding areas within an area designated by a qualified biologist based on the species sensitivity and the site-specific conditions. Construction activities in the no disturbance zones and buffers shall be avoided until the nests have been vacated and verified by a qualified biologist.
- Complete additional surveys if the work areas are left unattended for more than one week following the initial surveys.
- Include a site-specific mixture of plant types (i.e., shrubs, vines, perennials, and herbaceous species as well as trees) in planting palettes to improve the structural diversity of habitats that are especially important for birds.

### **Mitigation BIO-5: Protect special-status and common bat species**

Regional Parks shall:

- Complete presence/absence finding surveys prior to removal of any trees that are over twelve inches diameter at breast height or significant trimming of any branches with cracks and cavities that may be suitable for bat roosts. Because each individual bat species may use different roosts seasonally and from night to day, surveys shall be conducted by a qualified biologist or natural resource specialist at the appropriate times. If occupied roosting habitat is identified, trimming/removal of roost trees shall not be allowed until the roost is abandoned or unoccupied and/ or CDFW is consulted.
- Limit construction to daylight hours to avoid interference with the foraging abilities of bats.
- Repeat the pre-construction survey if construction is postponed or interrupted for more than two weeks from the date of the initial bat survey.

**Mitigation BIO-6: Protect native vegetation and soil during focused grazing**

Regional Parks shall:

- Develop a grazing plan with the assistance of specialists in rangeland management and vernal pool biology. Describe current conditions and identify measurable project targets. Identify the planned number of animals, species, time frame, fencing plan, native plant protection plan if needed, public interface/signage needs, and site access or other infrastructure requirements.
- Conduct quantitative monitoring of plant species composition in vernal pools prior to grazing plan implementation to serve as a baseline.
- Work with grazing contractor to ensure that animals will not be bringing in invasive species (i.e., on their skin or feet or in their digestive systems). The use of supplemental feed is not anticipated, but if feed is brought to the site, ensure that it is free of noxious weed seed.
- Monitor the treatment area during grazing to ensure that livestock use of areas does not result in erosion.
- Conduct annual quantitative monitoring of the treatment area to determine whether desired changes in vegetation are occurring (e.g., increased native plant richness or abundance, decreased non-native plant abundance). If desired changes are not occurring, adjust grazing methods and/or consider other management strategies (e.g., adjustments to grade and hydrology, inoculation with seed and duff from adjacent pools), as appropriate.

## 4.6 Cultural Resources

### 4.6.1 Existing Conditions

Based on the cultural resources study by ALTA Archaeological Consulting (ALTA 2016) described in Section 1.4.5 above, four historic resources are present on the former SDC 41 parcel; no prehistoric features were identified.

**Objective OM-9** in the *Expansion Master Plan* is to “protect archaeological, historic, and tribal cultural resources during maintenance and improvement efforts.” Actions identified in the *Expansion Master Plan* to meet this objective include:

- Monitor identified historic resources for impacts from Park visitors. Periodically check cistern and rock piles for any alterations or damage. If observed, install signage that directs visitors to respect historic resources.
- If previously unidentified cultural resources are encountered during project implementation, avoid altering the materials and their stratigraphic context. Contact a qualified professional archaeologist to evaluate the situation. Project personnel should not collect cultural resources.
- If human remains are encountered, stop all work in the immediate vicinity and notify the County Coroner and a qualified archaeologist immediately so that an evaluation can be performed. If the coroner determines the remains are Native American and prehistoric, the Native American Heritage Commission will be contacted so that a “Most Likely Descendant” can be designated and further recommendations regarding treatment of the remains provided.

### 4.6.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in CCR §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 4.6.3 Analysis and Findings

Implementation of the Park Expansion project is not expected to have an adverse effect on cultural resources; however, careful planning and monitoring of existing resources and standard practices for protecting any potential undiscovered cultural resources are required as detailed below.

a-b) The proposed Zoe Trail is sited near the historic cistern and rock piles identified by the cultural resource study. This area will be avoided. Impacts would be less than significant with implementation of **Mitigation CUL-1** and **CUL-2** below.

c) No impacts on a unique paleontological resource, site, or geologic features will occur, because there are no unique paleontological or geologic resources on the Expansion properties.

d) Regional Parks proposes **Mitigation CUL-3** to reduce potential impacts to a less-than-significant level in the unlikely event that previously unknown human remains be encountered during project activities.

#### **4.6.4 Cultural Resources Impact Avoidance and Mitigation Measures**

##### **Mitigation CUL-1: Monitor identified historic resources for impacts from visitors**

Regional Parks shall monitor identified historic resources for impacts from visitors and periodically check cistern and rock piles for any alterations or damage. If observed, Regional Parks shall implement protection measures (e.g., install signage directing visitors to respect historic resources).

##### **Mitigation CUL-2: Protect undocumented cultural resources encountered during project implementation**

In the unlikely event that previously undocumented cultural resources are encountered during project implementation, project personnel shall avoid altering the materials and their stratigraphic context, and a qualified professional archaeologist shall be contacted to evaluate the situation; project personnel shall not collect cultural resources. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points, mortars, pestles, and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or abode foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

##### **Mitigation CUL-3: Protect undocumented human remains encountered during project implementation**

If human remains are encountered, project personnel shall stop all work in the immediate vicinity. The Sonoma County Coroner and a qualified archaeologist shall be notified immediately so that an evaluation can be performed. If the coroner determines the remains are Native American and prehistoric, NAHC shall be contacted so that a "Most Likely Descendant" can be designated, the appropriate Tribal representative can be contacted, and further recommendations regarding treatment of the remains can be provided.

## 4.7 Geology and Soils

### 4.7.1 Existing Conditions

The soils within the Expansion properties are mapped as Spreckels loam, Goulding cobbly clay loam, Red Hill clay loam, Tuscan cobbly clay loam, and Los Robles gravelly clay loam (NRCS 2016); see **Exhibit 3**. The soil types on the easternmost edge of the properties are of relatively recent alluvial origin, while the other soil types are derived from older volcanic and metamorphic rock of the Glen Ellen Formation. The older soils have moderate erosion potential, while the alluvial soils tend to be highly erosive (SEC 2017).

There are areas of active erosion on the properties along dirt roads and seasonal drainages. Unplanned and poorly designed trail networks are notorious for altering runoff pathways, concentrating flows, causing increased soil compaction and erosion, and reducing groundwater infiltration. Maintaining healthy vegetative cover and soil permeability will reduce erosion, protect downstream water quality, and increase absorption and storage of rainwater, recharging aquifers.

### 4.7.2 Potential Impacts

Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.7.3 Analysis and Findings

The Expansion properties' area, while vulnerable to earthquakes as is the rest of the Bay Area, is not in an Alquist-Priolo Zone or high liquefaction susceptibility area. Portions of the Expansion properties do have strong seismic ground shaking and landslides (ABAG 2017). Activities included in the *Expansion Master Plan* with the potential to change landslide hazards include trail work and vegetation management.

a-i) The project is not in an Alquist-Priolo Zone. There will be no impact.

a-ii) According to ABAG's hazard mapping, the Park Expansion properties and all adjacent areas are subject to very strong shaking. In an earthquake, hazardous conditions can be generated by things falling or being propelled through the air. Although there are no buildings or significant infrastructure on the Expansion properties that could be affected, old trees or trees with very shallow roots can be destabilized by an earthquake and fall. No actions proposed in the *Expansion Master Plan* would change the likelihood of trees falling. As stated in **EPM BIO-1**, where applicable, trails will be routed to the uphill side of trees to reduce impacts on roots. The project will not alter the effects of earthquakes on the property. There will be no impact.

a-iii) The Expansion properties are not subject to seismic-related ground failure such as liquefaction. There will be no impact.

a-iv) According to ABAG's hazard mapping (ABAG 2017), the SDC 41 Expansion property has a substantial area that is mostly landslide. Project activities that could exacerbate this hazard are trail building where it may destabilize an existing landslide and vegetation control that removes stabilizing root structures. Measures to offset the effects of project activities, avoid unstable areas, and maintain soil structure in affected areas are included in **Mitigation GEO-1**.

b) Actions proposed in the *Expansion Master Plan* will actively retain topsoil and prevent erosion by protecting native vegetation and enhancing it where needed; see **Mitigation HWQ-1** below for measures to address erosion and impacts on water quality from Park Expansion use and maintenance. There will be no impact.

c) While the Expansion properties do have unstable soils, none of the proposed actions in the *Expansion Master Plan* are liable to destabilize areas. There are no actions that have potential to cause off-site landslides. On-site landslides are addressed above and in **Mitigation GEO-1** below. Implementation of the *Expansion Master Plan* will not increase weight bearing in any areas, stable or otherwise, or have other components that could increase lateral spreading, subsidence, or collapse. There will be no impact.

d) The Expansion properties do not have expansive soils. There will be no impact.

e) No septic tanks or water disposal are planned as part for the Expansion properties. There will be no impact.

#### **4.7.4 Geology and Soils Impact Avoidance and Mitigation Measures**

##### **Mitigation GEO-1: Prevent exacerbation of existing potential for landslides when working in a mapped landslide-prone area**

Regional Parks shall:

- Schedule ground-disturbing work in the dry season to the extent feasible.
- Route trails to avoid cuts across steep slopes and any areas of active landslides.
- If appropriate, leave root systems in place during vegetation management.



## 4.8 Greenhouse Gas Emissions

### 4.8.1 Existing Conditions

GHGs trap heat in the atmosphere, causing an increase in average global temperatures and other climate changes including alterations to temperature ranges, wind patterns, storm distribution and intensity, and total rainfall. These changes are already affecting habitat conditions, species survivorship, food supply, water reliability, economic stability, and human safety; larger effects are anticipated moving forward. One of the key actions to protect species and habitats from the effects of climate change is to create and protect large-scale habitat linkages like the Sonoma Valley Wildlife Corridor that allow natural systems to adjust.

Generally, GHGs are measured by the amount of change they make in atmospheric heat retention (forcing) compared to the most common GHG – carbon dioxide equivalent (CO<sub>2</sub>E). Government at all levels is moving to reduce GHGs. There are two areas of focus for reducing the amount of GHGs in the atmosphere: cutting emissions and increasing sequestration (the process by which atmospheric GHGs are incorporated into non-mobile forms such as trees and soil).

Primary GHGs emitted at the Park under current conditions are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). These gases are emitted in extremely small quantities by living things, both those that live at the Park and visitors. All three gases are emitted in larger quantities by vehicles accessing the Park and by maintenance equipment. Carbon sequestration is occurring in forest and shrub habitats that are expanding or contributing to soil development. Other GHGs are not likely to be generated or sequestered by short-term or long-term Expansion properties' management actions.

Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.8.2 Analysis and Findings

a) Trail building and implementation of erosion control projects will be performed with a combination of hand tools and small equipment, such as a tractor, and will generate very small levels of GHG emissions. It is estimated that use of the Expansion properties will add 160 vehicle trips per day to the Park (W-Trans 2016). However, since the Expansion properties offer opportunities similar to those of other parks in the region, it is likely these vehicle trips will be diversions from other recreational areas rather than new trips that would not have occurred without the Expansion properties being available for public use. Therefore, the change in trips is not likely to result in a substantial amount of new GHG emissions. Impacts will be less than significant.

b) Pertinent GHG regulations and guidance for Expansion properties come from the State of California, BAAQMD, the Regional Climate Protection Authority, and Sonoma County. Actions proposed in the *Expansion Master Plan* will not hinder any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. There will be no impact on existing plans or regulations.

#### **4.8.3 Greenhouse Gas Emissions Impact Avoidance and Mitigation Measures**

No impacts are anticipated; therefore, no mitigation is necessary.

## 4.9 Hazards and Hazardous Materials

### 4.9.1 Existing Conditions

There are no known hazardous materials present on the Expansion properties. There are two scenarios in which hazardous conditions may occur in the future. One is wildfire, and the other is the use of herbicides for vegetation management and control of invasive plant species.

The oak woodlands and grasslands that characterize the Expansion properties and Park are moderately susceptible to fire. Lightning strikes are rare in this area, and oaks and grasses are low in the volatile oils that make many coniferous and chaparral settings so flammable. Mature oaks typically survive low-intensity fires, and young oaks frequently resprout after fire. Native perennial grasses readily survive and can be encouraged by, low-intensity fires. Shrubs, vines, and dense stands of saplings, which would have potential to serve as “ladder fuels,” are limited on the Expansion lands.

However, ignition of dry vegetation from human sources is still a possibility, and the potential for fire to spread to nearby structures or threaten human safety merits consideration. The site is within an area designated as a “Moderate Fire Hazard Severity Zone” by CalFire (2007). It falls within a State Responsibility Area and is under the purview of CalFire, which maintains a station immediately adjacent to the Park. The greatest concern for fire on the site is protection of public safety and homes adjacent to the Curreri parcel. Managing Park user behavior, staff maintenance practices, and accessibility for fire response will help address these concerns.

Regional Parks’ policy allows for the use of chemical pesticides in situations where other methods are not effective or feasible (e.g., cannot be sustained due to budgetary or other constraints). Herbicides are used only to spot treat high-priority infestations that have not been controlled by manual efforts. Any applications will be performed or overseen by a qualified applicator.

### 4.9.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5, and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 4.9.3 Analysis and Findings

a) Implementation of the *Expansion Master Plan* may include some routine transport and use of herbicides. Their use for vegetation management is a potential source of hazardous conditions. Regional Parks proposes **Mitigation HAZ-1** to reduce potential impacts from herbicide use to less-than-significant levels.

b) No actions are proposed that will create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Regional Parks shall employ BMPs for staging, maintenance, fueling, and spill containment of potentially hazardous materials used on the property; see **EPM HWQ-2** in Section 2.5 for more details. There will be no impact.

c) There are no existing or proposed schools within one-quarter mile of the Expansion properties, and no actions are proposed that will emit hazardous emissions or require handling of hazardous or acutely hazardous materials. There will be no impact.

d) The Park and Expansion properties are not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 (DTSC 2017). There will be no impact.

f) The Park and Expansion properties are not located in the vicinity of a private airstrip. There will be no impact.

g) Implementation of the *Expansion Master Plan* will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. There will be no impact.

h) Because the Expansion properties occur in an area of moderate fire risk, use of the property may expose people to a risk of loss, injury, or death involving wildland fires. Although there are no structures on the Expansion, it is adjacent to an urbanized area. Unreported, unauthorized activities, such as smoking and camping, may pose a significant fire hazard and safety threat to visitors. Regional Parks proposes **Mitigation HAZ-2** to reduce potential fire hazard risks to less-than-significant levels.

### 4.9.4 Hazards and Hazardous Materials Impact Avoidance and Mitigation Measures

#### Mitigation HAZ-1: Limitations on use of herbicides.

In order to limit use of herbicides and potential hazards from herbicide use, Regional Parks shall:

- Avoid the use of pesticides and herbicides through use of alternative measures, such as manual or mechanical removal, planting with competitive native species, and otherwise influencing habitat conditions to suppress undesired species (e.g., by shading out with a native over-story, limiting ground disturbance). If non-chemical approaches to high priority invasive species are implemented but are found to be unsuccessful, and Regional Parks determines that risk to the Park's natural resources from the infestation is high, herbicide use may be considered on a case-by-case basis.
- Use herbicides only to spot treat high-priority infestations.
- If pesticides or herbicides are used, use with caution to prevent contaminated runoff. This is particularly important for all road maintenance activities and invasive plant species treatments by Park staff or other

groups. Herbicide application shall be done under the guidance of a licensed Pest Control Advisor and Natural Resources Manager.

- Ensure that any use of herbicides is done according to manufacturer recommendations.
- Employ BMPs for staging, maintenance, fueling, and spill containment of potentially hazardous materials used on the property; see **EPM HWQ-2** in Section 2.5 for more details.

#### **Mitigation HAZ-2: Measures to reduce fire risks and maintain capacity for prompt fire response**

In order to reduce fire risks and maintain capacity for prompt fire response, Regional Parks shall:

- Maintain Regional Parks' existing no-smoking policy and post signage at the main entrance.
- Install adequate barriers at trailheads and access points to keep unauthorized motorized vehicles off the property.
- Monitor the property for illegal campfires, firearm use, non-authorized motor vehicle use, and smoking. Monitoring shall be conducted as part of ongoing patrols and shall entail walking the entire property including remote locations where illegal activities may be focused. If widespread or recurring problems are found, Regional Parks shall develop a strategy to reduce these illicit behaviors.
- Mow or graze the Park and Expansion perimeters to create a fuel break in grassy areas adjacent to public roads or structures on adjacent properties. Fuel break should be approximately 15 feet wide. Do not disk. Mowing is preferred because it is less disruptive to soils and plant life than disking and more compatible with trail use. Carefully managed livestock grazing may be substituted for mowing; protections shall be in place to prevent the spread of weeds, prevent damage to non-target plants, prevent erosion, and avoid conflicts between livestock, trail users, and dogs. Mow in mid- to late-spring; more than one mowing may be needed to keep vegetation low. Complete mowing before grasses dry out to minimize fire hazards during mowing. Follow guidelines in **EPM BIO-5** to ensure that mowing does not introduce or spread weeds.
- Ensure no driving or use of power tools on red flag fire danger days.
- Prohibit parking or driving over flammable material such as grasses and dry brush.
- Require vehicles used off-road in dry weather to be equipped with standard fire-fighting equipment (e.g., shovel, McLeod, fire extinguisher) and spark arrestors or other means of controlling backfiring.
- Maintain Park entrance and the dirt road leading southwest from the CalFire station onto the existing Park (or alternative secondary access point) as the primary access points for fire response.
- Ensure that all fire hazard reduction efforts also protect wildlife, native plant communities, and soil.

## 4.10 Hydrology and Water Quality

### 4.10.1 Existing Conditions

The primary alterations to natural hydrology on the Expansion properties are the pond, roads, and trails. The pond appears stable and provides a valuable source of water for wildlife, but revegetation along the periphery could help address erosion. Active erosion along the pond outlet drainage and along some of the existing trails is limited but visible (see **EPM HWQ-1**).

On the Curreri parcel, the entry road and a parallel old ranch road cross through the wetlands, with two culverts providing connection. The old ranch road has been decommissioned by smoothing out ruts and seeding, but a remnant elevated roadbed and associated culvert remain along the lower portion. This culvert is partially functional but appears to be collapsing.

The SDC 41 parcel drains to two areas, a culvert leading east under Highway 12, and a swale in the southern tip leading south towards Wilson Creek. This swale runs along the existing firebreak trail, and water also runs along the trail itself, resulting in erosion. Reducing erosion by revegetation, limiting new soil disturbance, and careful trail design and alignment will help protect soil and plant resources, downstream water quality and aquatic species habitat quality.

Upland erosion and channel incision reduce infiltration of water into the soil and increase the rate at which surface water concentrates and moves off site. Unplanned and poorly designed trail networks are notorious for altering runoff pathways, concentrating flows, causing increased soil compaction and erosion, and reducing groundwater infiltration. Maintaining healthy vegetative cover and soil permeability will reduce erosion, protect downstream water quality, and increase absorption and storage of rainwater, recharging aquifers.

### 4.10.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.10.3 Analysis and Findings

a) New trails and improvements on the Expansion properties may include measures to provide safe access across wetlands or an ephemeral stream. Such work will require permits from the San Francisco Bay RWQCB and CDFW. All permit conditions will be included in the project-specific plans. In addition to **EPMs HWQ-1 through HWQ-3**, Regional Parks proposes **Mitigation HWQ-1** to ensure potential impacts from recreational and trail/road improvements, habitat restoration, and on-going maintenance and use of the Expansion properties are mitigated to a less-than-significant level.

b-f) Implementation of the *Expansion Master Plan* will not substantially deplete groundwater supplies or interfere with groundwater recharge; alter the existing drainage pattern, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation, or flooding on- or off-site; create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or otherwise substantially degrade water quality. No impacts will occur.

g-h) There is no housing planned on the Expansion properties, and no structures are planned for placement within a 100-year flood hazard area structures that would impede or redirect flood flows. No impacts will occur.

i) The project will not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. No impact will occur.

j) The project will not result in inundation by seiche, tsunami, or mudflow. No impact will occur.

#### **4.10.4 Hydrology and Water Quality Impact Avoidance and Mitigation Measures**

##### **Mitigation HWQ-1: Monitoring and measures to address erosion and impacts on water quality from Park Expansion use and maintenance**

In order to avoid or minimize erosion and impacts on water quality from Expansion use and maintenance, Regional Parks shall:

- Walk the trail network and culvert crossings each spring and winter and following large storm events to evaluate trail performance and detect any critical changes. Monitor for active erosion, chronically wet areas, and debris build-up in culverts and other drainage structures.
- If chronically wet trails accompanied by soil compaction or erosion cannot be promptly repaired, implement seasonal closures with placement of logs, limbs, brush, rocks, and other native material from the area. If visitors continue to use decommissioned trails, post signage to inform the public of the closure and the sensitivity of the habitat. Monitor for trespass in closure area.
- If fresh erosion is visible or existing problem areas are rapidly changing, evaluate and design a repair with guidance from a qualified erosion control specialist and natural resource specialist. All treatments must be performed in a manner that protects sensitive ecological resources and include the necessary measures to protect resources. As required, revegetate all disturbed areas with native perennial and/or woody species.
- Ensure that all debris, sediment, rubbish, vegetation, or other construction-related materials are placed in a location where they cannot enter jurisdictional waters or wetlands. No materials, including petroleum products, chemicals, silt, fine soils, or substances deleterious to fish, amphibian, plant, or bird life or to the function of a watercourse and water quality, shall be allowed to pass into, or be placed where it can pass into, stream channels. Upon completion of work, all construction-related materials, debris, and sediments shall be removed to a landfill or in another manner approved by the Natural Resource Manager.



## 4.11 Land Use and Planning

### 4.11.1 Existing Conditions

The Expansion properties are currently zoned as a Public Facility to provide sites that serve the community or public need and to protect the area from encroachment of incompatible uses. Permitted uses include any facilities owned or operated by a city or county.

### 4.11.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.11.3 Analysis and Findings

a-c) No changes in land use will occur as a result of the actions to improve public recreation and resource protection proposed the *Expansion Master Plan*.

### 4.11.4 Land Use and Planning Impact Avoidance and Mitigation Measures

No impacts are anticipated; therefore, no mitigation is necessary.

## 4.12 Mineral Resources

### 4.12.1 Existing Conditions

According to baseline documentation prepared for the SDC 41 parcel, the State retains mineral rights on the SDC 41 parcel below 500 feet but does not have surface rights to extract those minerals from the ground and, therefore, would only have access to the minerals from adjacent State lands. An evaluation of mineral resources on the parcel, commissioned by the Sonoma County Agricultural Preservation and Open Space District, found none of likely extraction value.

### 4.12.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.12.3 Analysis and Findings

a-b) The implementation of *Expansion Master Plan* will not create change in mineral extraction practices or availability. The project would not result in any change in presence or availability of minerals on the property. No mineral recovery is planned by Regional Parks for the Expansion properties. There will be no impacts.

### 4.12.4 Mineral Resources Impact Avoidance and Mitigation Measures

No impacts are anticipated; therefore, no mitigation is necessary.

## 4.13 Noise

### 4.13.1 Existing Conditions

In the Sonoma County General Plan 2020 (GP 2020) Noise Element, adopted in 2008 and amended in 2012, the need to establish a new noise ordinance was identified with the measures and standards that will be part of the noise ordinance when adopted. These noise standards define acceptable levels with different day and night standards; see **Table 7** below. Considerations in GP 2020 for allowable noise include surrounding land use, ambient noise levels, time of noise generation, and type of noise. Some people and circumstances are more vulnerable to the adverse effects of noise than others. “Sensitive receptors” include residences, schools, hospitals, long-term care facilities, places of public worship, and libraries. Noise level is generally evaluated at the nearest sensitive receptor.

**Table 7. Sonoma County Noise Standards**

<i>Hourly Noise Metric<sup>1</sup> (dBA)</i>	<i>Daytime (7 am-10 pm)</i>	<i>Nighttime (10 pm-7 am)</i>
L50 (30 minutes in any hour)	50	45
L25 (15 minutes in any hour)	55	50
L08 (5 minutes in any hour)	60	55
L02 (1 minute in every hour)	65	60

<sup>1</sup> The sound level exceeded n% of the time in any hour.

Source: Sonoma County General Plan 2020

The areas adjacent to the Expansion properties are primarily public lands and rural, sparsely populated, single-family residences. There is one home on the former Curreri property that may be affected by Park Expansion users and operations. Mitigation for potential impacts from increased noise are proposed below.

### 4.13.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Expose people to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.13.3 Analysis and Findings

a) Although on-going use of the trail adjacent to the residence on the former Curreri property is unlikely to result in noise that would exceed the standards established in the County's GP 2020 or a noise ordinance or other applicable standards, Regional Parks proposes **Mitigation NOI-1** to reduce any potential increase in noise from visitors to the Park Expansion to a less-than-significant level.

b) None of the activities planned for the Park Expansion will produce excessive groundborne vibration. There would be no Impact.

c) Actions under the *Expansion Master Plan* will not produce a significant permanent increase in noise levels. Although the number of visitors will increase with when additional trails become available, Park uses will continue to be non-motorized, low-impact recreation. Other than the potential increase in noise at the adjacent private residence, there are no sensitive receptors in the vicinity. The proposed realignment of the 0.1-mile section of Cougar Trail near a private residence, and addition of native plants for screening, will minimize noise impacts from trail users on the residents. Impacts would be less than significant.

d) There may be a slight temporary or periodic increase in ambient noise levels in the project vicinity during road and trail work. Construction sound comes mostly from equipment such as tractors, particularly when they are backing up. Tractor noise levels vary by type and manufacturer, but a loud tractor may produce a sound exposure level (SEL) of 70 dBA at 50 feet. As a rule of thumb, sound tends to drop by 5 dBA every time the distance is halved, so a tractor would meet Sonoma County noise standards at a distance of 800 feet. Regional Parks proposes **Mitigation NOI-1** to ensure sounds levels comply with Sonoma County standards. Impacts would be less than significant with mitigation incorporated.

e-f) The project is not within 2 miles of a public airport or private airstrip. There will be no impact.

#### 4.13.4 Noise Impact Avoidance and Mitigation Measures

##### Mitigation NOI-1: Measures to address potential impacts on adjacent private residence

Regional Parks shall conduct any road or trail work that requires motorized equipment and will occur within 1000 feet of the adjacent private residence between the hours of 9 am and 5 pm.

#### **4.14 Population and Housing**

##### **4.14.1 Existing Conditions**

There is no housing present or proposed on the Park or Expansion properties.

##### **4.14.2 Potential Impacts**

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

##### **4.14.3 Analysis and Findings**

a-c) The project will not affect population or housing in any way. No impacts will occur.

##### **4.14.4 Population and Housing Impact Avoidance and Mitigation Measures**

No impacts are anticipated; no mitigation is required.

## 4.15 Public Services

### 4.15.1 Existing Conditions

The Park and Expansion properties are located in unincorporated Sonoma County to the east of Glen Ellen. The area is within the service area of CalFire and the Sonoma County Sheriff's office. The properties are not within a school district; the closest districts are Rincon Valley and Mark West. The properties are in a rural area without many public facilities other than the existing portable toilets available near the entrance parking lot.

### 4.15.2 Potential Impacts

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.15.3 Analysis and Findings

a-b) Fire and police protection services are occasionally required anywhere there are people. An increase in the number of visitors with the addition of the Expansion properties to the Park is expected to occur, and, therefore, an increase in the need for emergency services may also occur. Use of the property will, however, not change, and no significant change in required public services is anticipated. There are no management actions proposed the *Expansion Master Plan* that would cause a change in service ratios or response times. There will be no impact.

c) There are no schools present on the Expansion properties, and management actions proposed in the *Expansion Master Plan* will not require new schools. There will be no impact.

d) The Expansion will increase the acreage available for public use at the Park by 42%. Impacts from proposed improvements are described and assessed herein. Nothing proposed in the *Expansion Master Plan* will change existing use of or services at other parks in the vicinity. There will be no impact.

e) Existing restroom facilities at the Park will continue to serve Expansion visitors. No new facilities are currently proposed in the *Expansion Master Plan*, and no management actions would result in the need for additional public facilities. There will be no impact.

### 4.15.4 Public Services Impact Avoidance and Mitigation Measures

No impacts on public services are anticipated; no mitigation is necessary.

## 4.16 Recreation

### 4.16.1 Existing Conditions

The Expansion provides an additional 70 acres for public recreation to the Park's existing 167 acres, for a total of 237 acres. The Park is surrounded by open space and protected public land, much of which is available for recreation. The neighboring SDC parcel is currently used informally for hiking, and a conceptual planning process for formal public use is underway that could establish more open space and recreational facilities adjacent to the Park and Expansion properties. Two easements and one covenant associated with the Expansion properties contain requirements that they be used for public recreation; see discussion in Section 1.5 above. Appendix A to the *Expansion Master Plan* contains the full text of each easement.

### 4.16.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.16.3 Analysis and Findings

a) The project will not increase use of other parks or recreational facilities in a way that would result in substantial physical deterioration. It will expand the area of the existing Park by 70 acres. The project will have a beneficial effect on recreation by providing new opportunities for public access to a pristine area of Sonoma County.

b) The project does include construction of new or upgraded trails and signage and installation of picnic areas and benches. In addition, old roads and trails will be decommissioned and stabilized, and old fencing will be removed and, if needed, replaced with new wildlife-friendly fencing. Impacts from implementation of the actions proposed in the *Expansion Master Plan* will be less than significant.

### 4.16.4 Recreation Impact Avoidance and Mitigation Measures

No adverse impacts will occur; no mitigation is required. Existing easements on the Expansion properties guarantee their use for public recreation. The impact of these easements will be beneficial to recreation in the project area.

## **4.17 Transportation**

### **4.17.1 Existing Conditions**

Current conditions and Park access were assessed by W-Trans (2016). The main entrance off of Highway 12, which runs along the northeasterly frontage of the project site, provides vehicular access to the Park and Expansion properties. Vehicle trips per day into and out of the Park are currently estimated to be 381, a small portion of the 16,200 daily trips on that section of Highway 12. A secondary bicycle and pedestrian access from the southwest is located on Arnold Drive. There is also a bus stop for Sonoma County Transit Routes 30 and 38 on Arnold Drive, 0.15 miles from the main Park entrance.

W-Trans analyzed the main entrance on Highway 12 to determine if a left-turn lane would be needed. Based on the analysis, one is marginally warranted at the entrance driveway during the weekday p.m. peak hour. However, the need would be due to the existing high volumes on Highway 12 during the peak, not because of a high number of additional left turns into the Park. W-Trans' queuing analysis indicated that no more than one vehicle would be expected to queue at the entrance at any one time. Since the access is currently operating safely, a left-turn lane was not recommended at this time (W-Trans 2016).

Sight distances along Highway 12 at the main entrance were evaluated based on criteria contained in the *Highway Design Manual* published by Caltrans for minor street approach driveways, which are based on stopping sight distance. For the posted 55-mph speed limit on Highway 12, the recommended stopping sight distance is 500 feet. Based on a review of the field conditions, sight distance at the Highway 12 entrance extends approximately 600 feet to the north and south, which satisfies requirements for speeds of 60 mph.

Radar speed samples were obtained on the northbound and southbound approaches of Highway 12 at the project driveway. Prevailing speeds were found to be below the posted 55-mph speed limit in both directions. Based on the speed samples, the 85<sup>th</sup> percentile speed for northbound vehicles was 48 mph, with a peak observed speed of 50 mph. In the southbound direction, the 85<sup>th</sup> percentile speed was 43 mph, with a peak observed speed of 46 mph.

Although the entrance on Arnold Drive is not a vehicle driveway, bicyclists and pedestrians entering and exiting the Park may cross Arnold Drive in this location. Sight distance at Arnold Drive was evaluated in the context of these non-vehicular modes based on sight distance criteria contained in *A Policy on Geometric Design on Highways and Street* published by American Association of State Highway and Transportation Officials (AASHTO). For the posted 25-mph speed limit on Arnold Drive adjacent to the project site, the recommended stopping sight distance is 155 feet. Based on a review of the field conditions, from a position at the edge of the travelway, sight distance from the Park entrance extends approximately 180 feet to the north and 200 feet to the south, which satisfies requirements for speeds up to 25 mph in the southbound direction and 30 mph in the northbound direction.

Radar speed samples were obtained on the northbound and southbound approaches of Arnold Drive at the Park entrance. Based on the speed samples, the 85<sup>th</sup> percentile speed for northbound vehicles was 28 mph, with a peak observed speed of 34 mph. In the southbound direction, the 85<sup>th</sup> percentile speed was 33 mph, with a peak observed speed of 37 mph. For these actual approach speeds, stopping sight distances needed are 200 and 250 feet for the northbound and southbound directions, respectively.



#### 4.17.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Conflict with a plan, addressing the safety or performance of the circulation system, including transit, roadways, bicycle lanes and pedestrian paths (except for automobile level of service)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Cause substantial additional vehicle miles traveled (per capita, per service population, or other appropriate efficiency measure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow lanes) or by adding new roadways to the network?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 4.17.3 Analysis and Findings

The Expansion will increase the total Park size from 167 to 237 acres. The additional acreage as compared to the existing Park area was used to calculate a predicted average of 160 new vehicle trips per day, including 6 trips during the weekday pm peak hour and 12 trips during the weekend midday peak hour. Since the access from Highway 12 is currently operating safely, a left-turn lane was not recommended at this time but may be considered during development of long-range improvements (W-Trans 2016).

a) The actions proposed in the *Expansion Master Plan* will have no effect on plans, ordinances, or policies regarding the safety or performance of the circulation system or modes of transit. The W-Trans study evaluated the project using the standards adopted by Sonoma County in May 2016. The project meets all standards. Specific

issues with the potential turn lane and sight lines are adequately addressed as described below. No impact will occur.

b) Highway 12 currently operates at or above Level of Service (LOS) C, established by Sonoma County as acceptable for this area. The addition of 160 daily trips, about 1% of the road total, with most occurring during off-peak hours, will not significantly or noticeably change the LOS. No congestion management plan is in place for the project area. No impact will occur.

c) While the addition of the Expansion properties will result in additional trips, it is likely that they will not cause substantial additional vehicle miles traveled (VMT). These trips are likely to be reroutes from other recreational areas. While some of the trips will be from people who are driving further because they are curious about the new Expansion areas or particularly like the landscape, many will use the new trails because they are closer to home than similar facilities. There is currently no good methodology for separating the trips by starting point, but it is reasonable to presume that, on balance, people will choose the closer recreational opportunity. Therefore, the project will result in a less-than-significant contribution to VMT.

d) The project will not add any new lanes that will induce traffic. Even if a left turn lane is eventually added, it will not increase physical roadway capacity in congestion conditions sufficiently to affect the total amount of traffic. No impact will occur.

e) Use of the Expansion properties will not affect air traffic patterns. No impact will occur.

f) The Park entrance is currently facilitating turning movements acceptably based on site observations and the minimal increase in trips associated with the proposed expansion is expected to have a less-than-significant impact (W-Trans 2016). Adequate sight distance is available in each direction on Highway 12, as well as on Arnold Drive where W-Trans assumed that pedestrians or cyclists would stop at the edge of the road to assess adequacy of the gap in traffic for their crossing, thus determining that adequate sight distance can be achieved through decision-making. **Mitigation TRA-1** is proposed to ensure sight distance from Arnold Drive is adequate.

g) No change in road configuration is planned, and no increase in congestion will occur; there will be no effect on existing emergency access. No impact will occur.

h) Implementation of the *Expansion Master Plan* will not conflict with any adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. W-Trans (2016) noted that although pedestrian, bicycle, and transit access is currently lacking, it is expected to be adequate upon completion of improvements outlined in the Sonoma County Bicycle and Pedestrian Master Plan. Planned facilities include the provision of Class II bike lanes on Highway 12 and Arnold Drive adjacent to the project site. Additionally, the planned Central Sonoma Valley Trail, a Class I bike facility, would be located on the easterly side of Highway 12 and would connect the site to Santa Rosa and Sonoma. No impact from activities proposed in the *Expansion Master Plan* will occur.

#### **4.17.4 Transportation/Traffic Impact Avoidance and Mitigation Measures**

##### **Mitigation TRA-1: Measures to maintain adequate sight lines to the north along Arnold Drive**

In order to maintain adequate sight lines to the north along Arnold Drive, Regional Parks shall ensure that vegetation on the embankment shall be kept trimmed.

## 4.18 Tribal Cultural Resources

### 4.18.1 Existing Conditions

The Expansion properties are located within the traditional geographic area of the Lytton Rancheria of California. However, no Tribal cultural resources have been documented in the project area. Consultation with the Lytton Rancheria is described in Section 1.6.1 above

### 4.18.2 Potential Impacts

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.18.3 Analysis and Findings

a-b) The proposed uses of the Expansion properties for low-impact recreation, including multi-use trails, picnicking facilities, and nature resource education activities, and for natural resource protection and restoration will not result in a substantial adverse change in the significance of a Tribal cultural resource. As discussed in Section 1.6.1 above, Regional Parks staff initiated consultation with the Lytton Rancheria, the California Native American tribe that is traditionally and culturally affiliated with the Expansion properties, during preparation of the *Expansion Master Plan*, and written communications in October 2016 between Regional Parks and the designated legal representative of Lytton Rancheria, documents that the Tribe has no concerns with the project but requests that if Tribal resources are found that they will be avoided. Nevertheless, Regional Parks will follow the measures in **Mitigation CUL-2** and **CUL-3** during project implementation and in the unlikely event of discovery of previously undocumented Tribal resources or human remains in order to ensure that impacts are less than significant; see Section 4.6.5 above for details.

### 4.18.4 Tribal Resources Impact Avoidance and Mitigation Measures

In the unlikely event that previously undocumented cultural resources are encountered during project implementation, per **Mitigation CUL-2**, Regional Parks shall require that project personnel avoid altering the materials and their stratigraphic context, and a qualified professional archaeologist shall be contacted to evaluate the situation; project personnel shall not collect cultural resources. In the unlikely event that human remains are encountered, Regional Parks shall implement the actions required in **Mitigation CUL-3**.

## 4.19 Utilities and Service Systems

### 4.19.1 Existing Conditions

The Expansion properties have no existing utilities or service systems; they will be served by an existing water source and portable restrooms at the Park entrance. Sonoma County maintains several easements on the properties for utility access, water diversion, and ingress and egress. Restrooms are currently provided as portable toilets at the main parking area. The *1983 Park Master Plan* calls for development of a permanent restroom facility in the same general location; however, the Expansion project does not include changes to the existing restrooms.

### 4.19.2 Potential Impacts

Would the project:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.19.3 Analysis and Findings

a-f) Construction of new utilities or service systems is not proposed under the *Expansion Master Plan*. No ongoing waste program is required. No impacts will occur.

g) Materials generated by construction activities will be taken to an approved landfill in compliance with federal, State, and local statutes. No impacts will occur.

### 4.19.4 Utilities and Service Systems Impact Avoidance and Mitigation Measures

No impacts are anticipated; no mitigation is necessary.

#### 4.20 Mandatory Findings of Significance

Would the project have:	Potentially Significant Impact	Less-than-significant with Mitigation	Less-than-significant Impact	No Impact
a) Potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

##### 4.20.1 Analysis and Findings

a) The proposed approval and implementation of the *Sonoma Valley Expansion Master Plan* will not degrade the quality of the environment, substantially reduce habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate any important examples of California history or prehistory. Mitigation measures are included in the project to reduce impacts on Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, and Transportation to less-than-significant levels.

b) The project will not have significant cumulative effects even when considered in the light of other past, present, and future projects; implementation of the objectives in the *Expansion Master Plan* will result in beneficial cumulative changes in the environment. For example, measures are included to address erosion problems over the long term, to manage and prevent the spread of invasive species, and to improve wildlife habitat values on the Expansion properties that will result in cumulative benefits to water quality and biological diversity. In addition, the inclusion of the properties into the Park will help preserve the critical linkages provided by the Sonoma Valley Wildlife Corridor.

c) The project will not have substantial adverse effects on human beings, either directly or indirectly. Rather, it will provide increased opportunities for recreational activities and enjoyment of the unique beauty of Sonoma Valley. Regional Parks has planned the inclusion of the Expansion properties into the existing Park in such a way that they will accommodate a wide range of low-impact Park users while still protecting and enhancing their scenic and natural resources.

## 5 Preparers

The following Sonoma County Regional Parks team members reviewed this Proposed Mitigated Negative Declaration/Initial Study:

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Ecologist

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Project Administrator

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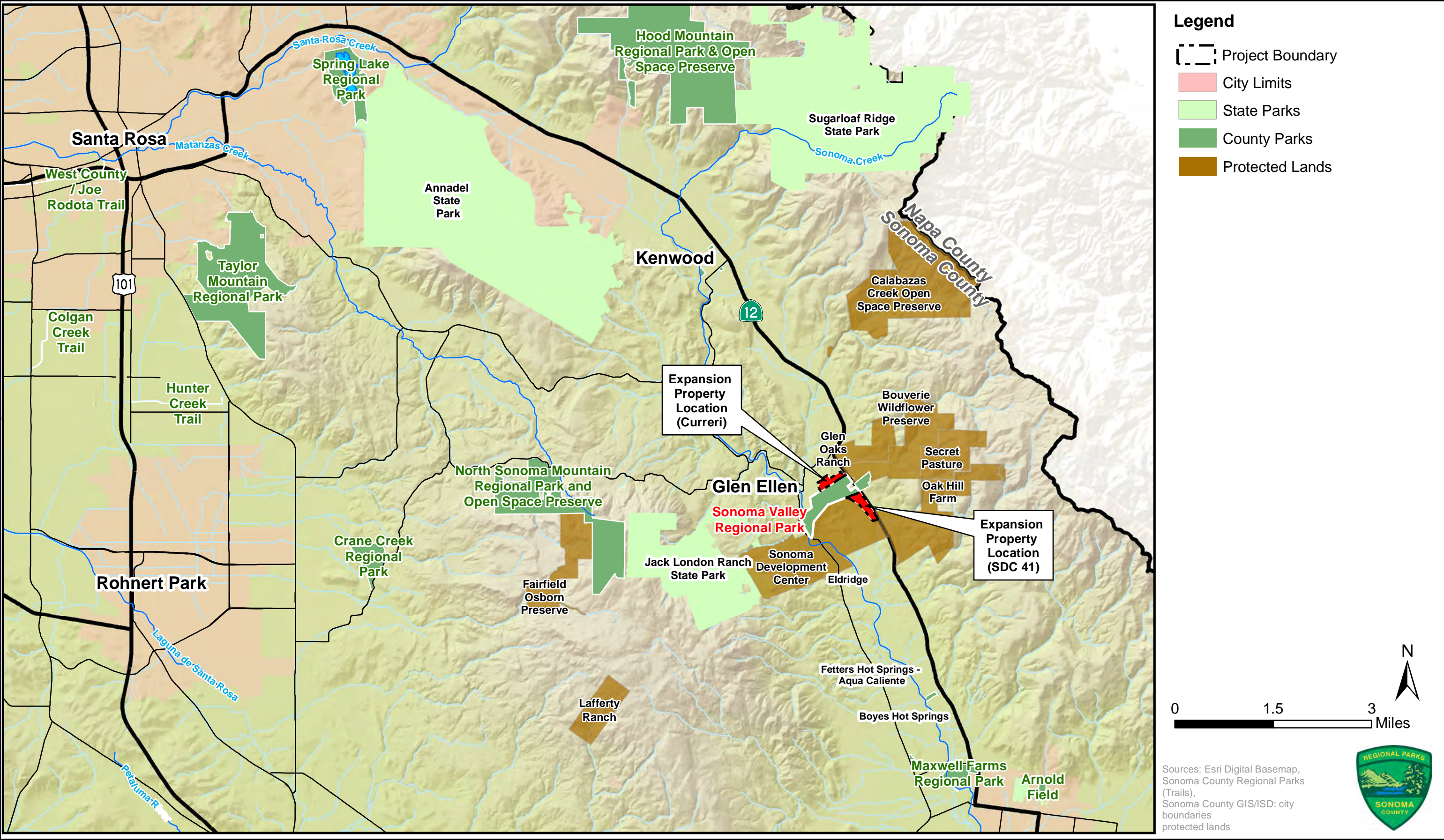
## 7 Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
Cal-IPC	California Invasive Plant Council
CARB	California Air Resources Board
CCA	chromate copper arsenate
CDFW	California Department of Fish and Wildlife
CDPR	California Department of Pesticide Regulation
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CH <sub>4</sub>	methane
CHRIS	California Historical Resources Information System
CNDDDB	California Natural Diversity Data Base
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> E	carbon dioxide equivalent
COMTP	California Oak Mortality Task Force
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
dB	Decibels
dBA	Decibels using an A-weighted Noise Pressure Level Scale
dbh	diameter at breast height
EPA	Environmental Protection Agency
EPM	Environmental Protection Measure
ESA	Endangered Species Act
FESA	Federal Endangered Species Act
GHG	greenhouse gas
GP 2020	Sonoma County General Plan 2020
IPCC	International Panel on Climate Change
IS /MND	Initial Study/Mitigated Negative Declaration
kg	Kilogram
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MMRP	Mitigation, Monitoring, and Reporting Program



N <sub>2</sub> O	nitrous oxide
NAHC	Native American Heritage Commission
NWIC	Northwest Information Center
OHP	Office of Historic Preservation
OHW	Ordinary High Water
PCA	pest control advisor
PRC	Public Resource Code
PRMD	Sonoma County Permit and Resource Management Department
RWQCB	Regional Water Quality Control Board
SCS	Sustainable Community Strategy
SHPO	State Historic Preservation Officer
SOD	Sudden Oak Death
SWRCB	State Water Resources Control Board
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
VMT	vehicle miles travelled





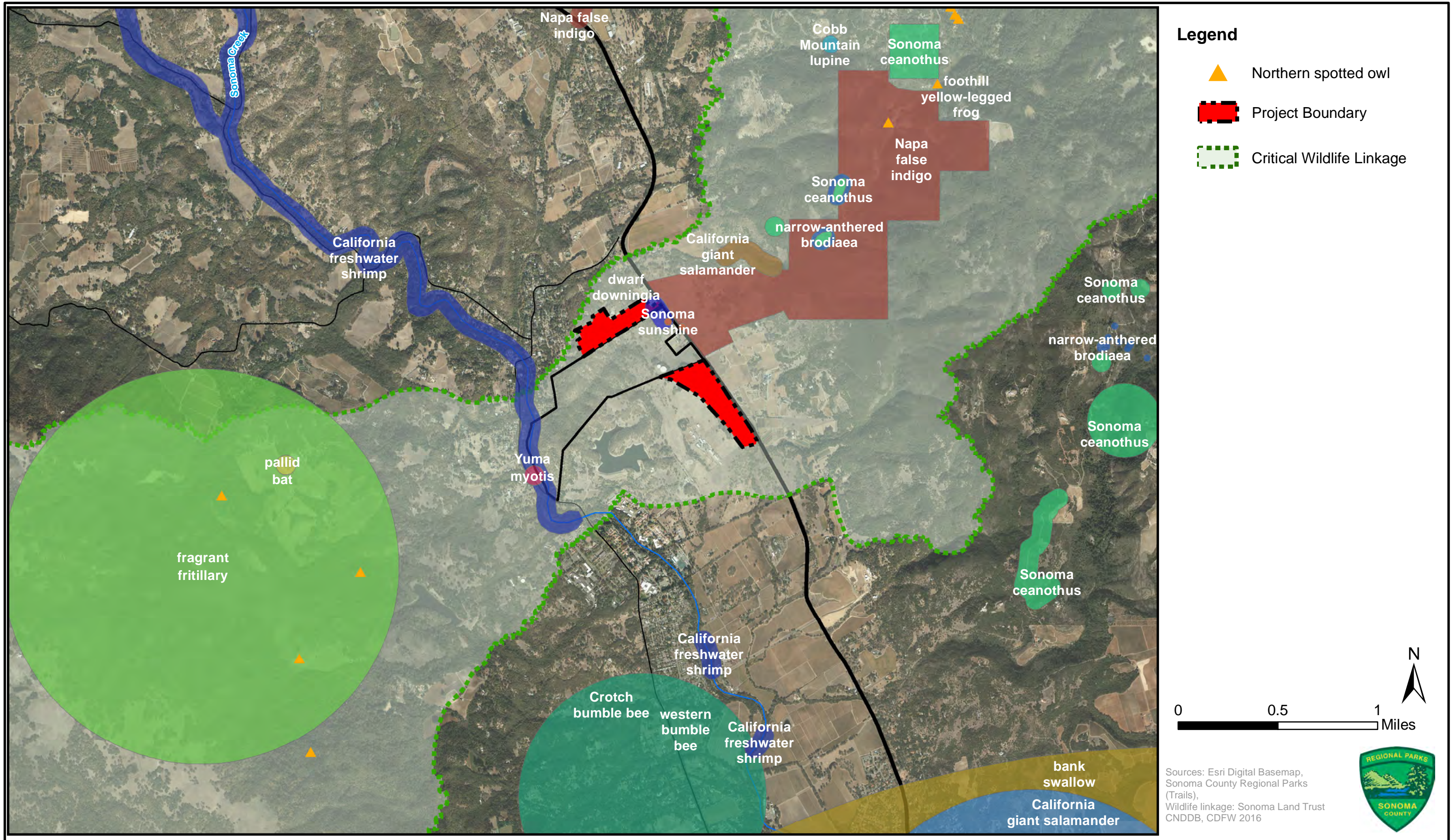
Sonoma Valley Regional Park Expansion Master Plan

Sonoma County, CA

Exhibit 1

Location and Regional Context





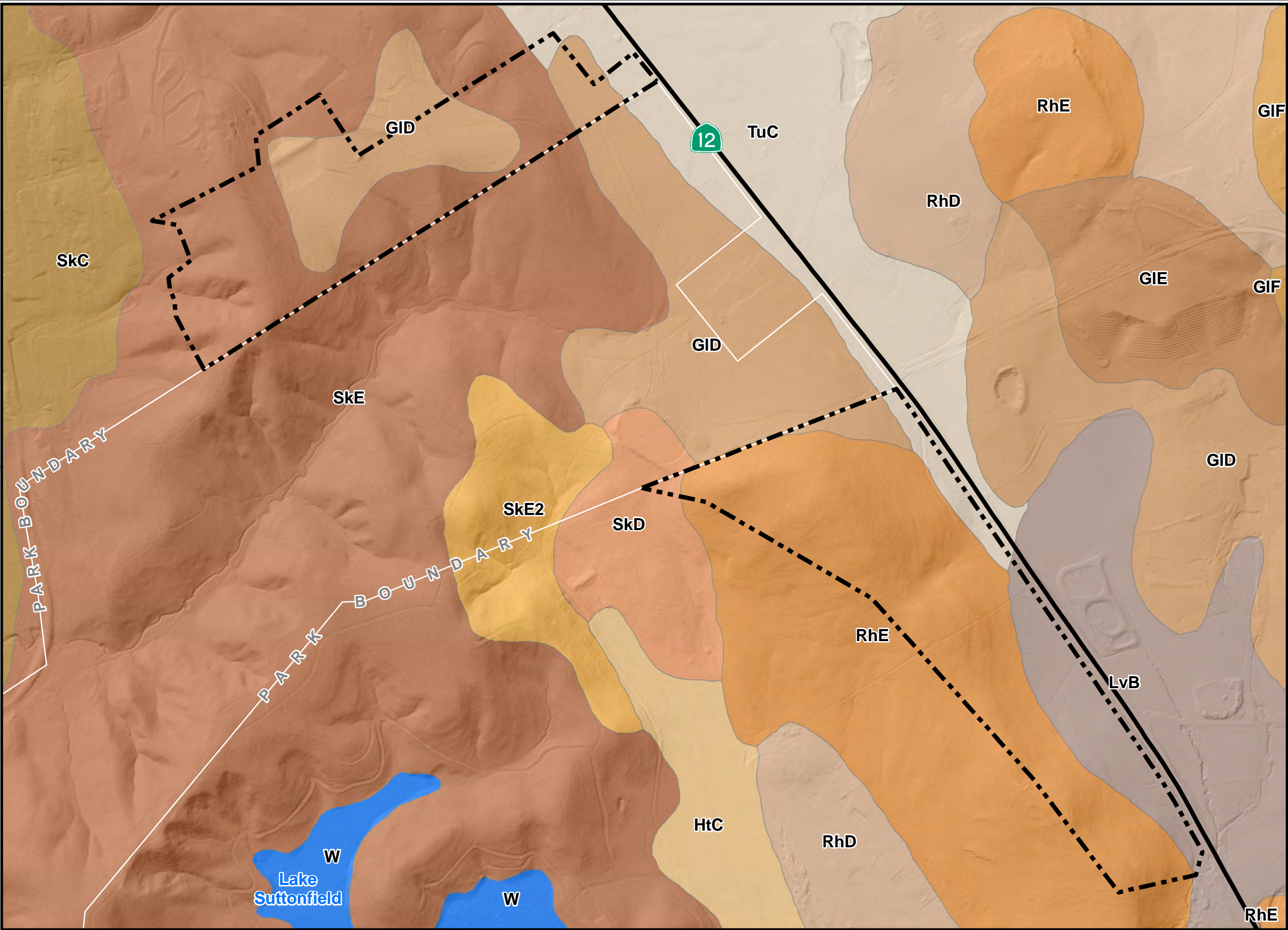
Sonoma Valley Regional Park Expansion Master Plan

Sonoma County, CA

Exhibit 2

Sensitive Species Occurrences in Vicinity and Wildlife Corridor

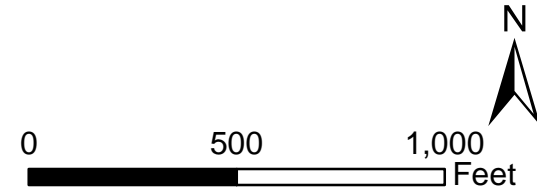




**Legend**

 Project Boundary

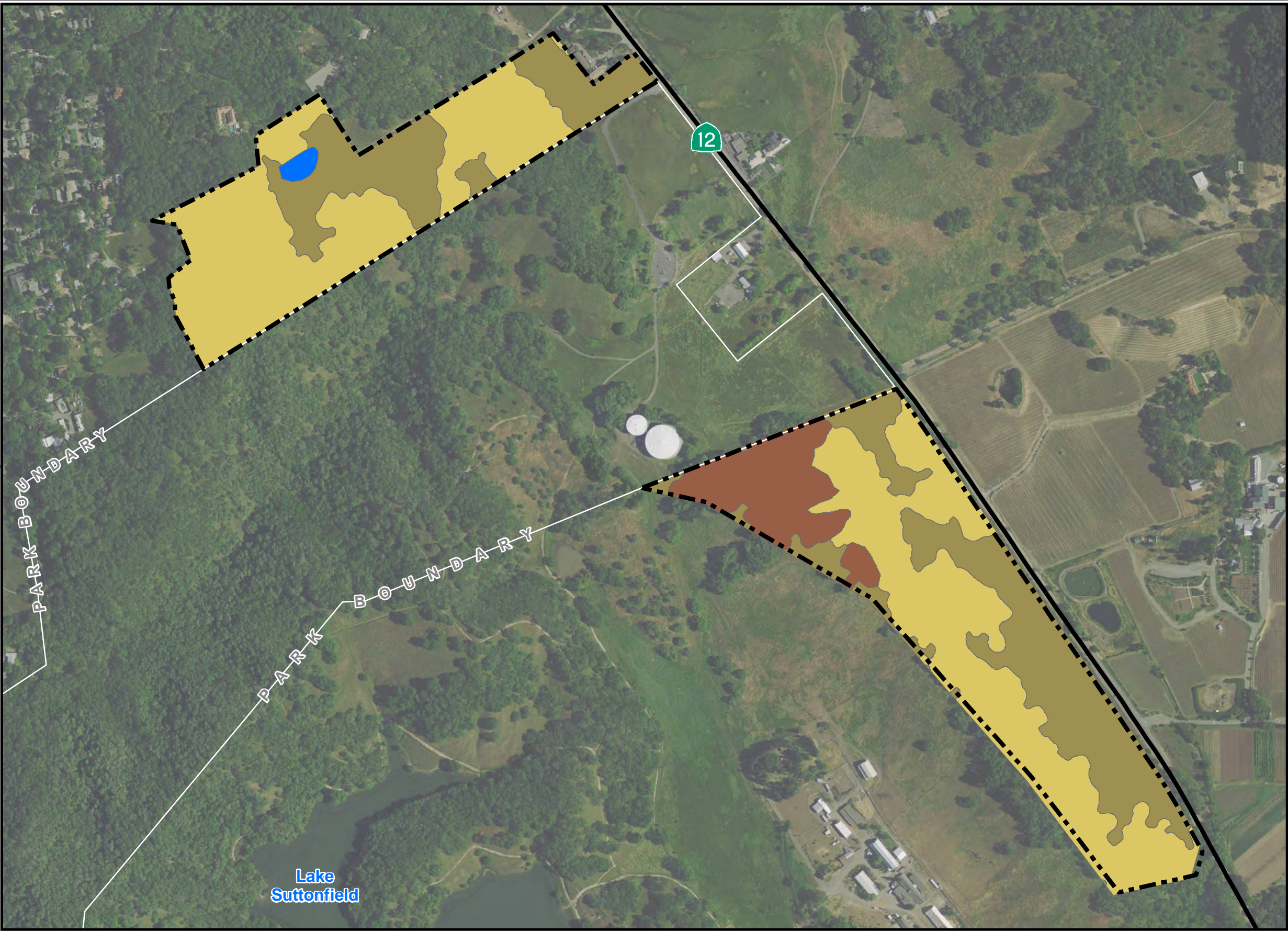
Soil Types		
UNIT	DESCRIPTION	DRAINAGE
GID	GOULDING COBBLY CLAY LOAM, 5 TO 15 PERCENT SLOPES	Well drained
GIE	GOULDING COBBLY CLAY LOAM, 15 TO 30 PERCENT SLOPES	Well drained
GIF	GOULDING COBBLY CLAY LOAM, 30 TO 50 PERCENT SLOPES	Well drained
HtC	HUICHICA LOAM, 2 TO 9 PERCENT SLOPES	Moderately well drained
LvB	LOS ROBLES GRAVELLY CLAY LOAM, MODERATELY DEEP, 0 TO 5 PERCENT SLO	Moderately well drained
RhD	RED HILL CLAY LOAM, 2 TO 15 PERCENT SLOPES	Moderately well drained
RhE	RED HILL CLAY LOAM, 15 TO 30 PERCENT SLOPES	Moderately well drained
RhE	RED HILL CLAY LOAM, 15 TO 30 PERCENT SLOPES	Moderately well drained
SkC	SPRECKELS LOAM, 2 TO 9 PERCENT SLOPES	Well drained
SkD	SPRECKELS LOAM, 9 TO 15 PERCENT SLOPES	Well drained
SkE	SPRECKELS LOAM, 15 TO 30 PERCENT SLOPES	Well drained
SkE2	SPRECKELS LOAM, 15 TO 30 PERCENT SLOPES, ERODED	Well drained
TuC	TUSCAN COBBLY CLAY LOAM, 0 TO 9 PERCENT SLOPES	Well drained
W	WATER	




Sources: Esri Digital Basemap,  
Sonoma County Regional Parks  
(Trails),  
NRCS: Soils




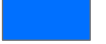







**Legend**

 Project Boundary


**Plant Communities**

-  Grassland
-  Pond - Azolla Alliance
-  Quercus douglasii Alliance
-  Quercus spp. Alliance

0 500 1,000 Feet



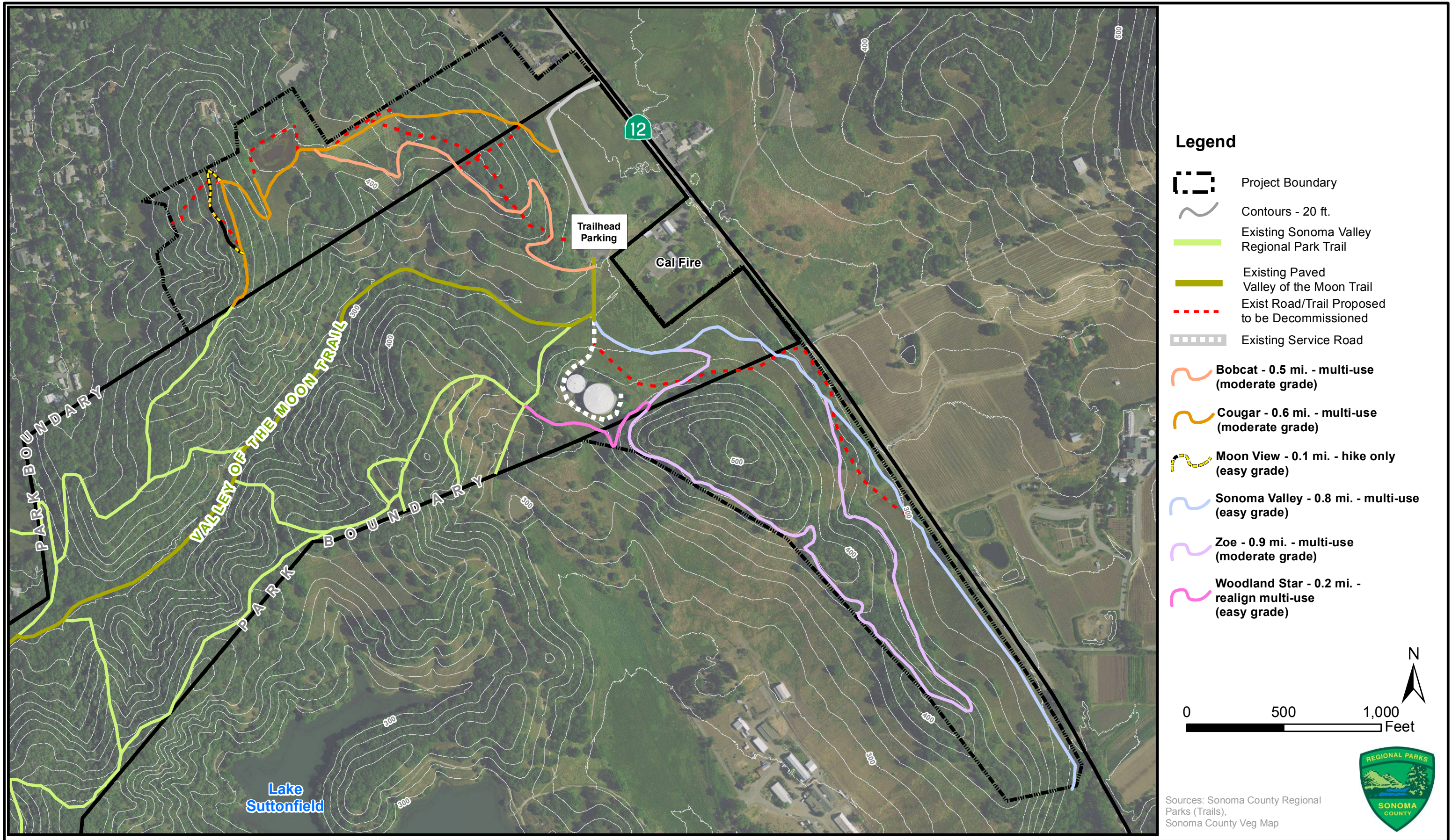
Sources: Sonoma County Regional Parks (Trails), Sonoma County Veg Map



Sonoma Valley Regional Park Expansion Master Plan  
Sonoma County, CA

Exhibit 4  
Plant Communities

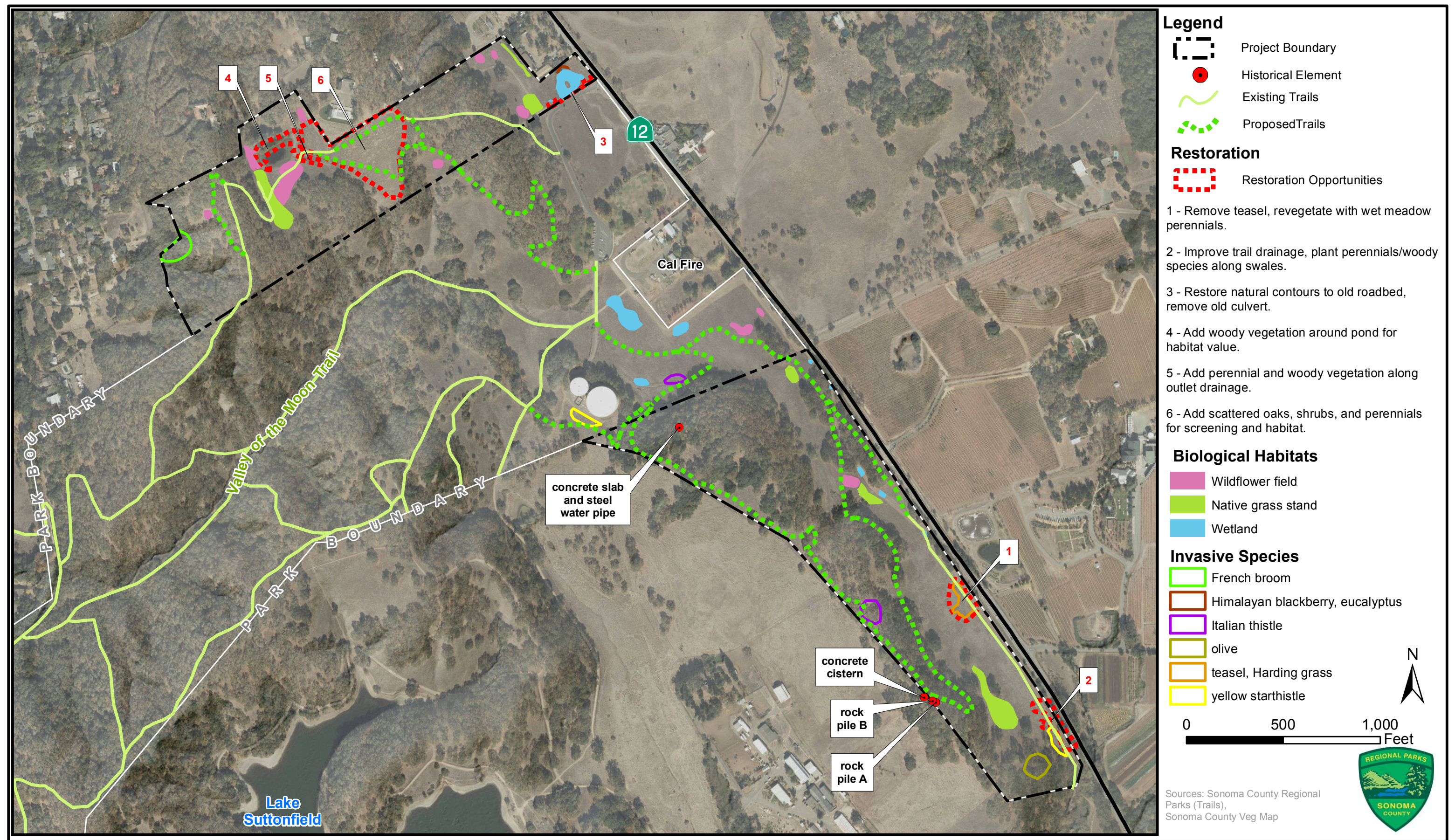




Sonoma Valley Regional Park Expansion Master Plan  
Sonoma County, CA

Exhibit 5  
Access and Trails







For accessibility assistance with this document, please contact the Sonoma County Department of Regional Parks at (707) 565-2041 or through the California Relay Service (by dialing 711).



# Sonoma Valley Regional Park Expansion MASTER PLAN

March 2017





Sonoma County Regional Parks  
2300 County Center Drive, Suite 120A  
Santa Rosa, CA 95403



***Natural resource elements  
prepared by:***

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# 1 Introduction



## Overview

Sonoma Valley Regional Park (Park) protects a scenic swath of the Sonoma Valley east of Glen Ellen in Sonoma County. Its gently rolling oak woodlands and grasslands studded with wildflowers form part of a critical wildlife movement corridor between the Mayacamas Mountains and Sonoma Mountain. The Park is owned and operated by Sonoma County Regional Parks (Regional Parks). Its several miles of trails are a popular destination for hiking, biking, and equestrian use, with over 45,000 visitors annually. Recently, two new parcels were added to the Park's original 167 acres. These Expansion properties, the 29-acre Curreri parcel and 41-acre Sonoma Developmental Center parcel, provide additional opportunities for public enjoyment, help link the Park to extensive nearby protected lands for both humans and wildlife, and preserve views of the region's natural beauty from Highway 12. The properties

lie within the Sonoma Creek watershed and include a pond, vernal pools and other small seasonal wetlands, and ephemeral drainages.

## Plan Purpose

The purpose of this Master Plan, developed by Regional Parks with public input and assistance from consultants, is to guide development and natural resource management activities on the Expansion properties and provide for increased public access in balance with the protection of critical natural resources. The Master Plan is also intended to provide a clear understanding of the potential environmental impacts associated with these activities.

A master plan for the original extent of the Park was prepared by Regional Parks in 1983 (referred to hereafter as 1983 Park Master Plan). This current Master Plan is intended to complement the 1983 document, sharing primary goals of providing passive recreational opportunities<sup>1</sup> that protect the Park's natural resources. Two public workshops have been held to introduce the Expansion project to the public, and public feedback was instrumental in developing the Master Plan.



## Goals

Regional Parks' specific goals for the Expansion properties are to:

1. Protect the scenic and open space values of the Expansion properties
2. Protect, restore, and enhance the properties' natural resources and habitats

---

<sup>1</sup> "Passive recreation" refers to activities that require little infrastructure and result in relatively little alteration to the natural environment. For instance, hiking and bird-watching are typically considered passive recreation, while development of ball fields would be considered "active recreation."

3. Encourage public education about the properties' unique natural resources
4. Design and develop visitor-serving facilities that are sensitive to the Park's natural environment
5. Create a park that will be accessible and enjoyed by county residents and visitors
6. Expand trail access from existing park trails and trailheads
7. Provide the public with a range of passive recreation opportunities
8. Balance recreational use with resource protection.

This Master Plan describes the Expansion properties and then identifies objectives and actions that will help meet Regional Parks' goals. It addresses public access improvements, natural resource management activities, ongoing operations and maintenance, and community engagement.

## 2 Background

The Sonoma Valley Regional Park Expansion project is located at 13630 Sonoma Highway, Glen Ellen; see **Exhibit 1**. The project consists of two parcels, the 29-acre Curreri addition (APN 054-270-035) on the Park's northern boundary and the 41-acre Sonoma Developmental Center addition (SDC 41; APN 054-150-012) along Highway 12 and adjacent to the Park's southeast boundary. Other facilities adjacent to the existing Park are the Elizabeth Perrone Dog Park and a Cal Fire station, both located between the existing parking lot and Highway 12.

The Expansion properties lie just south and east of the community of Glen Ellen and consist of moderately hilly terrain supporting oak woodlands, seasonal wetlands, a spring-fed pond, and grassland plant communities typical of the coastal ranges of California. The properties provide panoramic views of the Sonoma Valley to the east, Sonoma Mountain to the west, and San Pablo Bay to the south, and also serve as a scenic backdrop to Highway 12.

The Park and Expansion properties represent a critical portion of the Sonoma Valley Wildlife Corridor (Corridor) identified by Sonoma Land Trust and other regional conservation partners (Sonoma Land Trust 2016). Wildlife corridors are bands of habitat that are large and intact enough to provide animals with an important bridge between larger blocks of habitat. The Sonoma Valley Wildlife Corridor is one of California's most biologically diverse critical linkages for wildlife. It encompasses over 10,000 acres of land stretching from Sonoma Mountain east across Sonoma Valley to the crest of the Mayacamas Mountains. The Corridor is part of a much larger network of linkages connecting habitats in Marin County to those in the Blue Ridge Mountains/Lake Berryessa area in eastern Napa County. This corridor is a vital connection for wildlife movement within the Bay Area and ensures the region is connected to large undeveloped landscape blocks to the north and south. The Expansion properties are located at a pinch point within the Corridor, so the management and protection of these lands are critical to helping preserve this wildlife link; see **Exhibit 2**.



## Acquisition

The Curreri parcel was purchased from the Curreri family, who retained a portion of the originally 35-acre parcel for personal use. The Sonoma Land Trust led the acquisition with funding partners including the Gordon and Betty Moore Foundation, the Sonoma County Agricultural Preservation and Open Space District (District), and the Sonoma County Regional Parks Foundation. The Curreri family transferred title to Regional Parks on October 30, 2014, and the District obtained a Conservation Easement.

Regional Parks first began looking at the possibility of acquiring a portion of Sonoma Developmental Center (SDC41) to expand the Park in 1991. The views from its ridgeline inspired the loop trail route, and the shape of the property is a product of that envisioned trail. The State of California transferred title of the SDC41 parcel to Regional Parks in 2007, to be incorporated into the Park, after the State of California declared it surplus property, and the District obtained a Conservation Easement.

## History

### *Prehistoric Era*

Archaeological evidence indicates that human occupation of California began at least 11,000 years ago. Based on an archaeological report prepared by Tom Origer and Associates (2015) for the adjacent SDC property, it appears that very early in time the Sonoma Valley Regional Park area would have been inhabited by people speaking a Yukian language, ancestral to modern Wappo. Pomo speakers might have been in residence from about 1,200 years ago until roughly 550 years ago, when the Miwok moved in.

At the time of European settlement, SDC was included in the territory controlled by the Coast Miwok. The people collectively called the Coast Miwok by ethnographers were actually several distinct sociopolitical groups who spoke dialects of the same Penutian language. The speakers of the Coast Miwok language occupied a territory centered in present-day Marin and adjacent Sonoma County. The primary sociopolitical unit was the village community, which was overseen by one or more chiefs.

The Miwok were hunter-gatherers who lived in rich environments that allowed for dense populations with complex social structures. They settled in large, permanent villages about which were distributed seasonal camps and task-specific sites. Primary village sites were occupied throughout the year and other sites were visited in order to procure particular resources that were especially abundant or available only during certain seasons. Sites were often situated near fresh water sources and in ecotones where plant life and animal life were diverse and abundant. After European contact, Coast Miwok society was severely disrupted by missionization, disease, and displacement.

## *Historic Era*

The Spanish missions in Alta California comprised twenty-one religious outposts established by Catholic priests between 1769 and 1823 (Alta Archaeological Consulting 2016). The two northernmost missions were Mission San Rafael (1817) and Mission San Francisco Solano in Sonoma (1823). The native population around Glen Ellen was generally apportioned to the jurisdiction of priests at the Sonoma Mission for conversion and baptism. The Coast Miwok were rapidly incorporated into the mission system, with only a few individuals escaping enforced conversion, which dislocated Native populations and resulted in the destruction of life and traditional life ways.

In 1839, General Mariano Vallejo established a sawmill at the confluence of Asbury and Calabazas Creeks, about one half mile south of present day Glen Ellen. The Mexican land grant known as Agua Caliente Rancho was awarded by California Governor Alvarado to Lazaro Pina in 1840. In 1853, Mariano G. Vallejo filed a claim for the Agua Caliente Rancho, which stated that Pina had deeded the rancho to Vallejo. The Park and Expansion properties lie within the boundary of this rancho.

Among the first settlers in Glen Ellen was Charles V. Stuart, who established a residence there about 1869. By 1881, the town included two hotels, a stone winery building, a grocery, a train depot and scattered residences. A very significant impact came to the area between 1881 and 1882, when a narrow-gauge track, constructed by the Sonoma and Santa Rosa Railroad Company, reached Glen Ellen from Sonoma. In the 1880s, the Glen Ellen area became known as the finest wine-producing area in California.

In 1890, the State purchased 1,640 acres on the slope of Sonoma Mountain and the adjacent valley land to create a facility for people with developmental disabilities. This facility would later become the Sonoma Developmental Center, which includes the SDC 41 land. Ownership of the original Sonoma Valley Regional Park property was transferred to the County in 1974, and initial park facilities development (fencing, trails, signage, and picnic sites) was completed in 1978.

The SDC 41 parcel remained in State ownership and undeveloped until its purchase and transfer to Regional Parks in 2007. The Curreri family purchased their 35-acre property in 1948, and transferred ownership of 29 acres to Regional Parks in 2014. The property required a General Plan Amendment and zone change to allow for a lot line adjustment. The Curreri family retained approximately 6 acres, including the existing structures on the parcel. Approximately 3 acres of the grassland east of the pond, on the Expansion property, had been planted with holly oaks in an attempt to raise truffles. The oaks were inoculated with truffle spores prior to planting, and the soil was amended with lime. The oaks have since been removed.



## Zoning

Sonoma Valley Regional Park is designated as Public/Quasi-Public in the Sonoma County General Plan and zoned as a Public Facility within a Scenic Resources Combining District. The original 33.56-acre Curreri property and the SDC 41 property were zoned as Land Intensive Agriculture with a minimum lot size of 20 acres. The 29-acre Curreri parcel and the SDC 41 parcel were rezoned to Public Facility. The purpose of the Public Facilities district is to provide sites that serve the community or public need and to protect the area from encroachment of incompatible uses. Permitted uses include any facilities owned or operated by a city or county. The parcel also falls within the Scenic Resources combining district, a designation intended to preserve visual character and scenic resources. A full description of the zoning designation for the parcels can be found at the County of Sonoma’s website (PRMD 2016).

## Conservation Easements and Other Agreements

The District holds two conservation easements on the Expansion properties, one on each parcel, and a Recreation Conservation Covenant on the Curreri parcel. Grant and funding agreements between the District and the County contain provisions relating to activities and improvements on both properties, including the preparation of this Expansion Master Plan. The County also maintains a number of other agreements with neighboring landowners. The conservation easements for each parcel are provided in **Appendix A** and are summarized below.

### *SDC 41 Conservation Easement*

The purpose of the District’s conservation easement on the SDC 41 parcel (“SDC 41 Easement”) is to preserve the scenic, open space, and natural resource values of the property while providing low intensity public outdoor recreation, and to prevent any use of the property that will significantly impair or interfere with those values. Uses and practices must be consistent with the 1983 Park Master Plan or any amendments thereto, including this Expansion Master Plan. The SDC 41 Easement notes the habitat importance of the Property’s oak woodland and meadows and its visibility from Highway 12, and also notes that the property serves as a natural separator between the urban areas of Glen Ellen and Agua Caliente/Boyes Hot Springs.

Per the terms of the 2007 Matching Grant Agreement between Regional Parks and the District, and subsequent extensions provided by the District, Regional Parks is required to:

- Prepare and present a Management Plan to the District for approval,
- Prepare a California Environmental Quality Act (CEQA) document for the Management Plan,
- Prepare and present a signage plan for review by the District prior to opening the property for public use, including signs identifying the source of acquisition funding as the voters’ approval of the sales tax for open space,
- Maintain a fire break along the Highway 12 boundary as required by the State, and

- Open the property for public use no later than October 31, 2016.

The Matching Grant Agreement also calls for boundary fencing, which has already been installed. Regional Parks was required by the State to install fencing along the boundary with SDC to secure horses on the State's retained property.

### *Curreri Conservation Easement*

The purpose of the District's conservation easement on the Curreri parcel ("Curreri Easement") is to protect scenic and open space values, natural resources and connectivity, and recreational and educational values. Use of the property is restricted to natural resource preservation and protection and recreational and educational use, and all uses must ensure preservation and protection of the property's natural resources in perpetuity. The parcel is available to mitigate adverse environmental impacts resulting from on-site permitted uses and activities; however, the parcel cannot be used to mitigate for adverse environmental impacts resulting from projects located off-site. Any revenue generated from activities and uses on the property must be used towards the cost of operating, maintaining, restoring, and enhancing the Property, or for educational or recreational programs that take place at Sonoma Valley Regional Park.

The parcel is to be open to the public for low-intensity public outdoor recreation and education, provided that these uses are designed and undertaken in a manner compatible with natural resource preservation and protection and the particular management needs associated with ensuring the promotion of wildlife movement and passage. Recreational uses may include hiking, bicycling, picnicking, and public educational programs. Recreational and educational special events, such as non-motorized trail race events, are allowed up to six times per year. The Curreri Easement permits Regional Parks to install benches, picnic tables, informational display cases, and trash and recycling containers without notice or approval to the District, but requires prior written approval for installation of any trails, restrooms, drinking fountains, and other similar improvements.

The Curreri Easement states that "in the event, however, that the preservation and protection of one Conservation Value becomes irreconcilably inconsistent with the preservation and protection of another Conservation Value, the following priorities shall be followed: preservation and protection of scenic resources, then natural resources, and then recreational and educational uses."

The 2014 Funding Agreement between Regional Parks and the District requires that the County complies with the Americans with Disabilities Act (ADA) in providing public access to the Property.

### *Curreri Recreation Conservation Covenant*

The District holds a Recreation Conservation Covenant ("Covenant") on the Curreri parcel. The purpose of the Covenant is to assure the perpetual recreational use of the parcel consistent with the Curreri Easement. The Covenant assures that the parcel will be continuously used, maintained, and operated as a public park and open space preserve in perpetuity.

The Covenant specifies that the operation and maintenance of the parcel as a public open space begin no later than October 31, 2016. It requires the parcel remain available for public hiking, picnicking, and nature study no less than six hours per day, seven days per week, except on a temporary basis to protect public health or safety or for preservation of conservation values.

### *Other Agreements*

In addition to these conservation easements, the County maintains several other agreements with adjacent landowners and utilities (Rob Evans and Associates 2016). These include Gate Agreements with three property owners adjacent to the Curreri parcel, which preserve existing rights for pedestrian, bicycle, and equestrian access to the Curreri parcel, subject to park hours of operation. A number of other easements for utility access, water diversion, and ingress and egress are also in existence; see the District's Curreri Conservation Easement - Baseline Documentation (Rob Evans and Associates 2016) for details.

According to the District's baseline documentation prepared for the SDC 41 parcel (Sonoma Ecology Center 2007), the State retains mineral rights on the SDC 41 parcel below 500 feet, but does not have surface rights to extract those minerals from the ground and, therefore, would only have access to the minerals from adjacent State lands. A District-commissioned evaluation of mineral resources on the parcel found no minerals of likely extraction value.

## **County, State, and Federal Regulations**

There are a number of state and local plans and policies that govern land use and development on the Sonoma Valley Regional Park and the Expansion properties. The following section describes relevant regulations and the agencies responsible for enforcing them. The description is not exhaustive and additional regulations may apply. See Chapter 4, Trails section, for a discussion of Americans with Disabilities Act compliance.

### *State and Federal Regulations*

#### *California Environmental Quality Act*

The California Environmental Quality Act (CEQA) was passed in 1970 to institute a statewide policy of environmental protection. Projects undertaken, funded, or requiring a permit by a state or local public agency must comply with CEQA. The primary purposes of CEQA are to inform decision-makers and the public about the potential environmental impacts of the proposed activities, identify ways that environmental damage can be avoided or significantly reduced, require changes in projects through the use of alternatives or mitigation measures when feasible, and disclose to the public the reasons why a project was approved even if significant environmental effects cannot be avoided or mitigated to a less-than-significant level.

Some Park Expansion activities (e.g., construction of trails) are subject to CEQA. As part of the approval process for the Expansion's Master Plan, CEQA review will occur to assess potential environmental effects of the proposed Expansion actions and to determine the significance of those impacts, and identify proposed avoidance and mitigation measures. The required level of CEQA review and documentation will be based on the results of this analysis, which will be available for both public and agency review and comment.

#### *Jurisdictional Wetlands and Waters of the U.S.*

Jurisdictional wetlands and other waters of the U.S., including stream channels, are regulated by the U.S. Army Corps of Engineers (Corps) under the provisions of Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Any placement of dredged or fill material or other work in wetlands or other waters of the U.S. requires a permit from the Corps. Future activities on the Expansion properties, such as trail construction that crosses a waterway or restoration in a jurisdictional wetland area, may require a permit from the Corps. Current plans avoid impacts on known jurisdictional wetlands and waters, but, if removal of the old ranch road berm on the Curreri parcel were undertaken, that would require consultation with the Corps as the berm is within a vernal pool complex.

#### *Jurisdictional Wetlands and Waters of the State of California*

Under Section 401 of the federal Clean Water Act and Section 13263 of the State's Porter-Cologne Water Quality Act, the Regional Water Quality Control Board (RWQCB) is authorized to regulate discharge and fill within wetlands and waters of the State, including isolated features. Through this process, the local RWQCB issues either a federal Water Quality Certification or a State Waste Discharge Requirement (WDR). As discussed above, future projects on the Expansion properties, such as removal of the ranch road berm in the Curreri vernal pool area, may require authorization from the San Francisco Bay RWQCB.

#### *State Water Resources Control Board*

The State Water Resources Control Board administers the National Pollutant Discharge Elimination System (NPDES), which was enacted as a requirement of Section 402 of the federal Clean Water Act. NPDES requirements apply to projects that have potential to result in erosion or siltation into waterways. Such projects are required to develop and implement a plan to prevent polluted runoff, such as silt or construction-related byproducts. Specific requirements depend on project scale. Erosion control measures are required for all ground-disturbing activities, and additional measures including preparation of a Stormwater Pollution Prevention Plan may be required for trail and roadway work that exceeds one acre.

#### *California Department of Fish and Wildlife/California Fish and Game Code*

The California Department of Fish and Wildlife (CDFW) is responsible for managing, conserving, and protecting the state's biological resources including fish, wildlife, and plants. Under the California Fish and Game Code Section 1602, CDFW must be notified when work is proposed in or adjacent to a creek, river, or lake that would affect riparian vegetation, divert or obstruct flows, or alter the bed, channel, or

bank of a waterway. Expansion activities that may require a permit from CDFW include trail improvements adjacent to or that traverse a waterway.

Under Fish and Game Code Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish), CDFW designates certain animal species as “fully protected.” Fully protected species may not be taken or possessed at any time, and future development of the Park and Expansion properties will require avoidance of fully protected species. The current list is available on the CDFW website at [http://www.dfg.ca.gov/wildlife/nongame/t\\_e\\_spp/fully\\_pro.html](http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html).

#### *State and Federal Endangered Species Act Compliance*

Under the federal Endangered Species Act of 1973 (FESA), the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered. Two federal agencies oversee FESA: U.S. Fish and Wildlife Service (USFWS), a part of the Department of the Interior, has jurisdiction over plants, wildlife, and resident fish, while NOAA’s National Marine Fisheries Service (NOAA Fisheries Service), a part of the Commerce Department, has jurisdiction over anadromous fish and marine fish and mammals. There are no anadromous fish or marine species in the Park or Expansion properties; therefore, consultation with NOAA Fisheries would not currently be required. However, California red-legged frogs and other species listed by USFWS may be present, and actions that may result in “take”<sup>2</sup> of these species would require consultation and a permit.

Under the California Endangered Species Act of 1984 (CESA), CDFW is responsible for maintaining a list of endangered and threatened species. Pursuant to the requirements of CESA, an agency reviewing a proposed project must determine whether any state-listed as endangered or threatened species may be present in the project area and whether the proposed project would have a potentially significant impact on those species. An example of a state-listed as endangered species that may be present in the Park is Sonoma sunshine (*Blennosperma bakeri*), a rare vernal pool plant species.

#### *Protected Birds*

Nesting native bird species are protected under both federal and state regulations. Under the federal Migratory Bird Treaty Act (MBTA), it is unlawful to take, kill, and/or possess migratory birds at any time or in any manner, unless the appropriate permits are obtained. Protections extend to active nests, eggs, and young birds still in the nest. Birds and their nests are also protected under the California Fish and Game Code. Most bird species, with a few specific exceptions, are protected under the MBTA and California Fish and Game Code. Future development on the Expansion properties must consider the

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<sup>2</sup> “Take” is defined as actions that would potentially harm, harass, injure, kill, capture, collect, or otherwise hurt any individual of an endangered or threatened species.

protection of bird species; specific avoidance measures would be addressed during CEQA and consultation with CDFW.

### *Caltrans Scenic Highway*

Caltrans has officially designated Highway 12 from Danielli Avenue east of Santa Rosa to London Way near Aqua Caliente as a scenic highway. Located in the picturesque Valley of the Moon, this route traverses vineyards and oak groves. To the north, east, and southwest are relatively undeveloped mountain ridges rising thousands of feet above the valley floor. Sonoma Valley Regional Park forms part of this treasured backdrop. Development along the highway is subject to design criteria and setbacks from the highway.

## *Sonoma County Regulations*

### *Sonoma County Tree Protection Ordinance*

The Sonoma County Tree Protection Ordinance (Section 26-88-010) requires impacts on protected trees be kept to a minimum, and trees that are to be protected must be identified on site plans. The County uses the tree protection ordinance as a means to promote and maintain diverse plant and animal communities and protect biotic resources from development activities. Protected trees include big leaf maple (*Acer macrophyllum*), black oak (*Quercus kelloggii*), blue oak (*Q. douglasii*), coast live oak (*Q. agrifolia*), interior live oak (*Q. wislizenii*), madrone (*Arbutus menziesii*), oracle oak (*Q. morehus*), Oregon oak (*Q. garryana*), redwood (*Sequoia sempervirens*), valley oak (*Q. lobata*), California bay (*Umbellularia californica*) and native oak hybrids. Native oaks are the dominant feature of the Expansion property landscapes.

Valley oak is a protected tree with special significance in Sonoma County because valley oaks contribute greatly to the region's visual character and landscape, and they provide important visual relief in urban settings. The County seeks to preserve valley oaks to the fullest extent feasible. Mitigation is required for all valley oaks removed.

### 3 Natural and Cultural Resources



The Expansion properties are ecologically rich. Their plant communities include oak woodlands, seasonal wetlands, a spring-fed pond, and grasslands, all within the Sonoma Valley Wildlife Corridor. This section provides an overview of the properties' natural resources. More detailed descriptions of the biological communities, special-status species, invasive species, and other management considerations are found in the Biological Assessment (PCI 2016).

#### Regional Context

The Park and Expansion properties are mapped on the Glen Ellen USGS quadrangle (38°21'42"N and 122° 30'31"W). Elevations range from approximately 320 feet at Highway 12 to approximately 480 feet on ridgetops. To the east, south, and southwest, the Park and Expansion properties are surrounded by protected public and private lands, including the State-owned SDC immediately to the south and southwest and Audubon Canyon Ranch's Bouverie Preserve to the east (**Exhibit 1**). This swath of protected lands extends east and upslope into the Mayacamas and west and upslope onto Sonoma Mountain. As a result, these protected lands form a wildlife corridor that is considered highly important

for conservation (**Exhibit 2**). A mixture of residential, rural residential, and agricultural lands is present to the north and northwest of the Park.

## Watershed

The Park and Expansion properties are within the Sonoma Creek watershed. They drain to the north into Stuart Creek or Calabazas Creek near the confluence of those streams with Sonoma Creek, into Butler Canyon Creek to the south, or directly into Sonoma Creek itself. Only ephemeral drainages are present on the Expansion properties.

The Curreri parcel includes two northwest-trending ridges, as well as gently sloping areas in between the two and on the eastern edge of the parcel. An artificially impounded pond (Damsfly Pond) is present between the two ridges. An excavated channel leads from the southern side of the pond to the southeast, where it feeds into a natural swale on the existing Park property. Another natural swale leads from the pond embankment to the north.

The SDC 41 parcel includes one northwest-trending ridge and lowlands to its east. A swale runs along the southeastern border of the parcel, parallel to Highway 12, and into Butler Canyon Creek on the SDC property to the south. Numerous other swales drain from the ridge onto the lowlands.

## Soils

The soils within the Expansion properties are mapped as Spreckels loam, Goulding cobbly clay loam, Red Hill clay loam, Tuscan cobbly clay loam, and Los Robles gravelly clay loam (NRCS 2016; see **Table 1**, below, and **Exhibit 3**). The soil types on the easternmost edge of the properties are of relatively recent alluvial origin, while the other soil types are derived from older volcanic and metamorphic rock of the Glen Ellen Formation. The Curreri Conservation Easement Baseline Documentation report provides additional information on the geology of the area (Rob Evans and Associates 2016).

There are areas of active erosion on the properties along dirt roads and seasonal drainages; see Chapter 5, Hydrology and Erosion Control section, for discussion.



**Table 1. Soil Types on the Expansion Properties**

<b>Soil Type &amp; Typical Slopes</b>	<b>Underlying Material</b>	<b>Distribution on Expansion Properties and Typical Vegetation</b>	<b>Drainage/ Permeability</b>	<b>Runoff/Erosion</b>
Goulding cobbly clay loam, 5-15%	Metamorphosed volcanic rock, at 12-24"	Pond vicinity and eastern grasslands on Curreri; grasslands with scattered oaks and shrubs	Somewhat excessively drained/ Moderate	Medium to rapid/ Moderate to high
Los Robles gravelly clay loam, 0-5%	Gravelly sandy clay loam subsoil, underlain by mixed alluvium at 36-48"	Southeastern edge of SDC 41; grassland, scattered valley or live oaks	Moderately well-drained/ Moderately slow	Slow/ Slight
Red Hill clay loam, 2-30%	Volcanic and metamorphic rock, at 30-60"	Ridge in SDC 41; forest and woodland	Moderately well-drained/ Moderately slow	Medium to rapid/ Moderate to high
Spreckles loam, 15-30%	Clay subsoil underlain by volcanic ash at 22-60"	Northwestern-most corner of Curreri; woodland	Well-drained/ Slow	Medium to rapid/ Slight to high
Tuscan cobbly clay loam, 0-9%	Indurated hardpan of igneous materials at 10-25", on old terraces	Eastern periphery of both properties, including Curreri vernal pools; grassland	Moderately well-drained/ Slow	Slow to medium/ Slight to moderate

# Plant Life

Plant communities within the Expansion properties include oak woodland (including blue oak<sup>3</sup> and mixed oak stands); annual non-native grassland; native perennial grassland; and wetland vegetation associated with the pond, vernal pools, seeps and drainages. The table below lists each of these plant communities with the vegetation alliances they include and their rarity based on CDFW rankings. Vegetation alliances are based on the Classification of the Vegetation Alliances and Associations of Sonoma County, California, prepared by CDFW and partners (Klein et al. 2015). **Exhibit 4** provides a general map of vegetation types, based on field surveys (PCI 2016) and draft data provided by the Sonoma County Vegetation Mapping and LiDAR Program. **Appendix B** lists plant species observed during field surveys to support the preparation of this Master Plan.

**Table 1. Plant Communities on the Expansion Properties**

Community Type	Sensitivity <sup>4</sup>	Vegetation Alliance	CDFW Rank <sup>5</sup>
Oak woodland	Yes	Blue oak woodland	G4S4
		Mixed oak forest	G4S4
Annual grassland	No	Wild oats grassland	N/A
		Annual brome grassland	N/A
Native perennial grassland	Yes	California oat grass grassland	G4S3
		Purple needlegrass grassland	G4 S3
Vernal pool/swale	Yes	Perennial ryegrass fields	G4S4
Aquatic/pond vegetation	Yes	Mosquito fern mats	G4S4

<sup>3</sup> Latin names for common plants of the Expansion properties are provided in Appendix B; for special-status plants, they are provided within the text.

<sup>4</sup> Sensitivity based on federal (U.S. Army Corps of Engineers; Section 404), state (CDFW), and local (Sonoma County) regulations.

<sup>5</sup> Alliances ranked G3S3 or lower are considered by CDFW to be of high inventory priority. Non-native alliances are not ranked. “G” indicates conservation priority at the global level, and “S” refers to the state level. 3 = vulnerable; 4 = apparently secure.



### *Oak Woodland*

Oak woodland is the most abundant plant community on the Expansion properties. Most stands are dominated by blue oak, with other deciduous oak species commonly present including Oregon oak, apparent blue-Oregon oak hybrids, black oak, and occasional coast live oaks. A few stands just south of the water tanks on the existing Park are more mixed, with greater components of Oregon oak, coast live oak, and black oak. Other tree species present in the oak woodlands include buckeye, madrone, and bay. The canopy is relatively open except where coast live oak is more dominant on the northwestern part of SDC 41, where its evergreen canopy is nearly closed. Some natural regeneration of trees is evident in most stands.

Understory vegetation is mostly herbaceous, comprised of non-native annual grasses as well as native forbs and perennials. Non-native annual grasses dominate in many places; these include wild oats, ripgut brome, and hedgehog dogtail. Natives that are abundant include soaproot, yarrow and miner's lettuce. Non-native, invasive Italian thistle is scattered throughout the woodlands and is especially common on the SDC 41 parcel. On the western portion of Curreri and much of SDC 41, shrubs are present at low cover, including poison oak, California blackberry, occasional common manzanita, and coyote brush. One non-native tree species is present in the SDC 41 woodlands, common olive; saplings are abundant in the southern part of that woodland.

Habitat quality in these woodlands is high. Although annual grasses are common in the understory, a diversity of native herbaceous species is also present. Invasive species are limited. Structural diversity is moderate. Natural regeneration is visible on the edges of woodlands in adjacent grasslands. The woodlands extend beyond the Expansion property borders, and this connectivity enhances their importance for wildlife habitat and may also increase their resilience to changes like warming climate. Management concerns in the oak woodland include supporting continued regeneration, protecting the native understory, decommissioning unneeded trails and preventing people from establishing new ones, controlling non-native thistles and olives, and replacing wildlife-unfriendly fencing with wildlife-friendly fencing or removing it entirely.

Key ecosystem services provided by oak woodlands include habitat for a diversity of wildlife (discussed below), carbon sequestration, soil protection, and cooling and shading for humans and wildlife.



### *Grassland*

Grassland occurs throughout the lower elevations of the Expansion properties. In most locations, it is dominated by non-native annual species including bromes and wild oats. However, native grasses and native wildflowers occur within most grassland areas at low cover, and in a few locations at high cover. California oatgrass is very common in lower, moister settings, and scattered stands of purple needlegrass are present in drier locations. A number of very showy, dense stands of lupine are present



on slopes. Narrow leaf mule ears occurs in distinct patches scattered throughout the lower grasslands. Other abundant natives include sun cups, blue-eyed grass, and popcorn flower.

A number of invasive plant species of concern are present in scattered locations throughout the grasslands, including medusahead, Klamath weed, yellow star thistle, teasel, Harding grass, and fennel; see Chapter 5, Invasive Plant Management section, for further information.

Overall, habitat quality in the grasslands is moderate. Native species are present at low densities throughout the properties and are dominant in scattered locations. Structural diversity is limited, and there are invasive species present with potential to spread.

Key ecosystem services provided by grasslands include wildlife habitat and soil protection. Especially in areas with stands of native perennial grasses and forbs, the grasslands also provide carbon sequestration and native plant diversity.



### *Wetlands and Aquatic Resources*

Damselfly Pond, formed by an earthen embankment on the north side, was densely covered with native mosquito fern during the March 2016 site visit by PCI. Patches of invasive non-native parrot feather were also present. At pond edges, seasonal wetland species were present including non-native lanceleaf water plantain and pennyroyal, and native creeping spikerush.

The vernal pool immediately north of the Park entry is dominated by non-native Italian rye grass, but also supports some common native species typical of vernal pools and swales, including toad rush, hyssop loosestrife, and mannagrass.

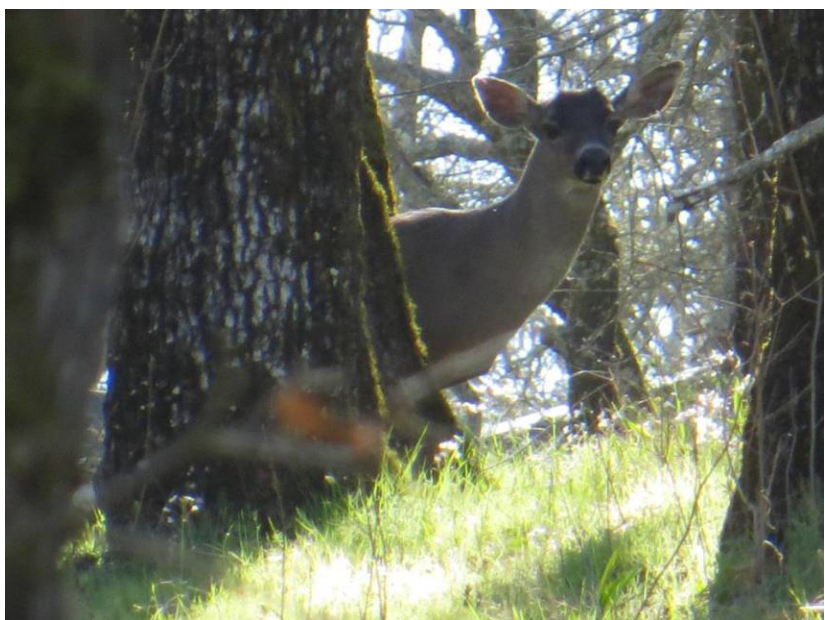
Other seasonally moist areas are present in a few locations along the lower slopes of the SDC 41 parcel, particularly along the fire road at the base of the slope. These small wetland patches are dominated by a mixture of common native and non-native herbaceous species, including Italian rye grass, toad rush, mannagrass, and some showy patches of common meadowfoam. One large stand of teasel and Harding grass is present in a low area where livestock may once have congregated. Concentrated flow of runoff was evident as a channel eroded into the center of the fire road on the southern end of SDC 41 in spring 2016 but in fall 2016, this had been disked and was not visible. See Chapter 5, Habitat Restoration section, for further discussion of the teasel stand and erosion problem areas.

Habitat quality in the Expansion properties' wetlands is moderate. The wetlands are dominated by common, widespread species. Historic disturbance from road and fire road development and other nearby construction has also affected these habitats. However, given the history of special-status plant presence on the properties and in the adjacent pools on the existing Park, there may be potential to restore greater plant diversity.

Key ecosystem services provided by wetlands and the pond include provision of wildlife resources as discussed below, absorption, filtration, and storage of runoff, and plant habitat diversity.

## Wildlife

The diversity and abundance of animal species occurring within the Sonoma Valley Regional Park and Expansion properties are directly correlated to the diversity and richness of its vegetation communities. Habitats on the properties offer both common and special-status animals nesting habitat, food, shelter, and water. The properties are located at the core of the Sonoma Valley Wildlife Corridor and serve as an important movement corridor at both a local and regional scale; see **Exhibit 2**.





The following discussion describes wildlife typically associated with each habitat on the Expansion properties, based on regional occurrence information, background studies, the field survey, and reported observations. For more detail, see the Biological Assessment (PCI 2016).

### *Oak Woodland*

Oak woodlands provide the greatest habitat diversity on the Expansion properties. Birds are the most abundant and prominent wildlife in this habitat. Representative year-round resident birds of woodland habitats such as those found within the Expansion properties include chestnut-backed chickadee<sup>6</sup>, western-scrub jay, American robin, common bushtit, oak titmouse, Bewick's wren, California quail, dark-eyed junco, and spotted towhee. Migratory species observed and potentially breeding within the properties include orange-crowned warbler, Pacific-slope and ash-throated flycatchers, and swallows.



Tree-climbing birds such as woodpeckers, nuthatches, and brown creeper frequent the oak woodlands as well. White-breasted nuthatches were observed nesting in an oak tree cavity on the Curreri parcel. Casual winter residents typical of the woodland habitats include red-breasted sapsucker, ruby-crowned kinglet, varied thrush, and Townsend's and yellow-rumped warblers.

Suitable foraging and breeding habitat for raptors also exists on the properties. Red-tailed, red-shouldered, and Cooper's hawks have all been confirmed nesting nearby (Burridge 1995, USGS 2016). Falcons, including American kestrel, frequent the area as well. Cooper's and sharp-shinned hawks, two uncommon woodland hawks, use the habitat. Small vertebrates within the habitats serve as a food source for predatory hawks and falcons. One owl species was observed on the Curreri parcel (PCI 2016) northern pygmy owl, and other species including barn, western screech-owl, and great horned owls are likely to occur there as well. Northern spotted owls are known to occur on nearby Jack London State

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<sup>6</sup> Wildlife species' common names are used because they are unequivocal.

Historic Park and SDC lands but are less likely to occur on the Expansion properties due to the lack of well-developed forest habitat.

The woodland habitats support a variety of mammals. Undisturbed habitats with limited human activity provide escape, cover, migration corridors, and nesting sites for a number of larger mammals. All of Sonoma County's top predators, mountain lion, bobcat, and coyote, have been documented on nearby lands within the Corridor (Nelson 2015), and these species are likely to occur within the Expansion properties as well. The presence of a large number of smaller vertebrate species serves as a significant food source for these top carnivores. Several prey species have been documented in high numbers on nearby lands, including black-tailed deer, raccoon, western gray squirrel, and gray fox (PCI 2015). The quality of wooded habitats on the properties and their proximity to aquatic habitats also provides excellent foraging and roosting opportunities for bats, including several special-status species.

Native oaks themselves serve as a significant resource for many wildlife species in the form of both food and shelter. Every part of the oak tree is utilized as forage for native species including acorns, leaves, twigs, pollen, roots, and sap. Perhaps the most widely recognized source of food is the acorn. This high-energy food is used heavily by acorn woodpeckers, western-scrub jays, and western gray squirrels. Individual trees are also important food storage sites for acorn woodpeckers, which cache acorns for future consumption, particularly in dead and dying oak trees. The use of acorns by a number of wildlife species is important for oak dispersal and regeneration. The entirety of an oak tree, from canopy to roots, also serves as shelter for wildlife. Even the layer of detritus around the base of an oak is utilized by amphibians and insects.



On the woodland floor, woody debris piles and layers of duff provide habitat for amphibians. Locally common amphibians including *Ensatina*, California slender salamander, and arboreal salamander are likely to occur on the properties. Common reptiles of this community include Skilton's skink, fence lizard, alligator lizard, common kingsnake, rubber boa, gopher snake, rattlesnake, and ring-necked snake. The properties also provide habitat for and are likely to support a variety of native butterflies, other beneficial pollinators, and additional invertebrates.



## *Grasslands*

Grasslands on the Expansion properties provide cover for birds, small mammals, and reptiles, and food sources in the form of seeds, other plant parts, and insects. Oak trees scattered throughout the grasslands also provide key habitat for birds and other wildlife.

Grassland songbirds, including grasshopper sparrow, rufous-crowned sparrow, savannah sparrow, and western meadowlark, use the properties for nesting; all of these species



have been seen nearby during the breeding season (PCI 2015). Other representative grassland species such as the western bluebird, loggerhead shrike, and Say's phoebe utilize grasslands, especially when there are adequate perches from which to forage. Predatory hawks and owls, including American kestrel, white-tailed kite, and barn owls, frequent these areas as well. Small vertebrates and invertebrates within the grasslands are a key food source for owls and other predatory species.

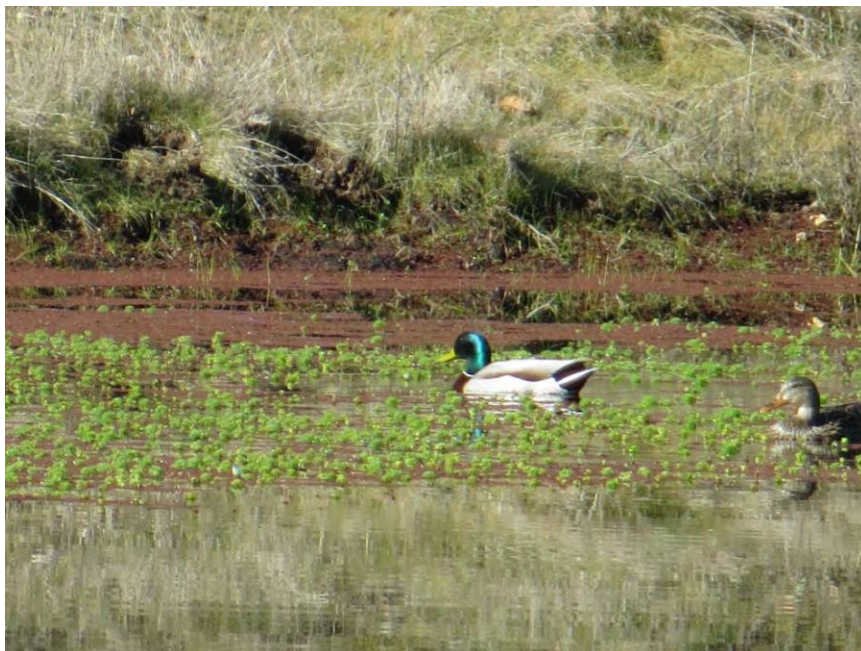
Subterranean foragers such as Botta's pocket gopher and California mole commonly occur in grassland habitats. Underground digging, mounds and small wildlife tunnels can be seen throughout the properties and are clear indicators of the presence of subterranean life. Brush rabbits occur along the grassland edges and eat twigs, evergreen leaves, and bark from plants. Shrubs are important to many other mammals (e.g., bobcat, gray fox) as shade during hot weather. Reptiles of this community include western fence lizard, alligator lizard, western skink, and snakes. Bats also forage over grasslands.

## *Wetlands and Aquatic Resources*

Damselfly Pond and other seasonal wetlands are significant resources for wildlife. The large pond provides a nearly year-round water supply while the smaller wetlands provide habitat during the winter months. These water sources are important breeding grounds for local amphibian populations and aquatic invertebrates. The pond provides potentially suitable habitat for California red-legged frog, a federally listed species; however, further surveys would be needed to determine whether this species is present. Sierran treefrog, another native frog, uses both ephemeral and permanent wetlands for breeding from winter through early summer. Sierran treefrog adults and egg masses were observed in

Damselfly Pond. Treefrog tadpoles were found in wetland depressions along Highway 12 on the SDC 41 parcel. Western toad tadpoles were also observed in the outlet swale to the pond.

The types of aquatic habitats present on the properties typically support diverse native invertebrates and other wildlife species. Invertebrates adapted to life in these seasonally changing habitats include crustaceans such as shrimp, copepods, and water fleas, as well as aquatic beetles, dragonflies, damselflies, and aquatic snails. These invertebrates also serve as a food source for amphibians and birds. Associated wetland vegetation provides additional foraging habitat, cover, and nesting sites for birds. Open water is important foraging habitat for waterfowl including mallard, pied-billed grebe, and bufflehead and all three species have been observed on Damselfly Pond. Persistent aquatic resources with water into late summer are also critical watering holes for local wildlife when other sources have dried up. Many birds (e.g., swallows, Steller's jay, American robin) also rely on pockets of exposed mud within wetlands for construction of all or portions of their nests. Many species of mammals also use these as a source of drinking water.



The properties are located within the Sonoma Creek watershed. The watershed is considered one of the most essential steelhead resources of the San Francisco Estuary (Becker et al. 2007). The Park and Expansion properties do not include Sonoma Creek or its primary tributaries, but they do drain to Sonoma Creek. The watershed supports a number of special-status aquatic species (e.g., steelhead, California freshwater shrimp) and other species of interest (e.g., beaver). Land management actions and uses on the properties can have a direct impact on these and other aquatic resources.

## Special-status Species

In California, special-status plants and animals include those species that are afforded legal protection under the federal and California Endangered Species Acts (ESA and CESA, respectively) and other regulations. Consideration of these species must be included during project evaluation in order to comply with CEQA, in consultation with state and federal resources agencies, and in the development of

specific management guidelines for resource protection. Special-status species are defined as those that are:

- Listed or proposed for listing as threatened or endangered under ESA or CESA;
- Recognized as candidates for future listing by agencies with resource management responsibilities, such as U.S. Fish and Wildlife Service, NOAA's National Marine Fisheries Service, and CDFW;
- Defined by CDFW as California Species of Special Concern or Fully Protected;
- Designated as rare or threatened by the California Native Plant Protection Act (California Fish and Game Code Section 1900, et seq.);
- Listed by the California Native Plant Society as California Rare Plant Rank 1, 2, 3 and some Rank 4 plants based on CNPS guidelines and CEQA (CEQA Guidelines Section 15380); and
- Species that otherwise meet the definition of rare, threatened, or endangered pursuant to Section 15380 of the CEQA Guidelines.

### *Special-status Plants*

Based on the biological evaluation of the Expansion properties (PCI 2016), no special-status plant species were observed during 2016 surveys, or during previous surveys of the Curreri property (Warner 2013) and none have more than low likelihood to occur on the Expansion properties. See PCI (2016) for additional details.

The Curreri Conservation Easement notes that there is potential habitat for four special-status plants:

- Napa false indigo (*Amorpha californica*) – An undated occurrence of this deciduous shrub is reported from the Bouverie Preserve to the east of the Park (CDFW 2016). Potential habitat could be present on the Expansion properties in the interior north-facing slopes in oak woodland, in areas distant from trails and not surveyed; likelihood of occurrence is low.
- Round-leaved filaree (*California macrophylla*) – This annual herb of grasslands was not observed; its nearest reported occurrence, the only one in Sonoma County, is from 1880 and is 12 miles to the southwest. It is more typically found from the East Bay hills and south. Likelihood of occurrence on the Expansion properties is very low.
- Bristly leptosiphon (*Leptosiphon acicularis*) – This annual herb of grassland and chaparral is reported from Bouverie Preserve (CalFlora 2016). Potentially suitable habitat is present on the Expansion properties, but likelihood of occurrence is low.
- Jepson's leptosiphon (*Leptosiphon jepsonii*) – This annual herb of grassland and chaparral, usually on volcanic substrates, is reported from a 1960 record 4 miles to the northeast, and a 1981 record for 4 miles to the southwest on the west slope of Sonoma Mountain (CDFW 2016). It has low likelihood to occur on the grassland portions of the Expansion properties on volcanic soils.

In addition, two vernal pool species have been recorded on or adjacent to the Expansion properties and merit consideration: dwarf downingia (*Downingia pusilla*) and Sonoma sunshine (*Blennosperma bakeri*).

**Dwarf downingia** has been documented in the vernal pools on both sides of the entry road to the Park (CDFW 2016). The population was first documented in 1960 when it was described as “abundant.” In 1988, 300 plants were observed; in 1989, 10,000 plants; in 2009, only one plant was found; and none were found in 2010. The species was not observed during PCI’s March or April 2016 surveys. The reason for the decline is unknown; it may be related to disturbance from road use and maintenance, nutrient enrichment from agricultural or ranching operations, changes to hydrology from road development and fill, and/or encroachment of non-native annual grasses. Other species that were reported as present with the dwarf downingia are typical vernal pool native and non-native species, including maroonspot downingia (*Downingia concolor*), California oatgrass (*Danthonia californica*), annual hairgrass (*Deschampsia danthonioides*), Italian ryegrass, dock (*Rumex* sp.), vetch (*Vicia* sp.), and other non-native grasses (*Hordeum* sp., *Briza* spp.).

**Sonoma sunshine** is documented from the vernal pool on the south side of the Park entrance. That population size was estimated at 35,100 in the most recent record, for 2014. Associated vegetation is described as including California semaphore grass (*Pleuropogon californicus*), common meadowfoam (*Limnanthes douglasii*), common blennosperma (*Blennosperma nanum*), bractless hedgehyssop (*Gratiola ebracteata*), dock, filaree (*Erodium* sp.), rush (*Juncus* sp.), and sedge (*Carex* sp.). Despite the proximity of this apparently robust population, no Sonoma sunshine individuals have been documented in the pool on the Curreri parcel. The species was not observed during PCI’s March or April 2016 surveys.



*Sonoma sunshine*



### *Special-status Animals*

Based on the biological evaluation of the Expansion properties (PCI 2016), a number of special-status animal species have potential to occur on the properties; see PCI (2016) for additional details.

**Northern western pond turtles** are year-round residents of Sonoma County and are found in or near permanent or semi-permanent water sources (e.g., ponds, lakes, rivers, streams) with suitable basking sites and underwater retreats. They lay their eggs in shallow holes dug by the female from April through August. Eggs hatch in late summer or fall. In northern California, hatchlings can remain buried until the following spring. Turtles may use uplands for overland migration and nesting sites. Pond turtles are known to occur in the Sonoma Creek watershed, with reported sightings within four miles of the properties. Suitable habitat is present at Damselfly Pond.



**California red-legged frogs** are year-round residents of Sonoma County and occupy marshes, streams, lakes, reservoirs, ponds and other water sources with plant cover. Breeding occurs in deep, slow-moving waters with dense, shrubby, or emergent vegetation. They breed from January through April, with exact timing dependent on location. California red-legged frogs may be found in uplands during the non-breeding season and during migration. This species is known to occur in the Sonoma Creek watershed, with reported sightings within three miles of the properties. Suitable habitat is present at Damselfly Pond.



**Burrowing owls** occur in open grasslands and other habitats with low-growing vegetation. This species no longer breeds in Sonoma County but is commonly observed in the winter along the coast and baylands (Burrige 1995). Wintering burrowing owls are documented 3 miles west of the properties in

the upper Sonoma Creek watershed. Suitable winter foraging and roosting habitat is present on the properties.

**Cooper's hawks** occupy open woodlands and brushlands. They forage for birds, chipmunks, and squirrels through forest and edge habitats. They nest in dense mixed forests, larger canyons, and riparian corridors, typically in the fork of a tree, and are year-round residents in Sonoma County. Cooper's hawks were observed on the Curreri parcel in March 2016 (PCI 2016). Possible breeding has been reported in the Sonoma Valley (USGS 2016). Suitable nesting and foraging habitat is present on the properties.

**Grasshopper sparrows** are summer residents of Sonoma County, typically present from April through July and breeding in open grassland habitats. They are small, open-country sparrows named for their buzzy, insect-like song. They forage for insects and seeds and prefer short- to moderate-height, moderately open grasslands with scattered shrubs (Shuford and Gardali 2008). Grasshopper sparrows are known to occur within the Sonoma Valley and probable breeding occurrences have been reported (Burridge 1995). Suitable nesting and foraging habitat is present on the properties.

**White-tailed kites** are year-round residents of Sonoma County and occupy open woodlands, bottomlands, and agricultural grasslands. They are characterized by white and gray plumage and black shoulder patches and red eyes. They can often be seen hovering, searching for small mammals and "parachuting" down on their prey. Nests are typically constructed in large bushes or trees in open areas or at the edge of forested habitats. Kites are known to occur within the Sonoma Valley and possible breeding occurrences have been reported (USGS 2016). Suitable nesting and foraging habitat is present on the properties.



**Great egrets** are a medium to large wading bird in the heron family. They are commonly seen in marshes, ponds, shores, and mudflats where they feed primarily on fish, but will also take smaller animals. They are characterized by the nearly all-white plumage, long neck, black legs, long yellow bill, and ornamental plumes developed during the breeding season. Courtship can begin as early as January to March with the nesting season extending into June to August or later. Colonial nests are built in large trees or snags. Nests are a large bulky platform of sticks. Over a century ago, populations were nearly decimated as these and other showy waterbirds were hunted for their decorative plumes. Great egrets are permanent residents of Sonoma County (Bolander and Parmeter 2000; Burridge 1995). Grassland and shallow wetland habitats in the county are common foraging areas for this species. Rookeries that support both great blue heron and great egret are known from the Park vicinity. Suitable nesting habitat for great egret is present on the properties.



**Great blue herons** are large wading birds in the heron family. They are commonly seen in freshwater and saline wetland habitats and open grassy habitats. Sonoma County's largest herons, they are characterized by their long legs, flexible necks, pointy bill, and blue-gray coloration. Their diet is comprised primarily of fish, but they will also take smaller animals. Courtship can begin as early as January to March with the nesting season extending into June to August or later. Colonial nests are built in large trees or snags, often in association with great egrets. This species is sensitive to disturbance during the nesting season. Great blue herons are permanent residents of Sonoma County (Bolander and Parmeter 2000; Burridge 1995). Rookeries that support both great blue heron and great egret are known from the Park vicinity. Suitable nesting habitat for great blue herons is present on the properties.



#### *Special-status and Common Bat Species*

The Expansion properties support suitable foraging and roosting habitat for a number of bat species. There are approximately 15 bat species with known occurrences within Northern California, and at least



12 of these species have a high probability of occurring on the Park and adjacent lands. Bats are highly mobile; many are migratory. Foraging habitats range from woodlands, forests, and grasslands to open water. All of our local Sonoma County species are insectivorous and feed by echolocation. Bats use caves, mines, buildings, bridges, tree hollows, and other natural and man-made crevices for roosting. While focused surveys for bats have not been performed on the properties, nocturnal observations, mist netting, or ultrasonic detection would be sure to reveal a number of species utilizing the existing habitats. Two special-status bat species have reported occurrences nearby—pallid bat and Townsend’s big-eared bat (CDFW 2016); see below. Other bat species (i.e., hoary bat, fringed bat) identified as having moderate to high priority for conservation by the Western Bat Working Group may also occur on the properties.

**Pallid bats** occupy grassland, shrubland, woodland, and forest habitats at low elevations in California. They can most commonly be found in open, dry habitats with suitable rocky areas for roosting. This species can also be found roosting in caves, crevices, mines, hollow trees, and buildings during the day. Night roosts generally consist of more open areas such as porches and open buildings. Suitable habitat is present on the properties; pallid bats may roost in the trees and forage over the land. Pallid bats have been documented less than 1.5 miles away at Jack London State Historic Park.



**Townsend’s big-eared bats** occupy low to mid-elevation mesic habitats including, riparian, mixed forest, coniferous forest, prairies, and agricultural lands. They emerge in late evening and forage for small moths and insects, which they pick from leaves. Their flight pattern is slow and maneuverable, and they are capable of hovering. Roosting sites include caves, mines, tunnels, buildings, and other man-made structures. Townsend’s big-eared bats have been documented approximately 10 miles from the properties, but the sighting is from a 1938 collection. Suitable foraging habitat is present on the properties.

### *Breeding Birds*

Nesting native bird species are protected by law; see Chapter 2, State and Federal Regulations section, for detail. Vegetation removal and/or construction activities in areas with suitable nesting habitat during the breeding period, typically mid-March to mid-August in this region (RHJV 2004), could result in nest abandonment or loss of native nesting birds unless appropriate actions are taken (e.g., preconstruction surveys, avoidance, monitoring, etc.); see Chapter 5, Wildlife Species Protection section, for further information.



## Ecological Processes

The Park and Expansion properties' mosaic of native habitats, visual beauty and recreational appeal, and their ecological role in the larger Sonoma County landscape are all sustained by basic ecological processes. Key processes on these lands include disturbance regimes, the flow of water, natural regeneration, and movement of wildlife and plant propagules.

Historic and current disturbance regimes have shaped the pattern of plant communities on the land. Previous livestock grazing in the lower part of the Expansion properties has likely contributed to a shift from perennial-dominated grassland with scattered oaks to annual-dominated grassland with limited oaks and little oak regeneration. Wildfire and climate change are two other disturbances with potential to significantly influence the properties; see Chapter 5, Climate Change Adaptation and Mitigation section, and Chapter 6, Vegetation Management for Fire Risk Abatement section, and for further discussion.

The flow of water through the properties, and storage in the pond and soils, support wildlife, diverse plant life, and allows for regionally important ground-water recharge. The woodlands help capture moisture as it falls on the properties' slopes, protecting soil from erosion and allowing water to be available to plants and wildlife into the dry season.

Natural regeneration of plant and wildlife populations relies on healthy, reproducing populations, suitable conditions for establishment or maturation, and the ability to disperse. For instance, oak populations on the properties require favorable



weather patterns for acorn production and germination, and limited seed predation and herbivory, to persist. Currently, oak regeneration is apparent in upper, wooded slopes, but limited in the more open areas and woodland edges lower on the property where seed availability is lower, and competition from annual grasses is higher.

For both wildlife and plants, the ability to move or disperse across the landscape is also essential. The Park and Expansion properties, as part of the narrowest segment of the Sonoma Valley Wildlife Corridor, facilitate wildlife movement from Sonoma Mountain and the Coast Ranges on the west side to the Mayacamas and Lake Berryessa region to the east. Wildlife need access to different resources at different times of the year and in different life stages, and all species need genetic exchange among populations to survive over time. On the Expansion properties, the ability for wildlife to move onto larger adjacent protected lands is likely to be important for survival. Other key movement corridors on the Expansion properties include areas with woodland cover away from existing trails and developed areas and routes leading to water sources at Damselfly Pond and Butler Canyon Creek; see **Exhibit 6**. The hillside woodlands on SDC 41 support extensive game trails, and carnivore scat is common along the firebreak road.

## Cultural/Archaeological Resources

A cultural resources inventory, including literature and records review and a surface survey, was conducted for the Expansion properties by ALTA Archaeological Consulting (ALTA 2016). The Expansion properties lie within the SDC Historic District. SDC, established in 1891, is the oldest facility in California designed to serve the needs of individuals within developmental disabilities. The Historic District encompasses the original property holdings and about 1,000 acres of land, which include the Expansion properties. Four features associated with the Historic District were identified: two rock piles, a cistern, and concrete slab. No prehistoric features were identified. The 1983 Park Master Plan provides additional information on the cultural resources of original park lands.

The Expansion project is not expected to have an adverse effect on cultural resources, but monitoring of existing resources and standard practices for protecting any potential undiscovered cultural resources should be in place; see Chapter 6, Cultural Resources Protection section, for further information.

## 4 Recreational Use and Facilities



The Sonoma Valley Regional Park Expansion project will expand on the recreational opportunities available at the existing Park. New multi-use trails and associated amenities are planned to support hiking, guided walks, mountain biking, horseback riding, picnicking, and other types of passive recreation.

### Projected Visitor Use

The existing Sonoma Valley Regional Park is approximately 167 acres of oak woodland habitat on rolling hills. The Park has a 1.3-mile paved multi-use trail that begins at the main park entrance and runs through the park to Arnold Drive. It also has two miles of non-paved trails used by hikers, mountain bikers, and equestrians. The Park's main entrance also hosts a dog park where visitors can let dogs off leash in a safe enclosed space.

Estimated user patterns for the existing Sonoma Valley Regional Park are that approximately 40% of visitors park their vehicle and enter at the main entrance parking lot, 25% park on-street and enter from Arnold Drive, and 5% park on-street or walk in from either Carmel Avenue or Lake Suttonfield. It is conservatively estimated that the final 30% of users are at the Park exclusively to use the Dog Park;

those visitors typically access the dog park from the main entrance or park on-street and enter alongside Highway 12.

Baseline use figures were compiled by the Park Operations Division for the period from July 1, 2014 through June 30, 2015, before the expansion properties were open to the public. There were approximately 48,000 visitors to the park in that fiscal year (of which 14,400 were for the dog park only). The following fiscal year, from July 1, 2015 to June 30, 2106, an additional 1.3 miles of trail (Cougar and Sonoma Valley Trails on the Expansion properties) opened for public access and visitor use numbers increased to 50,400 in that fiscal year (15,120 of which were for the dog park only).

New users are likely to come to the park as the public becomes aware of new trails. The Park Expansion's 70 acres represent a 42% increase over the existing park acreage. Using existing information on park use to project future use, and assuming the number of park users (excluding dog park users) increases proportionally with acreage, an increase of 14,112 users per year would be expected with the full opening of new trails as described in this Plan.

The Park Expansion is not expected to change use entry patterns because Expansion property trails will augment the Park's limited miles of trails and will mostly enhance existing visitors experience by offering more trail routes and variation.

## Access

The primary public access point for the Park Expansion will be through new and existing Park trails that begin at the main entrance. The existing main Park entrance from Highway 12 provides off-street vehicular parking and equestrian staging. This includes two ADA accessible parking spaces, 20 standard vehicle spaces, and five pull-through equestrian trailer spaces.

The Expansion properties can also be accessed via a trailhead entrance on Arnold Drive, Carmel Avenue in Glen Ellen, or through the SDC property on the Park's southern edge. The Arnold Drive trailhead includes on-street parking and is approximately 1.3 miles from either of the Expansion properties. The Carmel Avenue access offers no parking and is walk-in only; it is approximately 0.8 miles from Expansion property trails. Access from SDC's Lake Suttonfield is also walk-in only; it is a few hundred feet from the Park boundary to the nearest Park Expansion trail. See **Exhibit 5** for a map of access and trails.

The Expansion properties will be day-use only, open between sunrise and sunset, year-round, in keeping with the existing Park's hours of operation.

## Appurtenances

New appurtenances for the Park Expansion will include regulatory, directional and interpretive signage, benches, and picnic tables. Signage in the existing Park will be updated to include the Expansion



properties and new trails. Unneeded fencing will be removed; Regional Parks has already removed nearly 2,000 feet of such fencing. **Table 3**, below, provides details of proposed appurtenances.

**Table 3. Park Expansion Appurtenances**

Type	Details	Typical or Maximum Size
Boundary Markers	As needed along perimeter boundaries	4"x 9" signs, approx. 500' on center
Signage	Open Space District Trail Map Standard Panel on Curreri Park Expansion	Typically 4' x 6'; not to exceed 32 sf per Conservation Easement
	Directional and regulatory signage at new trailheads	Typically 18" wide; maximum width 24"
	Trail marker post (directional) at all new trail intersections	Conform to Regional Park trail marker standards, typically 4" x 5" sign (see photo below for example)
	As needed within the Park Expansion to inform for visitor safety	Typically 3' x 4'; not to exceed 32 sf per Curreri Easement
Interpretive Signage	Panels at new trailheads, entry points, or viewpoints to inspire and educate visitors	Typically 3' x 4'; not to exceed 32 sf per Curreri Easement
Picnic Areas	Picnic tables on natural or other permeable surface	Leveled area not to exceed 400 sf
Benches	Wooden benches	Leveled area not to exceed 144 sf

**Fencing** will be removed between existing Park boundary and the Expansion properties. Any boundary fencing repairs or installation performed by Regional Parks will meet current wildlife-friendly standards (Paige 2012).

**Signage** design and installation will conform to Regional Park sign standards for colors, sizes, and footings. Directional signage will help trail users plan their trip with a clear understanding of distance and intensity and will help keep users on trails, reducing habitat impacts. Interpretive signage will be designed to inform park users about natural



*Typical trail marker.*

features, stewardship opportunities, and the Park Expansion’s unique natural characteristics such as its role in the Sonoma Valley Wildlife Corridor.



*Typical picnic area.*

**Picnic areas** will consist of level sites with one picnic table each. Sites will provide visitors with room for eating, resting, and enjoying views.

**Bench sites** will consist of a level area with one wooden bench. Sites will be strategically located to provide rest, solitude, and a place to enjoy the surrounding view. The Sonoma County Regional Parks Foundation administers the Memorial Bench Program. This program could provide picnic tables, benches, and interpretive signs for the Park Expansion.

**Restrooms** are currently provided as portable toilets at the main Park parking area. The existing Master Plan calls for development of a permanent restroom facility in the same general location. No additional restrooms are proposed as part of this project.

## Trails

A total of approximately 3 miles of trail is proposed on the Expansion properties; see **Table 5** below for details. Most proposed trails will be multi-use, designed for concurrent use by hikers, mountain bikers, and equestrians. Parks staff can close trails to specific trail uses based on flooding, erosion concerns, safety concerns, or similar factors. Trail development on the Expansion properties requires prior written approval by the District. The development of this Master Plan, including trail alignments, has included input and review by the District. The District’s final approval of the Plan will constitute the District’s approval of the proposed trail development contained in the Plan.

### *Americans with Disabilities Act Compliance*

The trail system will be designed, to the greatest extent feasible, to meet the proposed Americans with Disabilities Act (ADA) Section 16 Accessibility Guidelines for Outdoor Developed Areas. The ADA Guidelines include trail standards for providing the highest level of access to the natural environment to persons with disabilities without causing damage to the natural and cultural resources of a site. Currently, these guidelines are only required in national parks and other outdoor areas developed by the

federal government. The ADA Guidelines for Outdoor Developed Areas have been voluntarily incorporated into the proposed trail design for the Expansion properties.

### *Trail Development*

On the Curreri parcel, an existing ranch road has been renovated into a multi-use trail (Cougar Trail) as part of the Park Expansion initial public access. A short section of Cougar Trail will be re-aligned along a residential neighbor's property boundary. The new trail alignment will be set back 50 feet from the property boundary. New native plantings will provide screening between trail users and the neighboring property, provide shade for trail users, and tie into a larger area of wildlife habitat, corridor, pond, and oak savanna restoration. A new spur off of Cougar Trail, the Moon View Trail, will be limited to hikers. Another short spur will lead to a picnic table at the pond. The new multi-use Bobcat Trail will lead from the Park entrance to the pond.

On the SDC 41 parcel, an existing strip mown for fire hazard reduction along Highway 12 will be developed into a multi-use trail (Sonoma Valley Trail). Portions of this strip will be realigned to avoid small seep wetlands. The trail will continue to serve as a fire break. This route is also identified as a possible section of a proposed regional Sonoma Valley trail. Realignment and paving may be needed when that trail is developed. The Expansion properties' new Zoe Trail will lead from the Sonoma Valley Trail up the slope and loop back north, where a realigned Woodland Star Trail will connect it to existing trails west of the water tanks. No future trails will be added that connect to the Zoe Trail.

### *Road and Trail Decommission*

A total of 0.83 miles of existing ranch road or trail will be decommissioned. This includes the Cougar Trail realignment described above, a temporary trail around Damsfly Pond, and other roads or trails that lead off-property to private lands, are severely eroding, pass through wetlands, and/or exceed maximum running grade allowances. These sections of road or trail will be revegetated with appropriate native vegetation and measures will be put in place to restrict visitor use.

**Table 4. Park Expansion Trails**

Trail Segment	Approximate Mileage	Description
Cougar	0.6	Moderate grade. 12' width from Park entrance to pond; 5' width beyond pond. Includes spur to picnic table.
Moon View	0.1	Hiker-only trail on moderate grade, to a clearing with 180° west-facing views of surrounding valley and Sonoma Mountain. Hiking only to protect adjacent wildflower displays and a place of quiet respite. (Park not open at night but possible ranger/docent-led night hikes.) 5' width.
Bobcat	0.5	Moderate grade. 5' width.

Trail Segment	Approximate Mileage	Description
Sonoma Valley	0.8	Easy grade. 5' width. Possible trail re-alignment in the future with development of regional trail, which may be up to 12' wide.
Zoe	0.9	Moderate grade, with stunning views of Glen Ellen, Sonoma Mountain, and San Pablo Bay. 5' width.
Woodland Star	0.2	Easy grade, realignment of a portion of existing Woodland Star Trail. 5' width.
Decommission Curreri Access	(0.1)	Curreri parcel ranch road; obsolete property access, and severe erosion problem
Decommission Trail adjacent to Bobcat	(0.2)	Replace with Bobcat Trail to provide gentler grade.
Decommission trail around pond	(0.1)	Initial public access trail to be removed to improve pond habitat for wildlife. Trail along southern side of pond to remain.
Decommission Curreri at Moon View	(0.03)	Existing trail at Moon View realigned for accessible grade.
Decommission Curreri at Cougar Trail	(0.1)	Existing ranch road was converted to trail for initial public access to the property; to be realigned along exposed neighbor boundary (set back 50' from fence) to provide room for oak woodland restoration/screening
Decommission Water Tank to Sonoma Valley Trail	(0.3)	Ranch road on poor grade alignment near water tanks

### *Structural Trail Elements*

Trails will include structural elements to facilitate crossing wet areas and drainages, increasing accessibility in wet weather, and protecting trail surfaces from erosion. These elements may include rolling dips, puncheons, armored crossings, and drainage lenses.

**Rolling dips** are constructed swales that run across the trail tread and are used to direct water off the trail. The spacing and angle of rolling dips is determined by the running slope of the trail. The steeper the slope, the more frequent the rolling dips and the more extreme the angle across the trail tread.

**Puncheons** are short bridges without handrails constructed over minor drainages. Puncheons are used where the vertical drop-off is less than 30 inches. They have a vertical curb as a safety device for



visually- or mobility-impaired users. Puncheons will be constructed to match trail widths and with a minimum of 36 inches between safety curbing. Puncheons will be constructed of material free of toxic chemicals such as chromate copper arsenate.

**Armored crossings** are drainage features within a trail segment that are protected with gravel or rock to allow water to flow across the trail in its normal pattern. The rock minimizes erosion of the trail surface, acts as an energy dissipater to slow the water down, and provides a solid footing for trail users. The higher the volume and velocity of flow, the larger the diameter of rock required.

**Drainage lenses** are used for minor drainage features where wet areas do not drain adequately for comfortable trail use. They are constructed of large rocks installed point-to-point, stacked one to three layers high, and covered with smaller rock for a finished trail surface. The larger rock allows water flow under the finished surface and provides a solid surface for trail users.

### *Signage*

Park Expansion signage will complement current park signs. In the existing Park, regulatory signage and a trail map are at the main entry parking area, and directional and regulatory signage is at trail intersections. The goal of the Park Expansion signage is to guide and educate trail users, to facilitate user enjoyment, and to protect natural resources and scenic values. The trail map at the Park entrance will be updated to include new trails as they are developed on the Expansion Property. See Chapter 6, Signage section, for details of sign design and installation.



## **Water for Park Uses and Other Utilities**

Water for park uses is drawn from the Sonoma County Water Agency pipeline and held in two storage tanks on the existing Park. Water is provided to park visitors through existing drinking fountains at the main parking area. Water is also available for park operations use only on the Curreri parcel. Restroom facilities for the park are portable toilets at the main parking area. The 1983 Park Master Plan calls for

development of a permanent restroom facility in the same general location; however, the Expansion project does not include changes to the existing restrooms. No new park facilities that require water are planned.

Signage on the eastern portion of the Curreri parcel indicate that gas lines and phone lines run through the property roughly parallel to Highway 12, just below the edge of the oak woodlands.

## 5 Resource Management

The principal goals for land management of the Expansion properties are to conserve natural resource and scenic values while providing passive outdoor recreation and education. This Master Plan provides guidance for balancing these multiple goals. Achieving this balance will require ongoing implementation, monitoring of changes over time, and adjusting management strategies as needed.

Protecting natural resources on the Park and Expansion properties means conserving the ecological processes that sustain them. For instance, maintaining diverse plant communities will require facilitating native plant regeneration and providing habitat connectivity to allow for climate change-related shifts. Protecting native wildlife will require ensuring that key movement and dispersal corridors are maintained. Water resources on and downstream of the Park can be safeguarded by sustaining healthy native plant communities to hold soil in place, retain water in the soil, and soften the erosive effects of rainfall.

Like all natural systems, the Expansion properties and Park landscape will change over time, especially with climate change and increased public use. Effective long-term natural resource management will require observing and understanding those changes, and making decisions about how to adjust management strategies accordingly. Monitoring can provide information on the impacts of public uses and the local effects of larger ecological changes. Adaptive management will also entail staying informed of current research on relevant resource management issues and methods.

The following objectives and actions are designed to guide Regional Park staff in meeting natural resource management goals. Objectives provide guidance for habitat conservation, wildlife protection, erosion control, invasive species management, habitat restoration, climate change adaptation, management of public uses, and opportunities to collaborate with conservation partners.

See **Exhibit 6** for a map of locations of restoration and enhancement opportunities and other areas of management concern.

# Habitat Conservation

The most fundamental requirement of Park management is to prevent damage to existing habitats from park use, maintenance, or development activities. All of the Expansion Property's habitats other than annual grassland are considered sensitive biological communities, and are relatively high-quality habitats that merit careful protection. Even annual grassland provides important services such as habitat for wildlife and protection of soil from erosion.

## OBJECTIVE RM-1: Protect habitat from impacts of park maintenance and park improvements.

### ACTIONS

- **Limit the development of new trails** to those identified in this Master Plan. No future trails will connect to the Zoe Trail. The proposed trails provide an extensive network allowing linkages to all adjacent public lands and access to most areas of the Expansion properties. This will help maintain crucial habitat connectivity for wildlife, including internal movement corridors. If resource concerns develop for existing alignments based on monitoring results, adaptive management options will be evaluated and implemented. See specific resource sections (e.g., Wildlife Species Protection, Hydrology and Erosion Control, etc.) for details of monitoring and potential adaptive management measures.
- **Locate any new facilities such as interpretive signage and picnic areas away from areas of sensitive or high-quality habitat** including vernal pools, wildflower fields, pond, and native grass stands, to the extent feasible. The best locations for any such developments are in areas already disturbed by human activity. If signage is specifically addressing the sensitive habitat, and/or its placement is intended to restrict public use,



ensure that the signage does not detract from the users' visual experience and is placed outside the sensitive area. See Chapter 6, Signage, for conservation easement restrictions and approval requirements. See below for discussion of proposed limited exceptions to this Action.

- **Provide vegetated buffers between sensitive resources and new park development.** Base buffer width on potential impact level and resource sensitivity. The proposed activities in this Plan (trails, individual benches and picnic tables) are low to medium in impact compared to more intensive developments such as camping or group picnic areas. For the activities in this Plan, to the extent feasible, recommended setbacks are at least:
  - 500 feet from Butler Canyon Creek, which may serve as an important component of the Sonoma Valley Wildlife Corridor. See below for discussion of the future paved Sonoma Valley Regional Trail, which is not part of this Plan, and the unpaved Sonoma Valley Trail, which follows an existing fire road.
  - 100 feet from vernal pools and 50 feet from other wetland habitats.
  - 25 feet from the edge of native grasslands and wildflower fields.

See following action for guidance on situations where these setbacks are not feasible while still meeting Park recreational use goals. No high impact developments (e.g., parking, group picnic areas, buildings), which would require greater setbacks, are planned as part of this project.

- **Variations from the recommended setbacks for projects in this Plan will require a more thorough assessment and mitigation and/or monitoring** to ensure natural resource protection, and will require additional approval from the District.
  - The proposed paved Sonoma Valley Regional Trail is not part of this project; setback requirements specific to that paved trail will be considered separately at a later date. The unpaved Sonoma Valley Trail on the SDC41 property that is part of this project does extend into the Butler Canyon Creek corridor. However, it is located on an existing fire road, minimizing new disturbance to habitat. Proposed restoration along the seasonal drainage parallel to the fire road (see Restoration Area 2 on Exhibit 6) will help improve wildlife habitat in this area, helping to mitigate any impact to wildlife from increased human use of the trail. There may also be an opportunity in the future to cooperate with the owner of the SDC land to improve the Butler Canyon Creek undercrossing (on SDC land) for wildlife use; currently, wildlife passage appears to be limited by dense Himalayan blackberry. The alignment of the Sonoma Valley trail segment will be reviewed during planning for the paved regional trail.
  - The Moon View Trail is proposed to pass within 15 feet of an existing wildflower field. Part of the purpose of the trail is to enable users to enjoy the wildflowers. The trail will be restricted to pedestrian use only, in order to reduce potential for trampling or erosion. The trail will be monitored for impacts to the wildflower stand. If impacts are detected, adaptive management options will be evaluated and implemented which may include interpretive signage, installation of split rail fencing or other options. **See RM-14.**
  - The Zoe Trail alignment was designed to prioritize protection of wildlife use of the Butler Canyon Creek area. Because of the wildlife corridor's regional significance, wildlife protection is considered a high priority in this case. The alignment provides more than an 800-foot setback

from Butler Canyon Creek to the south and is elevated more than 150 feet above the creek crossing. Habitat between the trail and the wildlife corridor is native oak woodland; this screening helps reduce potential impact to wildlife from human use. The trail does pass within 25 feet of a wildflower field; measures to minimize and mitigate for this impact is described in the action below.

- **Minimize and mitigate for impacts to the native wildflower stand during construction and use of the Zoe Trail:** limit the area of disturbance, plant with salvaged material to expand the remaining stand, and monitor trail for ongoing use impacts.
  - Limit area of disturbance. Temporarily fence off sensitive habitat outside the necessary limit of disturbance during construction, and ensure that trail construction staff is aware of resource protection requirements.
  - Salvage native grasses and/or collect seed from native grasses and wildflowers in the area of disturbance. Plant adjacent to the existing stands in a location and manner selected by the Natural Resource Manager. See Appendix D for guidance on restoration methods.
  - Monitor the trail for ongoing impacts to the native wildflower stand. If impacts are detected, adaptive management strategies will be evaluated and implemented. **See RM-14.**
- **Avoid ground disturbance in all natural habitats.** Except as part of a larger restoration effort, minimize ground disturbance, which facilitates weed invasion and can damage native plant populations. See Invasive Species section for related recommendations.
- **Avoid alterations to soil or hydrology of vernal pools.** Vernal pool species are sensitive to changes in inundation timing and depth. Avoid activities upslope of pools that could alter these qualities.
- **Monitor vernal pools annually for presence of special-status species.** Collaborate with regional monitoring efforts, such as the Laguna Foundation's Adopt-a-Vernal Pool Program, to survey for Sonoma sunshine and dwarf downingia in pools on the existing Park as well as the Expansion properties.

# Wildlife Species Protection

The Expansion properties are a critical link in the Sonoma Valley Wildlife Corridor, support many common wildlife species, and provide suitable habitat for a number of special-status species. Many of these species are protected by state and federal regulations and require special measures during maintenance and operation efforts.

## **OBJECTIVE RM-2: Protect wildlife during construction of access improvements and ongoing Park maintenance.**

### ACTIONS

- **Perform preconstruction surveys prior to significant ground disturbance** (e.g., trail construction, mowing for fire abatement). Surveys (on the day preceding work and/or ahead of the construction crew) should be performed by a qualified biologist to ensure that no special-status species or common wildlife are occupying the area. If wildlife are observed within the work area or immediate surroundings, avoid these areas until the animals have vacated the area, or, upon approval by the regulatory agencies, until the animals have been relocated out of the area by a qualified biologist.
- **As feasible, work outside of the critical breeding bird period** (February 15 through August 31) during vegetation removal or trimming. If activities must occur during this period, work areas should be surveyed for nesting birds prior to commencing. Complete surveys for all vegetation trimming and removal or ground-disturbing activities. Trained staff would be qualified to complete the surveys. If active nests or behavior indicative of nesting are encountered, avoid those areas plus a 50-foot buffer for small songbirds and 250-foot buffer for larger birds (e.g., owls, raptors) until the nests have been vacated. If the work areas are left unattended for more than one week following the initial surveys, complete additional surveys.
- **Complete presence/negative finding bat surveys prior to removal of any trees that are over twelve inches in diameter at breast height or significant trimming of any branches with cracks and cavities that may be suitable for bat roosts.** Because each individual bat species may use different roosts seasonally and from night to day, surveys must be conducted by a qualified biologist or natural resource specialist at the appropriate times. If occupied roosting habitat is identified, trimming/removal of roost trees should not be allowed until the roost is abandoned or unoccupied and/ or California Department of Fish & Wildlife is consulted.
- **Educate field staff about the Park's natural resources and all protection measures relevant to their work.** This training could be held on an annual basis or in conjunction with specific projects, and it could be combined with training for other similar Regional Park properties. The training should be conducted by a qualified biologist or natural resource specialist and should discuss the sensitive biological resources within the Park, the potential presence of special-status species and their habitats, protection measures, maintenance activities, and other biological conditions outlined in the Master Plan.



### OBJECTIVE RM-3: Protect wildlife populations and their habitats.

#### ACTIONS

- **Remove all non-essential interior fencing and develop boundary fencing that is wildlife-friendly;** see Habitat Restoration for further discussion. The existing boundary fencing along the SDC boundary is constructed as required by the State and per the terms of the Matching Grant Agreement with the District; this is designed to prevent horse movement and will stay in place.
- **Monitor for the presence California red-legged frog** at Damselfly Pond. This will help determine whether bullfrog management activities need to be undertaken at the site; see Invasive Animal Management section. Unless protocol-level surveys are performed with negative findings, assume presence of California red-legged frog at the pond and develop avoidance measures for any significant ground-disturbing project within 500 feet of the pond; see below. Bullfrog presence does not definitively preclude California red-legged frogs from using the pond.
- **For any significant ground-disturbing work (e.g., grading) within 500 feet of the pond, implement avoidance measures to protect aquatic wildlife,** including California red-legged frog and northern western pond turtle. These measures will include preconstruction surveys, installation of temporary exclusionary fencing, and preconstruction trainings.
- **Prohibit park users from allowing dogs into the pond or along its edges via signage and monitor human use** of the pond for visitors who go off designated trails. If heavy foot traffic is suspected or visitors are bringing dogs to the pond off-leash, especially during the winter and spring amphibian breeding season, make adjustments in park use and/or access to this area. Monitoring could be accomplished through volunteer patrols and visual inspection of the pond and surrounding areas.



*Wildlife-unfriendly fencing to remove (all strands barbed).*

- **Add native plantings along Damselfly Pond edges and seasonal outlet swale** to improve aquatic habitat conditions and migration opportunities for local wildlife, and to discourage visitors from accessing decommissioned trail segments; see Habitat Restoration section.
- **Maintain drainage and ponded areas between Damselfly Pond and swale** to protect seasonal amphibian breeding habitat; see Trail Maintenance section.
- **Monitor the Park and Expansion properties for the establishment of introduced animal species;** see Invasive Animal Management section for further discussion.
- **Monitor wildlife use on the Park and Expansion properties** to assess effects of additional trail development and public access on wildlife movements, species composition, and habitat use. Wildlife monitoring cameras are already in place. Understanding baseline conditions (prior to trail opening) or reference conditions in areas without trails will be an important element of this effort. Collaborate with local groups such as Sonoma Land Trust, Sonoma Ecology Center, and Audubon Canyon Ranch/Bouverie Preserve on regional monitoring efforts. If monitoring reveals detrimental effects of Park use on wildlife, implement adaptive management strategies, which may include seasonal trail closures, interpretive signage to inform and guide user behavior, or trained docents stationed on trails at key times to inform and guide the public.



# Hydrology and Erosion Control

Upland erosion and channel incision reduce infiltration of water into the soil and increase the rate at which surface water concentrates and moves off site. Unplanned and poorly designed trail networks are notorious for altering runoff pathways, concentrating flows, causing increased soil compaction and erosion, and reducing groundwater infiltration. Maintaining healthy vegetative cover and soil permeability will reduce erosion, protect downstream water quality, and increase absorption and storage of rainwater, recharging aquifers.

The primary alterations to natural hydrology on the Expansion properties are the pond, roads and trails. The pond appears stable and provides a valuable source of water for wildlife, but revegetation along the periphery of the pond could improve wildlife habitat; see Habitat Restoration section. Active erosion is limited but visible along the pond outlet drainage, and along some of the existing trails. On the Curreri parcel, the entry road and a parallel old ranch road cross through the wetlands, with two culverts providing connection. The old ranch road has been decommissioned by smoothing out ruts and seeding, but a remnant elevated roadbed and associated culvert remain along the lower portion. This culvert is partially functional but appears to be collapsing; see Habitat Restoration section for further discussion of this location.

The SDC 41 parcel drains to two areas, a culvert leading east under Highway 12, and a swale in the southern tip leading south towards Wilson Creek. This swale runs along the existing firebreak trail, and water also runs along the trail itself, resulting in erosion. Reducing erosion by revegetation, limiting new soil disturbance, and careful trail design and alignment will help protect soil and plant resources, downstream water quality and aquatic species habitat quality.



*Culvert under old ranch road on Curreri.*

## OBJECTIVE RM-4: Protect soil and aquatic resources by preventing and treating erosion.

### ACTIONS

- **Prevent erosion along Damselfly Pond outlet ditch by planting native perennials and shrubs.** Plant native shrubs (e.g., coyote brush, manzanita) along top of bank, and plant bed of drainage with native rushes and sedges. Monitor and consider further restoration if erosion continues.



*Concentrated flow/erosion along trail..*

- **Monitor trail network and culvert crossings** for erosion each spring and winter and following large storm events to detect critical changes and determine if they warrant modification or repair. Check culverts for deposits.
- **If fresh erosion is visible or existing problem areas are rapidly changing, evaluate and design a repair** with guidance from a qualified erosion control specialist and natural resource specialist. All treatments must be performed in a manner that protects sensitive ecological resources.
- **For erosion treatments, use only methods that enhance habitat, such as revegetation.** Use biodegradable materials. If biodegradable materials are not available or are prohibitively expensive, remove materials from the site promptly upon project completion. All erosion control blankets and wattles used on site should be enclosed in 100% biodegradable material, not plastic, which can trap and kill snakes and other small animals (California Coastal Commission 2012).
- **Implement erosion control measures for all ground-disturbing activities** and promptly revegetate with native plantings. Prompt revegetation will also help reduce invasive species establishment (see RM-5).

See Chapter 6, Trail Maintenance and Road and Trail Decommissioning sections, for recommendations regarding erosion along trails and roads.

# Invasive Plant Management

Invasive plant species are present on the Park and Expansion properties, primarily in disturbed grassland and seasonally moist areas. These are species, introduced from other parts of the world that tend to grow and spread rapidly. They often create dense stands where little else can grow and change habitat conditions in ways that are detrimental to native plant species and native wildlife. The highest priority for management of invasive species on the properties is to prevent their further establishment or spread. The second priority is to eradicate or manage existing populations.

**Table 5**, below, lists high and moderate priority invasive species present, and management methods.

Priority is based on the feasibility of control and the level of ecosystem impacts incurred by the species. Eradication is recommended where feasible for species that have very high ecosystem impacts, and for species that are not yet widespread and could be readily removed. Control is recommended for species that are very widespread, or for those with more limited ecosystem impacts. Invasive removal should be accompanied by restoration plantings and other habitat restoration measures. **Exhibit 6**



*Invasive French broom in woodlands.*

shows locations of isolated invasive species and representative locations for widespread invasive plants.

**Appendix C** provides a list of suitable species for revegetation.

Preferred methods for removing or limiting existing stands of invasive species on the Expansion properties are manual or mechanical removal, planting with competitive native species, and/or otherwise influencing habitat conditions to suppress undesired species (e.g., by shading out with a native overstory, limiting ground disturbance, etc.).

If non-chemical approaches to high priority invasive species are implemented but are found to be unsuccessful, and Regional Parks determines that risk to the Park's natural resources from the infestation is high, herbicide use may be considered on a case-by-case basis. Herbicide application should be done under the guidance of a licensed Pest Control Advisor and overseen by the Natural Resources Manager. Regional Parks' policy (Regional Parks 2012) allows for the use of chemical pesticides only in situations where other methods are not effective or feasible (e.g., cannot be sustained



due to budgetary or other constraints). Any applications must be performed or overseen by a qualified applicator, and pesticides with the least toxicity to humans and the environment shall be used. See also OM-11.

Regional Parks plans to use short-duration, high-intensity cattle grazing for management of the vernal pools of the Park and Expansion properties. Cattle grazing reduces grass and thatch cover, which may in turn encourage the germination of annual forb species (including dwarf downingia and Sonoma sunshine) native to vernal pool habitat. Livestock grazing can also have other effects on plant community composition; animals can bring in invasive plant seeds on their feet, fur, and in their droppings. Their trampling and feeding can disturb soil, making it easier for invasive species to establish, and their droppings add nutrients to native soil, which further facilitates invasive plants. Regional Parks will monitor grazed areas to determine whether grazing is bringing about desired changes, to identify any detrimental effects on native vegetation, soil, or water quality, and to detect any increases in weed infestations. Regional Parks will work with the grazing contractor to prevent any detrimental effects, and to adjust grazing practices as needed based on monitoring results. Livestock fencing will be limited to wildlife-friendly perimeter fencing, temporary electric fencing, and fenced enclosures as needed to protect oak seedling regeneration.

#### **OBJECTIVE RM-5: Prevent the establishment and spread of invasive plant species.**

##### **ACTIONS**

- **Prevent spread of invasive plants via vehicles and equipment.** Mowing, disking, trail construction, and any other vehicle or equipment travel along roads and trails (or off-road) has high potential to spread invasive species. Clean vehicle and equipment tires and undercarriages of all soil and vegetation fragments before entering uncontaminated areas.
- **Limit ground-altering activities in extent and duration.** Trail development, grading, disking, and digging provide ideal conditions for most invasive species to establish. Avoid these activities, especially in otherwise undisturbed habitat.
- **When ground alteration occurs, revegetate promptly with an appropriate suite of native species.** Among species native to the habitat type, include natives that grow rapidly, and/or those that have growth habits and seasonal timing similar to potential invaders, to help suppress invasive populations; see **Appendix C** for suggested species.
- **Ensure that seed, straw, mulch, or other plant material brought onto the site for revegetation, landscaping, or erosion control purposes is weed-free.**
- **Where livestock grazing is used to reduce thatch in vernal pools, ensure that native vegetation and soil are protected, and prevent the introduction or spread of weed seed by animals.**
  - Conduct quantitative monitoring of plant species composition in vernal pools prior to grazing plan implementation, to serve as a baseline.

- Develop a grazing plan with the assistance of specialists in rangeland management and vernal pool biology. Describe current conditions and identify measurable project targets. Identify the planned number of animals, species, time frame, fencing plan, native plant protection plan if needed, public interface/signage needs, and site access or other infrastructure requirements.
  - Work with grazing contractor to ensure that animals will not be bringing in invasive species (i.e., on their fur, feet, or in their digestive systems). The use of supplemental feed is not anticipated, but if feed is brought to the site, ensure that it is free of noxious weed seed.
  - Monitor the treatment area seasonally to confirm that weeds have not been introduced or spread.
  - Monitor the treatment area during grazing to ensure that livestock use of areas does not result in erosion.
  - Conduct annual quantitative monitoring of the treatment area to determine whether desired changes in vegetation are occurring (e.g., increased native plant richness or abundance, decreased non-native plant abundance). If desired changes are not occurring, adjust grazing methods and/or consider other management strategies (e.g., adjustments to grade and hydrology, inoculation with seed and duff from adjacent pools) as appropriate.
- **Use only species native to the Sonoma Valley for restoration, landscaping, and erosion control.** Plants and seeds should be of local provenance if possible—from the park itself, the Sonoma Creek watershed, or adjacent areas with similar environmental conditions; see Climate Change Adaptation section for further discussion. See OM-10 for guidance on preventing the spread of plant pathogens.
  - **Train staff to recognize invasive species and help prevent their spread.** Park visitors and/or volunteer trail watchers can also serve as valuable eyes on the landscape to spot new infestations. Manual removal of invasive plant species can be a good activity for supervised volunteers. Many resources are available for learning to identify invasive species, including The California Invasive Plant Council ([www.cal-ipc.org](http://www.cal-ipc.org)) and CalFlora ([www.calflora.org/](http://www.calflora.org/)).



## OBJECTIVE RM-6: Manage existing populations of invasive plant species.

### ACTIONS

- **Manage or eliminate existing infestations already present;** see **Table 5** below for species-specific recommendations. Aim to eradicate species that are currently limited in extent, and to control those that are widespread. Focus first on eradicating new occurrences, plants at the edge of an existing infestation, or infestations within high-quality native habitat. In large patches, work from the edges inward. Use hand and mechanical methods. Minimize ground disturbance, and apply erosion control and/or native revegetation treatments for any substantial disturbance area.
- **Avoid the use of herbicides.** Use only to spot treat high-priority infestations that have not been controlled by manual efforts. Consult a licensed Pest Control Advisor for specifications regarding application of herbicides. See OM-11.
- **During invasive removal, avoid damage to existing native plants,** which, if left intact, may help suppress the invasive plant growth.
- **Remove all invasive plant material with any potential to germinate** (e.g., seeds, rhizomes, stem fragments for stoloniferous species) and dispose of in landfill.
- **Schedule vegetation removal to minimize impacts to breeding birds, soil, and water quality:**
  - August 15 - October 15 is the best time for ground-disturbing work; it avoids impacts on breeding birds; minimizes erosion risk; and allows for prompt replanting with natives in time to take advantage of cool, wet winter weather for establishment. However, it may be more difficult to remove plant roots at this time.
  - October 16 – February 14 is the easiest time to remove perennials (e.g., broom, Himalayan blackberry, fennel, etc.). However, ground-disturbing work should only proceed if no rain is predicted for 48 hours and erosion control BMPs are in place following removal.



*Himalayan blackberry at Curreri's northeastern corner.*

- February 15 – August 15. Limited vegetation removal can take place if bird surveys are completed; see Wildlife Species Protection section for further discussion.
- **Establish locally native species that are competitive with target weeds, and that provide similar or improved wildlife habitat value, in invasive removal areas.** Propagate the plants from park sources if possible, or from Sonoma County sources; see Habitat Restoration section for further discussion and **Appendix C** for suggested species.
- **Monitor results of invasive species removal efforts annually** to assess effectiveness and identify follow-up needs. Repeat treatments will usually be necessary.
- **At least once annually, document invasive species conditions and develop updated recommendations for management.** This should be conducted by a qualified biologist or staff person trained in natural resources. The effort could be supported by trained volunteers.

**Table 5. Invasive Plant Species Management Guidelines**

*For all species: Minimize soil disturbance. Dispose of all invasive plant parts with potential to resprout in a landfill. Other plant parts may be chipped and/or left in place for wildlife habitat if desired. Accompany extensive invasive removal efforts with seeding or planting of natives, monitoring for resprouts, and prompt re-treatment as needed. Herbicide-based treatments are not included here. If herbicide is to be used, consult with a licensed Pest Control Advisor.*

Species	Distribution on Properties	Management Guidelines
HIGH PRIORITY		
Olive ( <i>Olea europaea</i> )	Many saplings in oak understory on SDC 41.	ERADICATE. Remove saplings by pulling or digging out.
Acacia ( <i>Acacia dealbata</i> )	Two small trees on NE corner of Curreri.	ERADICATE. Remove by cutting to base and continue monitoring for and removing resprouts.
French broom ( <i>Genista monspessulana</i> )	Dense, spreading stand along trail to residential area on western edge of Curreri.	CONTROL. Pull by hand or with weed wrench, in spring or early summer before seeds have formed. Note that the resulting ground disturbance may facilitate a flush of new seedling germination. Return to treated sites to remove seedlings by pulling or hoeing, or suppress by tarping or deep mulching; treat consistently until seed bank is depleted. For large plants, cut with loppers or saw as close to the base as possible, and repeat with any resprouts.
Himalayan blackberry ( <i>Rubus armeniacus</i> )	Isolated patches in moist, disturbed areas including north of vernal pool on Curreri.	CONTROL. Dig out by hand. If cuttings were made before seed set, debris may be left in piles for wildlife habitat or chipped; otherwise, remove from the site.

Species	Distribution on Properties	Management Guidelines
Fennel ( <i>Foeniculum vulgare</i> )	Disturbed areas along fire road on southern SDC 41.	ERADICATE. Dig out plants manually or mechanically, including root crown, when soil is moist. Removing mature plants will entail ground disturbance and should be done in conjunction with native revegetation (see text). Repeated treatments may be needed until seedbank exhausted. Until stands are removed, cut flowering stalks to minimize seed production.
Klamath weed ( <i>Hypericum perforatum</i> )	Common, scattered in grasslands.	CONTROL. Remove by hand, including rhizomes.
Teasel ( <i>Dipsacus sativus</i> )	Dense stand in low, moist area along the eastern border of SDC 41.	ERADICATE. Cut plants to a few inches below the root crown. If removal of entire stand is not feasible, work from edges in toward center of patch to gradually decrease extent. Cutting is most effective just after flowering and before any seed develops, but if done at this time, all inflorescences should be removed from the site for disposal. Revegetate this area with native perennial moisture-adapted species.
Yellow starthistle ( <i>Centaurea solstitialis</i> )	Disturbed areas, including adjacent to water tanks and along fire road on southern SDC 41.	CONTROL. For small infestations, hand pull or hoe young plants prior to flowering. For larger infestations, mow or string trim as low to ground as possible, when 2-5% of inflorescences are in flower. Monitor regrowth and repeat mowing as needed to control flowering/seed production. Consider seeding with native grasses and native late-blooming Aster family species (e.g., <i>Hemizonia</i> spp.)
MEDIUM PRIORITY		
Italian thistle ( <i>Carduus pycnocephalus</i> )	Common throughout Expansion properties; dense in some areas, typically under oak canopy, likely where cattle congregated in past.	MONITOR. If these species are found to be spreading or threatening native habitat, develop control plan.

Species	Distribution on Properties	Management Guidelines
Medusahead ( <i>Elymus caput-medusae</i> )	Common, in patches throughout grasslands, including near vernal pool and southern SDC 41. Potentially high ecological impacts but difficult to control and widespread on the site.	MONITOR. If these species are found to be spreading or threatening native habitat, develop control plan.
Eucalyptus ( <i>Eucalyptus globulus</i> )	One small tree on NE corner of Curreri. Not currently spreading.	MONITOR. If these species are found to be spreading or threatening native habitat, develop control plan.

## Invasive Animal Management

Like invasive plants, invasive animal species can have deleterious effects on native biodiversity. Non-native animals displace native species, compete with and consume native wildlife, carry diseases, and change the food web by displacing or destroying native food sources. Without proper management and monitoring, problematic species can become quickly established and pervasive. Two non-native wildlife species was documented on the Expansion properties, American bullfrog and European starling (PCI 2016). Non-native opossum and wild turkey have also been documented along the Corridor (Nelson 2015) and on the adjacent SDC lands (PCI 2015); they are likely to occur on the Expansion properties as well.

Damselfly Pond supports a large population of American bullfrogs. On a single site visit, PCI noted at least 50 juvenile frogs along the pond margins. The presence of such a robust population of American bullfrogs is of particular concern. American bullfrog may preclude California red-legged frog from successfully breeding at the pond if present. However, local populations of California red-legged frogs are known to coexist with bullfrogs at Annadel State Park. Bullfrogs are at a competitive advantage due to their larger size and longer breeding season. They have been known to prey upon red-legged frogs and outcompete the species. The pond may also be serving as a source population for bullfrogs to allow them to colonize other nearby stream and reservoir habitats.

Another species of local concern is the wild turkey. Wild turkeys in Sonoma County are part of the range expansion of the Merriam's turkey, a subspecies native to the semi-arid mid- and southwestern U.S. This species was not present in California at the time of European settlement but has been introduced throughout the state since the 1870s for hunting. Turkeys colonize habitats with trees and open grassland. The effects of introduced turkeys on native wildlife are not well understood, but this opportunistic omnivore could pose a threat to native wildlife through predation or direct competition. Wild turkeys are likely to use the more open wooded habitats on the Park and Expansion properties.

Other non-native birds may frequent the Park and Expansion properties (e.g., Eurasian collared dove, house sparrow, brown-headed cowbird). Many of these bird species are ubiquitous across the county and would be difficult to control on a large scale, and site-specific control would be ineffective.

Given the Preserve's proximity to residential development, feral and free-ranging domesticated cats could become established on the Park and Expansion properties, threatening native bird populations. Another non-native species, wild pigs, are common elsewhere in Sonoma County but have not been reported on the Park and Expansion properties. Where they do occur, wild pigs can cause substantial disturbance of soil and vegetation.

**OBJECTIVE RM-7: Prevent the establishment of new populations and control existing populations of non-native animals.**

**ACTIONS**

- **At least once annually, document invasive animal species conditions** (e.g., new species occurrences, sizes of existing populations) and develop updated recommendations for management. This should be conducted by a qualified biologist or staff person trained in natural resources. The effort could be supported by a volunteer patrol program.
- **Develop and implement an American bullfrog management plan at Damsely Pond.** The primary objective of bullfrog management would be to limit successful breeding and prevent the pond from functioning as a source population for movement to other nearby habitats. Bullfrog management techniques could include periodic pond draining to break the reproductive cycle of the population and keep it from increasing, egg mass surveys and removal, and/or adult and juvenile frog capture and removal.
- **Educate visitors through signage about the importance of keeping the Preserve free of non-native animals.** Instruct visitors to avoid intentional introductions and accidental or intentional feeding of wildlife.
- **Participate in local management programs to control invasive animals** (e.g., wild turkey) if such programs become established.




# Habitat Restoration

There are a number of opportunities for enhancing current conditions on the Expansion properties, especially around Damselfly Pond and in trail decommissioning locations. Planting native grasses, perennials, shrubs, and some trees can help prevent erosion, improve wildlife and pollinator habitat, and slow the spread of invasive species. See **Exhibit 6** for locations of proposed restoration efforts. **Appendix C** provides recommendation for suitable plant species for restoration plantings and **Appendix D** provides an overview of habitat restoration methods.

**OBJECTIVE RM-8: Restore habitat functions and native biodiversity where these are impaired.**

## ACTIONS

- **Improve habitat quality on the Curreri parcel around Damselfly Pond and in the annual grassland to the southeast.** Plant riparian and upland vegetation around the pond to enhance wildlife value, including willows, manzanita, coyote brush, toyon, and occasional oaks, to provide corridors of cover between existing woodland and the pond. Focus planting on west, north, and east sides, and maintain some areas free of dense shrubby vegetation for wildlife access and basking sites. Plant upland perennial species and woody species along the pond outlet drainage to prevent erosion. Plant blue oaks, shrubs, perennials and grasses in the disturbed upland area immediately to the southeast.
- 
- Pond outlet channel.*
- **Plant native woody species along the Curreri parcel's northern boundary,** where trail realignment is proposed, to provide a visual buffer. Ensure that the planting blends in with nearby mature vegetation, which is mostly open blue oak woodland. Use primarily blue oaks, manzanitas, and coyote brush. Encourage neighbors to plant additional native vegetation on their property if they desire additional screening.
  - **Consider removal of berm and culvert from old ranch road that crosses through vernal pools.** This would enable restoration of natural wetland contours. Working in the wetlands will require permitting and careful analysis to determine appropriate grading. If further vernal pool restoration

is desired, perform soil analysis to determine whether elevated nutrients may be limiting vernal pool plant diversity. Consider removal of some topsoil and/or inoculation of pools with seed from more diverse pools across the entry road. Seek guidance from a qualified biologist.

- **Plant native woody species and perennials along the swale at SDC 41's southeastern edge.** Enhance habitat value and protect from erosion with plantings of rushes, sedges, black oak and live oak.

- **Consider planting of native understory species in a demonstration area near the picnic area at the Park entrance.** This area is currently dominated by annual grasses under a canopy of blue oaks. In conjunction with trail decommissioning in this area, planting native grasses and herbaceous



*Swale at southeastern edge of SDC 41 (at left).*

- species such as California fescue, soaproot, yarrow, and Douglas iris would improve habitat value and could be readily viewed and enjoyed by park visitors using the picnic area. Discontinue mowing in this area (upslope of picnic tables and ornamental tree plantings) to ensure that native herbaceous species are able to fully develop and set seed, and native oaks are able to regenerate.
- **Revegetate locations where invasive plant populations are targeted for removal; see Exhibit 6.** Include an array of native shrubs, perennials, grasses, and, if needed, trees from genetically appropriate stock. Include some species that are vigorous, can compete with remnant invasive plants, and that occupy similar ecological niches as the removed plants. Consider installing educational signage to describe the restoration and other management issues for visitor education.
- **Revegetate trail decommissioning locations.** These include the Curreri parcel ranch road, Moon View realignment, Cougar Trail realignment, Sonoma Valley Trail realignment, and the ranch road to the water tanks. For relatively wide, compacted trails, decompact and seed or plant. If topsoil is not present, incorporate compost into upper 6 inches of soil to improve water holding and plant-supporting capacity. Monitor for establishment of invasive plant species in subsequent seasons. For smaller trails, blocking pedestrian access to allow for natural regeneration may be sufficient (e.g., downed logs, native thicket- or bramble-forming plants) and less disturbing to soil.
- **Include a site-specific mixture of plant types (i.e., shrubs, vines, perennials, and herbaceous species as well as trees) in planting palettes to improve the structural diversity of habitats.** The maintenance of structurally diverse habitats is especially important for birds.

- **Remove all non-critical fencing** to facilitate wildlife movement. If boundary fencing is needed, ensure it is wildlife-friendly and does not impede movement or result in death or injury. Design fences to be low enough so that larger wildlife can jump over them, high enough so small animals can crawl under them, and construct of material that minimizes the potential for entanglement or injury. Fences should have smooth top and bottom wires and be no more than 42 inches in height with bottom wires at least 18 inches off ground. See Paige (2012) for additional guidance.

## Climate Change Adaptation and Mitigation

Changing climate driven by release of carbon dioxide into the atmosphere is likely to influence many ecological variables relevant to the Expansion properties' management, from the geographic ranges of species, plant life cycles, and species interactions, to insect outbreaks and disease outbreaks. The region's climate is already becoming warmer and more variable. Regardless of changes in precipitation and fog, for which trends are not yet clear, climate change is increasing water stress for California vegetation. This may reduce natural regeneration of many species including native oaks, and could reduce the extent of aquatic habitats like vernal pools. Warmer conditions also typically lead to more frequent disease outbreaks. Stressed or dying vegetation provides greater fuel for fires.

In the face of rapid change, an important conservation strategy is to manage for healthy ecosystem function so that the environment can retain maximum ability to adapt. All of the objectives and actions described in the Master Plan support this goal. But there are several additional steps that Regional Parks can take to address climate change specifically. For further reading and other local efforts on this emerging topic, see the National Wildlife Federation's Climate Smart Conservation (NWF 2014) and Point Blue's Climate Smart Restoration toolkit (Point Blue 2016).

**OBJECTIVE RM-9: Minimize the carbon footprint of management activities and support the natural carbon sequestration functions of habitats.**

### ACTIONS

- **Where vehicles and gas-powered machinery are needed, use them efficiently.** Minimize vehicle trips on the park, and use hand labor where possible rather than gas-powered equipment. This also preserves the naturally peaceful, quiet setting of the Expansion properties for wildlife and human visitors. In some cases, it may be possible to engage volunteers to help get labor-intensive work accomplished by hand.
- **Facilitate the continued establishment of mature native trees and understory species,** and protect soils from disturbance, as all of these provide long-term carbon sequestration. Ensure that management practices protect natural regeneration.

- **Encourage bicycling or walking to the Park. Identify pedestrian access points on maps, provide safe, accessible approaches to trails, and provide a bike rack at the primary entrance.** The development of the Sonoma Valley Regional Trail will help support this goal as well.

**OBJECTIVE RM-10: Protect resilience to climate change by supporting habitat connectivity and protecting water resources.**

**ACTIONS**

- **Protect drainages.** Conserving habitats across environmental gradients such as elevation may help allow for localized shifts within and beyond the Park. Drainages are especially valuable, as these habitats are naturally resilient to changes in moisture, provide thermal refugia for wildlife, and already serve as corridors for wildlife movement. Ensure that native vegetation and other wildlife resources in these areas are protected.
- **Avoid fragmenting intact habitat with trails or other park development.** Especially for species that have limited dispersal abilities, or that are highly sensitive to human and dog presence, having fragmented habitat will limit species adaptation.
- **Manage collaboratively.** Because climate-driven changes encompass lands beyond the Park boundaries, working with other private landowners and resource agencies (i.e., California State Parks and Department of General Services, Audubon Canyon Ranch) to address management issues collaboratively will be increasingly important.

**OBJECTIVE RM-11: In restoration efforts, plan for current and future conditions, while learning from the past.**

**ACTIONS**

- **Select plant palettes with changing conditions in mind.** This is a new and evolving topic in restoration science, so stay apprised of developments. Based on our current understanding, plant palettes should still be comprised of species known to occur locally, but broadening the scope of a planting may provide insurance against future conditions. Including multiple species from within plant lifeform types also provides redundancy that can serve as “insurance” against unknowns. Review species’ known geographic distributions as a guide to how changing conditions may affect plantings.
- **Select plant propagule sources with changing conditions in mind.** This too is relatively uncharted territory for restoration planting. Current understanding suggests that selecting propagules from local (Sonoma Valley and southern Sonoma County) sources, but aiming to capture genetic diversity and a range of environmental tolerances by collecting from a variety of individuals and a range of microhabitats relative to moisture, solar exposure, and elevation may be beneficial.

- **Monitor conditions such as tree regeneration to facilitate adjusting management strategies to meet changing circumstances.** This is one of the most important components of climate change adaptation. Conditions may be very different in 10 or 50 years, and land managers will need to stay apprised of site conditions and be ready to update their practices accordingly.

## Management of Public Uses

New trails on the Expansion properties add more hiking, biking, dog-walking, and equestrian options to the already popular network of trails. While trails help fulfill a primary purpose of a park's existence—to facilitate public experience and enjoyment of the natural world—trail use also can have impacts on natural resources. Public uses of the Park and Expansion properties warrant careful consideration, adherence to resource protection measures, and an adaptive management approach. See Chapter 6, Trail Construction and Maintenance sections, for additional information.

The construction of trails, including user-created unauthorized ones, can cause soil erosion, vegetation loss, and habitat fragmentation. Trail uses, including hiking, mountain biking, dog-walking, and horseback riding, can result in trampling of vegetation, soil erosion and compaction, litter, and both indirect and direct effects on wildlife. The majority of proposed trails are multi-use trails, meaning different user groups will share trails and sharing can potentially lead to user conflict.

Users may create unauthorized trails in order to create a shortcut from one trail to another, to seek out an alluring land feature, to create a longer trail loop, or to climb a steep grade for a more difficult workout. Unauthorized trails created by all user groups increase the visual and habitat impacts of a trail network, and because they are often steep, can have erosion impacts beyond those of well-planned trails.

Equestrians require greater vegetation clearance and reinforcement of sediment control structures that may result in additional impacts and increasing construction costs. Adequate trail widths are equally important in reducing trail user group conflicts, to provide passing room between equestrian and other trail users.

Cyclists can potentially move at accelerated speeds that can increase conflicts between user groups. Trail design incorporating sight lines and speed-slowng trail features, and clear and simple regulatory signage, can reduce user conflicts.

Dogs can affect local wildlife populations and affect other visitors' sense of peace and safety. Improper disposal of dog waste can negatively affect water quality and visitor experience. Requiring that dogs be on leash and providing dog waste stations can reduce these impacts significantly.

Regional Park policy requires that dogs must be restrained on 6 foot leash (except in the dog park) and dog owners are required to pick up pet waste. This policy is being, and will continue to be, implemented



at Sonoma Valley Regional Park including the expansion properties. Following trail best management design standards, monitoring for the establishment of unauthorized trails, providing ongoing clean-up, providing clear and simple regulatory signage and targeted interpretive signage, and enforcing park rules by Regional Park staff will help to ensure that natural resources, visitor safety, and visitor quality of experience are protected.

Use of the Park for unauthorized activities including smoking, littering, and camping is not routinely reported, but warrants monitoring. All of these activities could result in serious impacts to habitat quality and aesthetics of the Park and Expansion properties. Smoking would pose a significant fire hazard and safety threat to park users.

See Chapter 6, Trail Construction and Trail Maintenance sections, and Chapter 4, Signage section, for additional guidance.

#### **OBJECTIVE RM-12: Facilitate responsible trail use that protects natural resources.**

##### **ACTIONS**

- **Use signage to direct visitors to remain on the established trail network** and use only authorized trailheads.
- **Maintain adequate clearance for all intended users.** This will help prevent users from skirting obstacles and widening trails.
- **Monitor trail usage during the wet season for erosion, soil compaction, and vegetation damage.** If problem areas are noted, implement seasonal closures and/or consult with a trail planner and natural resource specialist to determine whether decommissioning the problematic route and developing an alternate route would better protect natural resources.
- **Close the Park from sunset to sunrise** to protect wildlife and discourage illegal after-dark activities. Hours for the proposed Sonoma Valley Trail will be considered separately, but around-the-clock access is likely to be proposed; that policy will be considered in the future during a separate planning process for the regional Trail.

#### **OBJECTIVE RM-13: Minimize the negative effects of higher-intensity uses (dog-walking, cycling, and horseback riding) on natural resources and on visitors' safety and quality of experience.**

##### **ACTIONS**

- **Require that dogs be physically controlled on a leash** no longer than 6 feet at all times.

- **Add dog waste bag and trash receptacles at the main park entrance.** Ensure that bags are kept stocked and picked up along the trail network.
- **Provide clear signage** indicating that dogs must be on leash, dog waste must be properly disposed of, and that users must keep dogs on established trails. Include educational text on interpretive signage explaining impacts of dogs.
- **Monitor park uses, especially dog-walking, cycling, and equestrian use, during routine patrols.** If resource damage is resulting from allowable uses, modify management strategies or allowable uses as necessary to protect natural resources and the safety and quality of experience for visitors. Possible management strategies may include: limiting trail user types, seasonal closures, and trail closure or realignment.

**OBJECTIVE RM-14: Prevent unauthorized uses to protect public safety and natural resources.**

**ACTIONS**

- **Post signage at all entrances identifying allowable uses.**
- **Prohibit recreational motor vehicles, hunting, harvesting, and collection of plants and native wildlife in the park.**
- **Maintain an active presence by Regional Parks' staff to monitor for and discourage unauthorized uses.** Patrol trails as frequently as feasible to establish an authoritative presence and monitor visitor uses.
- **Monitor for the development of unauthorized trails and decommission promptly.** Educate park visitors on the impacts of unauthorized trails via outreach to user groups or signage.
- **Monitor for off-trail use in or near sensitive habitats,** including the Moon View, Cougar, and Zoe Trails near native wildflower fields. If off-trail use is observed that may damage sensitive resources, evaluate adaptive management strategies that may include installation of signage or barriers such as low fencing, or close trail to public use. If needed, develop a restoration plan with guidance from a restoration specialist.

## Opportunities for Integration with Other Regional Conservation Efforts

The Park and Expansion properties are ecologically connected to woodlands, grasslands, wetlands and drainages on adjacent properties. The Sonoma Valley Wildlife Corridor is a good example of the need to look beyond property boundaries when trying to protect ecosystem functions. Changing climate and shifting species distributions, spread of invasive species, and fire management are other examples.

Collaborating with neighboring landowners, and taking part in regional conservation efforts, will strengthen Regional Parks' own stewardship efforts.

**OBJECTIVE RM-15: Collaborate with neighbors and regional conservation partners to improve stewardship efforts.**

- **Participate in regional wildlife corridor monitoring efforts.** Other organizations such as Audubon Canyon Ranch, Sonoma Land Trust, the District, and the Sonoma Ecology Center are actively studying the Sonoma Valley Wildlife Corridor. Assist with these efforts by allowing wildlife cameras on site and sharing resulting data, and consider implementing any recommendations that are developed for protecting and enhancing this corridor. Consider working with SDC to improve Butler Canyon Creek for wildlife by replacing dense Himalayan blackberry thickets with diverse native cover.
- **Participate in regional vernal pool monitoring or enhancement efforts.** The Laguna Foundation, Audubon Canyon Ranch's Bouverie Preserve, and the local chapter of the California Native Plant Society are active in studying special-status vernal pool plant species and their management. Continue to facilitate study of the Park's vernal pools, and learn from land managers' experience at the adjacent Bouverie Preserve to inform vernal pool stewardship on the Park and Expansion properties.
- **Participate in regional climate change study groups.** For instance, Pepperwood Preserve sponsors the Terrestrial Biodiversity and Climate Change Collaborative (TBC3). Participate in TBC3's workshops or other similar opportunities to stay apprised of current thinking on climate change impacts and land management strategies.
- **Collaborate with neighbors on weed management efforts.** Discuss invasive plant management priorities and methods with neighbors including SDC, to align efforts and look for opportunities to share costs.

## 6 Operations and Maintenance

Maintaining and operating the Expansion properties in a resource-sensitive way will be critical to protecting their conservation values. All Regional Parks staff who manage or work on the property need to be familiar with this Plan's goals, objectives, and specific actions. Staff input on Master Plan components, based on their own knowledge and observations of the site, will be valuable for updating or fine-tuning practices over time to meet overarching objectives.

### Trail Construction

Trail construction and use will be one of the largest impacts of the Expansion properties' development on natural resources. A network of trails is planned, including a number of newly constructed trails crossing through grasslands and woodland. Careful consideration of trail layout and construction are essential to protect natural resources and to provide enjoyable access to the public. See **Appendix E** for additional details on trail construction. See Chapter 4, Structural Trail Elements section, for additional discussion of trail components; Chapter 5, Habitat Conservation section, for information on avoidance of sensitive habitats; and Chapter 5, Habitat Restoration section, for guidance on restoration of areas with disturbed soil.

**OBJECTIVE OM-1: Select routes and layouts that protect native habitats, prevent erosion, and provide an enjoyable experience to the user.**

#### ACTIONS

- **Locate new trails on existing trails, roads, or other already-disturbed areas when possible.** Minimize new ground disturbance.
- **Locate trails to minimize the removal of native trees.**
- **Route trails to the uphill side of trees** to reduce impacts to roots, and to use the structural support they provide.
- **Avoid crossings through sensitive habitats** including wetlands, wildflower fields, and native grass stands.
- **Align trails generally along contours** to the extent feasible. Minimize steep running slopes to avoid erosion.
- **Maintain average trail slopes of 8.3% or less over the length of the trail.** Ensure that the running slope of a trail does not exceed half the cross-slope of the hillside (the "half-rule"). Use a clinometer or similar device to determine running slope of final trail layout. For trail sections that are steeper than 8.3%, level landing areas will be included. See the table below for details.

**Table 6. Maximum Running Slope Relative to Segment Length**

Running Slope of Trail Segment Steeper Than	Running Slope of Trail Segment Not Steeper Than	Maximum Length of Segment
1:20 (5%)	1:12 (8.33%)	200 feet
1:12 (8.33%)	1:10 (10%)	30 feet
1:10 (10%)	1:8 (12%)	10 feet

- **Incorporate grade breaks into trail routes** as feasible in consideration of the comfort of trail users.
- **Outslope trails to allow water to sheet across it naturally.** Limit trail cross-slope (perpendicular to the direction of travel) to 6% maximum, except at armored crossings and rolling dips where cross-slope will not exceed 10%.
- **Avoid sudden transitions between open, straight sections and tighter, curvy sections of trail.** Smooth transitions on multi-use trails help cyclists to maintain control at higher speeds and reduces a common cause of conflict with other trail user types.

**OBJECTIVE OM-2: Ensure that trails are accessible for all intended users and provide for resting and seating along trail routes.**

#### ACTIONS

- **Construct new trails to be 18 inches to 3 feet in width, typically, and no more than 5 feet.** Keep trails as narrow as possible to limit habitat and visual impacts while accommodating all expected user types. Exceptions are the Cougar Trail, leading from the main park entrance to the pond, and the future Sonoma Valley Regional Trail; both of these will be 8-10 feet wide to allow for maintenance vehicle access. The Cougar Trail is within native woodland, minimizing its visual impact. The Zoe Trail, a 3' trail, will be mostly screened from view by travelers on Highway 12, a Scenic Corridor, by existing mature trees, and also travels either within or near the dripline of woodland to reduce visual impact.
- **Provide vertical clearance of 80 inches** to maximize accessibility for all users.
- **Provide resting spaces along steeper sections of trail.** On trail segments intended to be accessible to users of all abilities, these should meet ADA standards, being at least 60 inches in length and less than 5% running slope.
- **Provide seating along trails at key locations:** at the top of steep inclines, near educational exhibits, and at significant viewpoints. Benches will be setback no more than 10 feet from the trail to limit visual and habitat impacts. Avoid placement near sensitive habitats.
- **Provide informal picnic tables** within easy walking distance of the main trailhead, in shaded areas and/or near education exhibits for pack-in/pack-out picnicking. Avoid placement near sensitive habitats.



**OBJECTIVE OM-3: Use trail construction methods that minimize the need for ongoing maintenance and minimize impacts to the natural landscape.**

#### ACTIONS

- **Use full bench construction** where feasible. This means the full tread width is supported by undisturbed soil without the need for fill on the downhill side. This technique results in more stable trails that are less susceptible to erosion.
- **Use locally-sourced, recycled, and/or renewable materials** for trail construction where feasible. Locally-sourced materials also tend to blend into the landscape well, reducing visual impacts.
- **Construct trail bed with pervious material.** Appropriate materials are native soil, stabilized soil, and gravel.
- **Use rolling dips to direct water off the trail** for minor seasonal drainage crossings and at appropriate intervals to effectively dewater trail based on trail slope.
- **Use armored rolling dips at moderate seasonal drainage crossings** to minimize erosion and sediment impacts and provide all-weather access for trail users.

## Trail Maintenance

Approximately 3 miles of trails are present or proposed on the Expansion properties. These link to the existing Park as well as to SDC and, in the future, will likely serve as a portion of the Sonoma Valley Regional Trail. Keeping established trails readily passable, well identified, and stable will help the public enjoy the park, stay on formal trails, and prevent erosion from informal trail use. Steeper trails or those that pass through wetter areas may require more regular maintenance to manage potential erosion and flow concentration that can degrade trails and impact downstream aquatic habitats. Informal trails should be decommissioned to improve habitat and visual quality.

**OBJECTIVE OM-4: Maintain trails so that they are accessible for all intended users, using practices that protect wildlife and native plants.**

#### ACTIONS

- **Walk trails regularly to identify any obstacles, remove any litter, or note other maintenance needs.** Maintaining a regular staff presence will also help ensure compliance with park policies. Trained volunteers could assist with this effort.
- **Trim back encroaching vegetation** that obscures trails or signage or makes passage difficult or unsafe. This will also help reduce the risk of visitor exposure to ticks and poison oak. Maintain accessibility to benches and other park amenities by mowing or trimming vegetation leading up to

benches as well as underneath them as appropriate. However, do not mow or remove vegetation beyond these park amenities except where needed for fire hazard management.

- **Promptly clear downed trees or other trail obstructions.**
- **Repair or replace damaged directional signage promptly.**
- **Complete twice-annual surveys by a qualified Operations/Maintenance manager in winter and spring of the entire trail network** to evaluate trail performance and monitor for active erosion areas, chronically wet areas, and debris build-up in drainage structures. If chronically wet trails are noted and accompanied by soil compaction and/or erosion and prompt repair is not practical, implement seasonal closures. Install closure signage at each entry point of the closed section of trail.
- **Restore areas of active erosion along roads and trails.** As needed, install improved drainage features, repair trail bed, and/or consider decommissioning and re-routing. Revegetate with native perennial and/or woody species.
- **Do not place fill at the outlet of Damselfly Pond above the drainage swale.** This area supports seasonal breeding habitat for local amphibian populations. If the trail crossing is seasonally wet and/or exhibits areas of erosion, consider the installation of a boardwalk or puncheon to span the wet area.
- **Schedule grading and other trail bed maintenance during the dry season,** generally April 1 through October 31, when associated erosion is likely reduced. Exceptions may be made in cases such as catastrophic failure due to a large storm or other event that causes water quality or public safety concerns.

## Road and Trail Decommissioning

A number of trail segments will be decommissioned, either to replace them with alignments that are less steep, to reduce visual impacts, or to eliminate routes no longer needed. Successfully restoring these routes will be essential to prevent park visitors from continuing to use them. As park use increases, staff should also monitor for the development of informal trails, and decommission these promptly. See Chapter 5, Habitat Restoration, for further information on trail decommissioning.

**OBJECTIVE OM-5: Fully decommission unneeded or unauthorized trails and roads so that the abandoned routes blend into the landscape visually and ecologically.**

### ACTIONS

- **Identify and repair any erosion problems caused by the road or trail.** Where erosion has occurred, eliminate resulting ruts and gullies by filling in with local soils and gravel and returning the surface to its original shape and contour. Further stabilization may be accomplished by the placement of rock in areas of sheet erosion or use of erosion cloth, net or other biodegradable mats.

- **Scarify the road/trail tread surface** if needed to break up compacted soils and facilitate restoration.
- **Develop and implement a restoration plan for the decommissioned area in consultation with a vegetation ecologist.**
- **Block the restored areas from use** by the placement of logs, limbs, brush, rocks and other native material from the area. If visitors continue to use decommissioned trails, post signage to inform the public of the closure and the sensitivity of the habitat. Monitor for trespass of the closure area, success of the restoration efforts, and establishment of invasive plant species in disturbed ground.
- **Monitor for the establishment of new unauthorized trails during routine patrols.**

## Signage

New signage will be installed on the Expansion properties to provide clear guidance for trail users, and to educate visitors about park features. Clear signage can enhance safety and protect natural resources by directing people to stay on designated trails. Using Regional Parks sign standards will help create a cohesive and consistent image across the Park landscape. Signs should not overwhelm the natural beauty of the land or otherwise detract from trail users' experience, and per the Curreri Easement may not be artificially illuminated. Signage will require routine inspection and maintenance to ensure that they are in good condition.

**OBJECTIVE OM-6: Use directional and regulatory signage to guide park visitors in a clear and consistent way that does not detract from park views.**

### ACTIONS

- **Design and install signs in a way that is consistent with existing Sonoma Valley Regional Park signs.**
- **Follow Sonoma County Regional Parks' Sign Program, Standards and Specifications for internal and directional sign design and installation.**
- **For exterior signs, conform to ADA Guidelines.**
- **Install Park Boundary signs intermittently along property boundaries.**
- **Install one trail map sign on or near the Curreri park expansion boundary.** This will match the design developed by the District and Regional Parks for trailhead signs and will include trail segment names, distances and user types. The sign will also indicate parking areas, hours of use, and related rules and regulations.
- **Install directional signage at trail intersections.**
- **Install signage indicating allowed and prohibited use types at both ends of hiking-only trails (i.e., Moon View Trail).**

- **Install signage at Damselfly Pond to inform visitors that the pond is off limits to dogs.**

**OBJECTIVE OM-7: Provide interpretive signage to educate park visitors about natural features, resource protection, and stewardship opportunities, ensuring that signage does not detract from park views.**

#### ACTIONS

- **Locate signage to accentuate park features and views, and not obstruct them.** Place signs below view sight-lines. Install signs at 30-45° angles, allowing users to easily read them when standing in front of them but also reducing the sign's visibility from farther away.
- **Install interpretive signage with 5-foot horizontal clearance from edge of trail,** allowing users to view them while avoiding trail traffic.
- **Mount signage so that the signs can be easily removed, replaced, and reinstalled by staff.**

## Litter Removal

With the increased human presence and use of the Park and Expansion properties, the control and management of trash will need attention. Trash can be a major source of soil and water contamination and can be detrimental to wildlife. Litter can also degrade a visitor's experience to the Preserve. Trash collection and removal is already part of the current Park operations, but keeping the Expansion properties free of litter will require additional staff effort and user education and cooperation. Volunteer efforts may also be helpful.

**OBJECTIVE OM-8: Keep the park free of litter.**

#### ACTIONS

- **Empty trash and recycling receptacles at main entrance at least once weekly** or as needed to accommodate use patterns. All trash receptacles shall have lids that close and lock to prevent wildlife from foraging.
- **Install signage directing visitors to "Leave no trace" or "Pack it in, Pack it out" if littering around benches and picnic tables becomes common.**
- **Patrol trails at least twice monthly to remove trash.** Consider seeking volunteer help if staff time is limited.

## Cultural Resources Protection

Based on the cultural resources study completed, implementation of the project is not expected to disturb cultural resources. However, the proposed Zoe Trail does come near the historic cistern and rock piles identified by the cultural resource study; see **Exhibit 6** for locations. It is also possible that previously unidentified cultural resources could be encountered during project implementation. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points, mortars, pestles, and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or abode foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

**OBJECTIVE OM-9: Protect archaeological, historic, and tribal cultural resources during maintenance and improvement efforts.**

### ACTIONS

- **Monitor identified historic resources for impacts from park visitors.** Periodically check cistern and rock piles for any alterations or damage. If observed, install signage directing visitors to respect historic resources.
- **If previously unidentified cultural resources are encountered during project implementation, avoid altering the materials and their stratigraphic context.** Contact a qualified professional archaeologist to evaluate the situation. Project personnel should not collect cultural resources.
- **If human remains are encountered, stop all work in the immediate vicinity** and notify the County Coroner and a qualified archaeologist immediately so that an evaluation can be performed. If the coroner determines the remains are Native American and prehistoric, the Native American Heritage Commission must be contacted by the Coroner so that a “Most Likely Descendant” can be designated and further recommendations regarding treatment of the remains provided.

## Contaminant and Pathogen Control

At this time, no serious plant pathogens such as *Phytophthora ramorum*, which causes Sudden Oak Death (SOD), have been documented on the Park or Expansion properties. The relatively warm, dry setting of the park and limited numbers of the most susceptible species (coast live oak, bay) may help limit infestations. However, there are documented occurrences of *P. ramorum* in forested areas to the east and west of the Park. Novel plant pathogens can also be introduced through infected nursery material. Using standard Best Management Practices (BMPs) to prevent the spread of pathogens will help protect the Park’s woodlands. BMPs should also be followed when potential contaminants like fuels and pesticides are used on the Park, to protect water quality, plants, wildlife, and human health and safety.



## OBJECTIVE OM-10: Minimize the spread of pathogens into and within the Park.

### ACTIONS

- **Before purchasing any nursery stock for restoration plantings or landscaping, confirm that the nursery follows current Best Management Practices for preventing the spread of SOD and other plant pathogens** such as *Phytophthora tentaculata*. Consult the California Oak Mortality Task Force, [www.suddenoakdeath.org](http://www.suddenoakdeath.org), for current standards. Inspect all plant materials for symptoms of disease before bringing onto the Park.
- **Do not bring wood chips from off site into the Park**, to help reduce the risk of introducing plant pathogens.
- **Train park staff on host species, symptoms, and disease transmission pathways for *Phytophthora ramorum*** and other *Phytophthora* species, and on Best Management Practices to prevent the spread of SOD, including (Swiecki and Berhardt, in review):
  - Clean equipment before and after working in woodland habitats, including chainsaws, boots, and truck tires (spray with a 10% bleach solution or other disinfectant, then rinse).
  - Work in woodlands in the dry season instead of the wet season when spores are being produced and infections are starting. Avoid or minimize pruning oaks and bays in wet weather.
  - Leave potentially infected downed trees on site instead of transporting the material to an uninfected area. Where infection is already known to be present, leaving *P. ramorum*-infected or killed trees on site has not been shown to increase the risk of infection to adjacent trees. Removal from the Park is only recommended if it is the first infected tree to be detected in the area, if fire risk is high, or for aesthetic, safety, or other reasons. If infected material is removed from site, dispose of at an approved and permitted dump facility within the quarantine zone.
  - If necessary to reduce safety or fire hazards, infected trees can be cut, branches chipped, and wood split. Do not leave firewood and chips in an area where they might be transported to an uninfected location.
- **Educate park users about measures to prevent the spread of SOD.** Include trailhead signage requesting visitors to stay on established trails and respect trail closures. For additional public educational materials, see the California Oak Mortality Task Force (COMTF 2014).
- **Participate in the annual SOD Blitz** sponsored by the California Oak Mortality Task Force and UC Extension to identify any infected trees and help monitor the spread of SOD.

## OBJECTIVE OM-11: Minimize the use of chemicals.

### ACTIONS

- **Avoid the use of pesticides and herbicides;** see Invasive Plant Management for alternatives and further discussion of herbicides. No specific need or target species for potential pesticide use on the Park has been identified to date.
- **If pesticides or herbicides are used, use with caution to prevent contaminated runoff.** This is particularly important for all road maintenance activities and invasive plant species treatments by Park staff or other groups. Herbicide application should be done under the guidance of a licensed Pest Control Advisor and Natural Resources Manager and must comply with all applicable laws and regulations regarding storage, transport, application, and reporting. If pesticides or herbicides are used near the pond or any wetland, but are not being used to manage a species in the pond or wetland, establish and mark a no-spray buffer of no less than 50 feet, or more if specified by label, around any wetland habitat. If pesticides or herbicides are used specifically to treat pond or wetland targets, ensure that chemicals are formulated for use near aquatic habitat.
- **Employ Best Management Practices for staging, maintenance, fueling, and spill containment of all potentially hazardous materials** used in the Park.

## Fire Risk Abatement

In California's Mediterranean climate, with annual cycles of lush vegetative growth during mild, wet winters and springs, followed by extended warm, dry summers and falls, fire has periodically reshaped the landscape and vegetation communities for millennia. Many of the region's plant communities are tolerant or even dependent on fire to germinate and thrive. Longstanding fire regimes include both lightning-ignited fires and those started by indigenous people managing their landscapes. It is thought that fire has played an important role in maintaining grassland patches in some areas where oak woodland or other woody communities would otherwise have dominated. Indigenous people used fire to increase the abundance of plant species they used for food, and of those that supported game animals.

Now that Sonoma County is well populated and developed, wildfire prevention and suppression are the norm. There is some concern about the effects of fire suppression on the rich mosaic of woodland, chaparral, and grassland habitats that characterize much of the county. As a result, prescribed burns are one tool land managers use to control unwanted vegetation and invasive species and allow for natural regeneration in fire-adapted communities. However, the use of prescribed burning can be challenging in settings near developed areas given the need to protect buildings, public safety, and air quality.

The oak woodlands and grasslands that characterize the Expansion properties and Park are moderately susceptible to fire. Lightning strikes are rare in this area, and oaks and grasses are low in the volatile oils

that make many coniferous and chaparral settings so flammable. Mature oaks typically survive low-intensity fires, and young oaks frequently resprout after fire. Native perennial grasses readily survive, and can be encouraged by, low-intensity fires. Shrubs, vines, and dense stands of saplings, which would have potential to serve as “ladder fuels,” are limited on these lands.

However, ignition of dry vegetation from human sources is still a possibility, and the potential for fire to spread to nearby structures or threaten human safety merits consideration. The site is within an area designated as a “Moderate Fire Hazard Severity Zone” by Cal Fire (2007). It falls within a State Responsibility Area and is under the purview of Cal Fire, which maintains a station immediately adjacent to the Park. The greatest concern for fire on the site is protection of public safety and homes adjacent to the Curreri parcel. Managing park user behavior, staff maintenance practices, and accessibility for fire response will help address these concerns. All fire hazard reduction efforts should also protect wildlife, native plant communities, and soil.

Given the complexity of managing prescribed burns near developed areas, the use of prescribed burning on the Expansion properties is not recommended here but could be considered in the future to manage fuel and invasive species like medusahead. This would require development of a burn plan, subject to prior District approval, and coordination with neighbors, regulatory agencies, and fire agencies.

See Chapter 5, Invasive Plant Management section, and Contaminant and Pathogen Control section, above, for related guidance.

**OBJECTIVE OM-12: Reduce risk of fire ignition from park uses and maintenance, and maintain capacity for prompt fire response if fire occurs.**

**ACTIONS**

- **Maintain Regional Parks’ existing no-smoking policy.** Indicate this with signage at the main entrance.
- **Install adequate barriers at trailheads and access points to keep non-authorized motorized vehicles off the property.**
- **Monitor the property for illegal campfires, firearm use, non-authorized motor vehicle use, and smoking.** Monitoring will be conducted as part of ongoing patrols and will entail walking the entire property including remote locations where illegal activities may be focused. If widespread or recurring problems are found, County Parks will develop a strategy to reduce these illicit behaviors.
- **Mow or graze perimeter to create a fuel break in grassy areas** adjacent to public roads or structures on adjacent properties. Fuel break should be approximately 15 feet wide. Do not disk. Mowing is less disruptive to soils and plant life than disking, and more compatible with trail use. Carefully managed livestock grazing may be substituted for mowing; protections should be in place to prevent the spread of weeds, prevent damage to non-target plants, prevent erosion, and avoid

conflicts between livestock, trail users, and dogs. Mow in mid- to late-spring; more than one mowing may be needed to keep vegetation low. Complete mowing before grasses dry out to minimize fire hazards during mowing. Follow guidelines in Chapter 5, Invasive Plant Management section, to ensure that mowing does not introduce or spread weeds.

- **Do not park or drive over flammable material** such as grasses and dry brush.
- **Require vehicles used off-road in dry weather to be equipped with standard fire-fighting equipment** (e.g., shovel, McLeod, fire extinguisher) and spark arrestors or other means of controlling backfiring.
- **No driving or use of power tools on red flag fire danger days.**
- **Maintain Park entrance and the dirt road leading southwest from the Cal Fire station onto the existing Park (or alternative secondary access point) as the primary access points for fire response.**

**OBJECTIVE OM-13: Ensure natural resources are protected when vegetation management is performed for fire risk abatement.**

#### ACTIONS

- **Perform biological trainings and surveys prior to vegetation management activities** as outlined in Chapter 5, Wildlife Species Protection section.
- **Limit ground disturbance during all vegetation management activities.** Where bare ground is exposed as a result of work, promptly treat to prevent erosion.
- **Prevent the spread of Sudden Oak Death and invasive plant species during all vegetation management activities.**
- **Retain decaying and dying trees, limbs, snags, and debris piles for wildlife habitat** unless they serve as a trail obstacle or pose a threat to public safety or increased fire risk. If a downed tree crosses over a trail, cut and move to the side. These features are critical habitat elements for wildlife.

## 7 Community Engagement and Stewardship

Long-term conservation, educational, and recreational goals of the Park and Expansion properties will be supported by reaching out to and engaging community members. Several existing volunteer programs at the Park can incorporate and/or expand to include the Expansion properties, including volunteer monitoring of the vernal pools, exotic plant species removal, restoration planting, guided hikes, star gazing night hikes, and other interpretive programs highlighting both natural and cultural

resources. Regional Parks also conducts regular activities that can incorporate the Expansion properties, including the Trails Challenge, wildflower walks, family hikes, and bird watching walks.

**OBJECTIVE OM-14: Engage the community in stewardship of the Expansion properties and in learning about the Park and its natural resources.**

**ACTIONS**

- **Engage volunteers in stewardship as Regional Parks capacity allows.** Park clean-ups, trail construction, trail maintenance and patrols can all be good volunteer activities, but they do require staff time and oversight.
- **Ensure that volunteers are well trained and supervised.** If Regional Parks staff availability for recruiting, training, and supervising volunteers is limited, consider engaging local groups that can provide those services, such as the Sonoma County Trails Council.
- **Provide guided walks of the Park and Expansion properties,** led either by Regional Parks staff or trained docents, that highlight the properties' unique natural resources (e.g., wildlife corridor, wildflower populations, vernal pools).
- **Participate in regional citizen science efforts** such as the Laguna Foundation's Adopt-a-Vernal Pool program, Audubon's Christmas Bird Count, and Bio Blitzes.
- **Accommodate class field trips and educational partnerships,** while ensuring that visitor numbers and park uses protect natural resources.



## 8 Calendar of Ongoing Management Activities

The following table provides recommended timing for carrying out the ongoing maintenance and monitoring needs described above. See text for detail on the tasks themselves, including which items may be performed by volunteers or in collaboration with other organizations.

Issue	Task	Frequency/Season	Timing for Work (Month)											
			J	F	M	A	M	J	J	A	S	O	N	D
Special-status Plants	Survey for special-status vernal pool plants	Annually in spring												
Wildlife Protection	Survey for wildlife prior to vegetation removal and construction projects	Ongoing												
	Survey for breeding birds prior to vegetation removal and construction projects	February through August												
	Monitor for California red-legged frog at pond.	Ongoing												
Erosion Control, Trail and Road Maintenance	Inspect culverts and road/trail surfaces for safety, clearance, emergency access, and erosion; identify unauthorized trails to decommission; repair/decommisison as needed	Twice annually, spring and winter, and following significant storm events												
	Review signage for maintenance or updating needs	Twice annually, spring and winter												

Issue	Task	Frequency/Season	Timing for Work (Month)											
			J	F	M	A	M	J	J	A	S	O	N	D
Invasive Species Management and Pathogen Control	Remove invasive plant species; see Table 5	Annually/ongoing; late summer preferred for soil and wildlife protection; see text for working in other seasons												
	Review invasive species occurrences and update management recommendations as needed	Annually in spring												
	Participate in annual SOD Blitz to check for infected trees	Annually in spring												
Habitat Restoration	Plant or seed natives	Fall (typical)												
	Maintain plantings – weed and irrigate	Spring through fall (typical)												
	Monitor planting performance	Annually in summer												
Public Uses	Patrol trails, pick up litter, monitor usage, check for impacts to nearby historic resources and sensitive habitats	Twice monthly, as feasible												
	Respond to complaints or hazards	As needed												
	Empty trash receptacles, restock dog waste bags	Weekly, as needed												
Staff Training	Train staff in park management activities and protocols	Annually in spring												
	Train new hires	As needed												
Fire Risk Abatement	Mow grassland sections of park periphery	Annually in spring; twice if needed to maintain low vegetation												

Issue	Task	Frequency/Season	Timing for Work (Month)											
			J	F	M	A	M	J	J	A	S	O	N	D
Community Engagement	Provide interpretive programs like guided walks and support educational field trips.	Ongoing												
	Engage volunteers' help in stewardship and citizen science efforts.	Ongoing												

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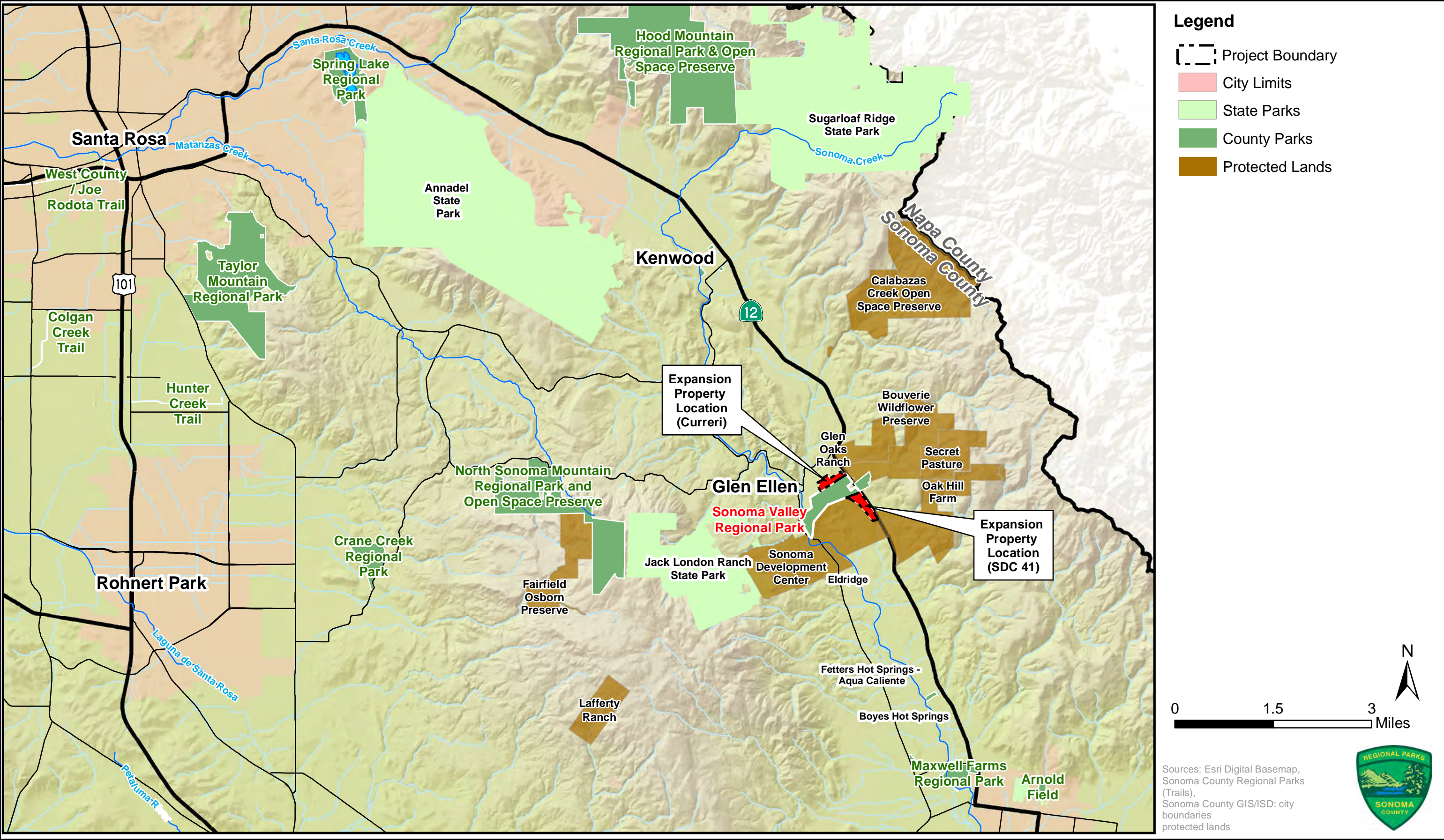
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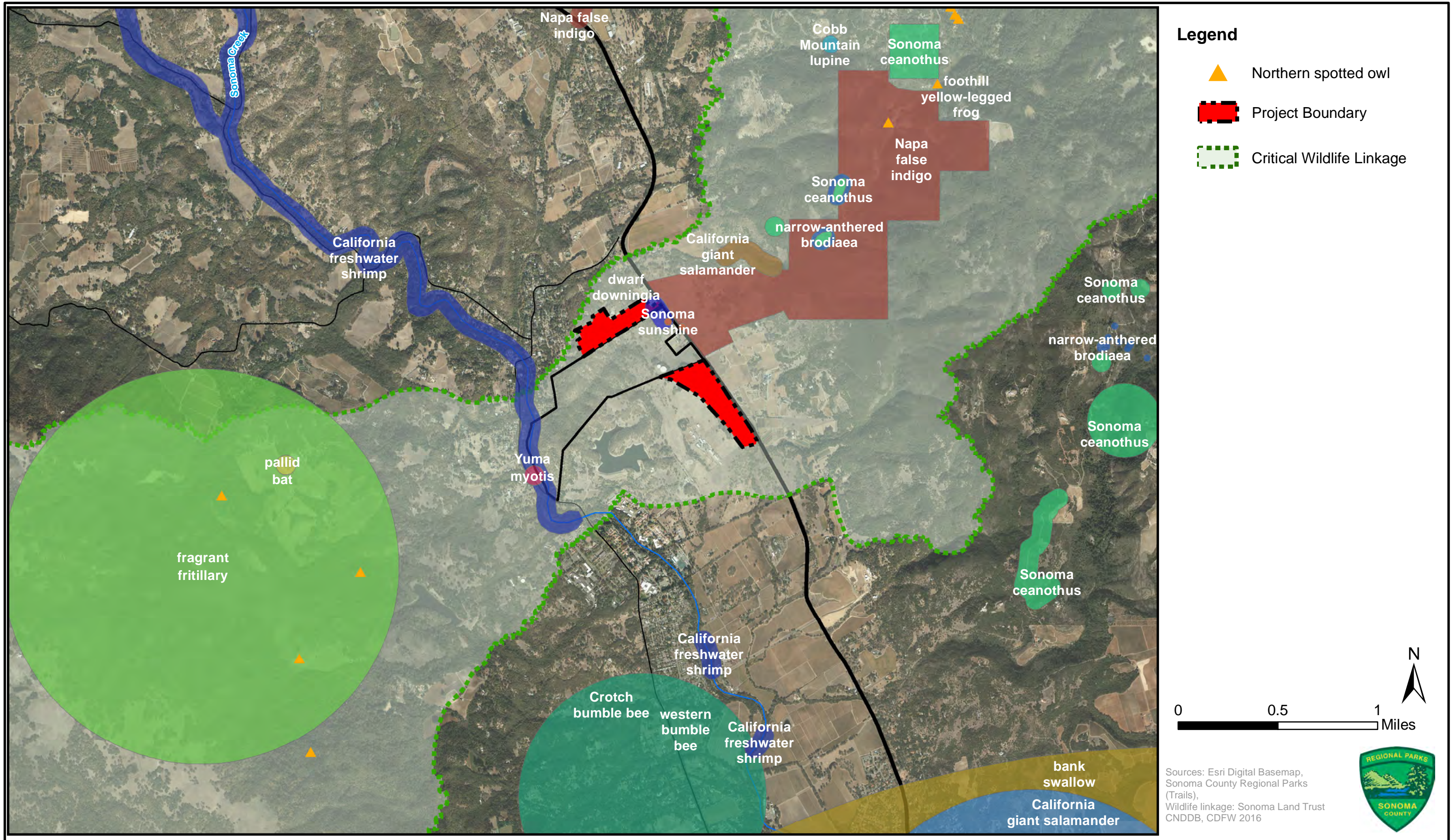




Sonoma Valley Regional Park Expansion Master Plan  
Sonoma County, CA

Exhibit 1  
Location and Regional Context

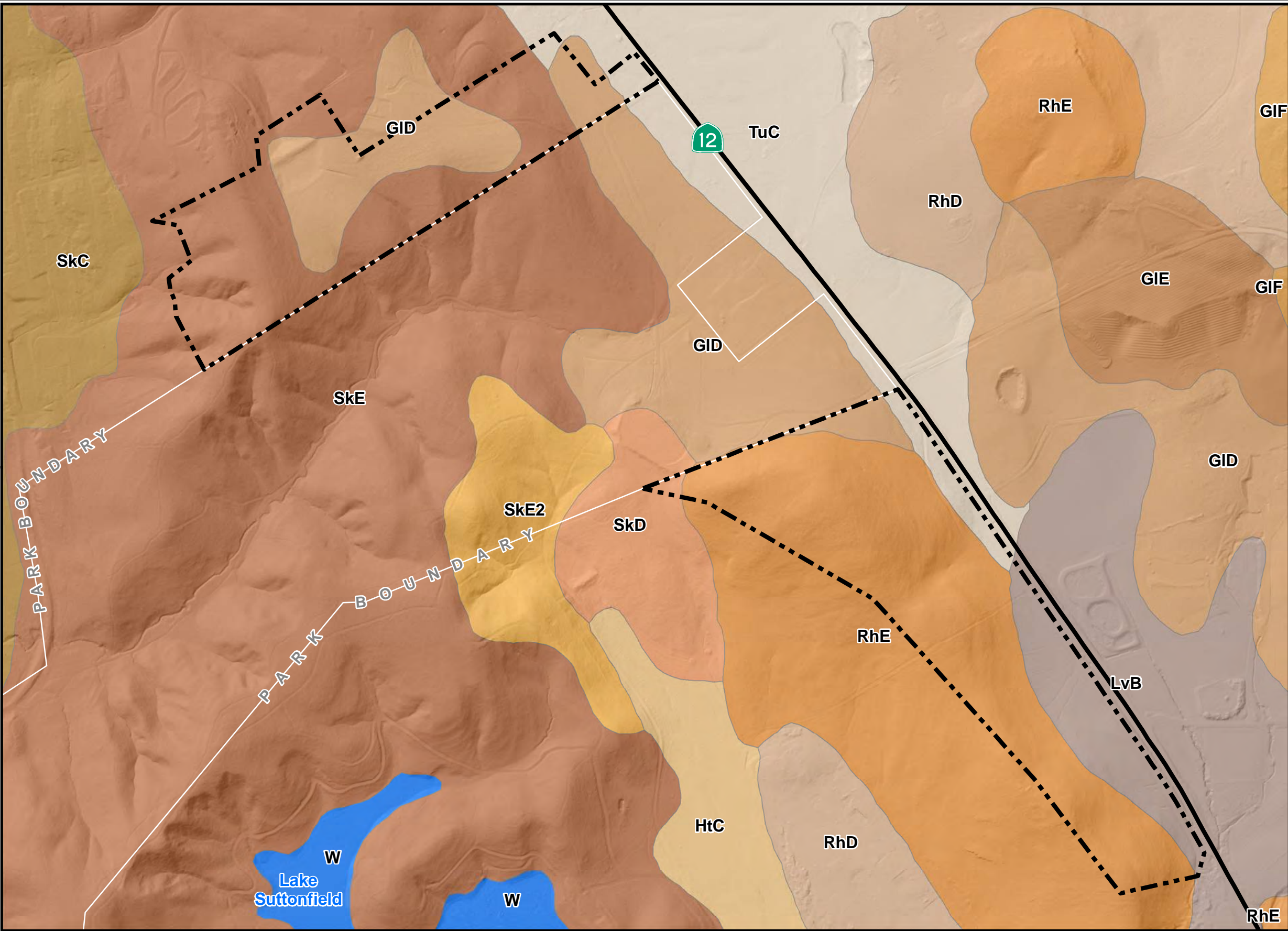




Sonoma Valley Regional Park Expansion Master Plan  
Sonoma County, CA

Exhibit 2  
Sensitive Species Occurrences in Vicinity and Wildlife Corridor





Legend



Project Boundary

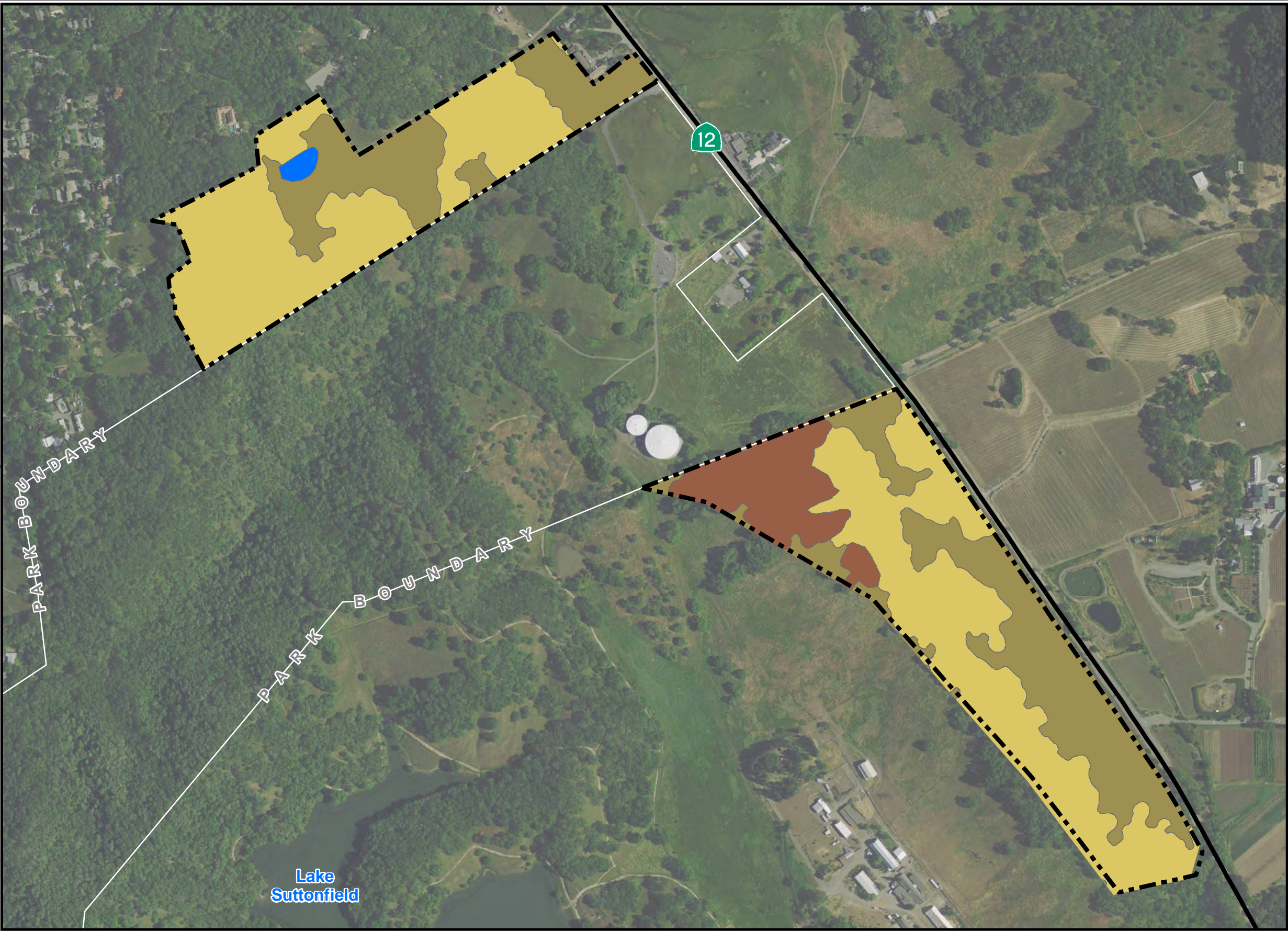
Soil Types

UNIT	DESCRIPTION	DRAINAGE
GID	GOULDING COBBLY CLAY LOAM, 5 TO 15 PERCENT SLOPES	Well drained
GIE	GOULDING COBBLY CLAY LOAM, 15 TO 30 PERCENT SLOPES	Well drained
GIF	GOULDING COBBLY CLAY LOAM, 30 TO 50 PERCENT SLOPES	Well drained
HtC	HUICHICA LOAM, 2 TO 9 PERCENT SLOPES	Moderately well drained
LvB	LOS ROBLES GRAVELLY CLAY LOAM, MODERATELY DEEP, 0 TO 5 PERCENT SLO	Moderately well drained
RhD	RED HILL CLAY LOAM, 2 TO 15 PERCENT SLOPES	Moderately well drained
RhE	RED HILL CLAY LOAM, 15 TO 30 PERCENT SLOPES	Moderately well drained
RhE	RED HILL CLAY LOAM, 15 TO 30 PERCENT SLOPES	Moderately well drained
SkC	SPRECKELS LOAM, 2 TO 9 PERCENT SLOPES	Well drained
SkD	SPRECKELS LOAM, 9 TO 15 PERCENT SLOPES	Well drained
SkE	SPRECKELS LOAM, 15 TO 30 PERCENT SLOPES	Well drained
SkE2	SPRECKELS LOAM, 15 TO 30 PERCENT SLOPES, ERODED	Well drained
TuC	TUSCAN COBBLY CLAY LOAM, 0 TO 9 PERCENT SLOPES	Well drained
W	WATER	

Sources: Esri Digital Basemap,  
Sonoma County Regional Parks  
(Trails),  
NRCS: Soils







**Legend**


 Project Boundary

**Plant Communities**

 Grassland

 Pond - Azolla Alliance

 *Quercus douglasii* Alliance

 *Quercus* spp. Alliance





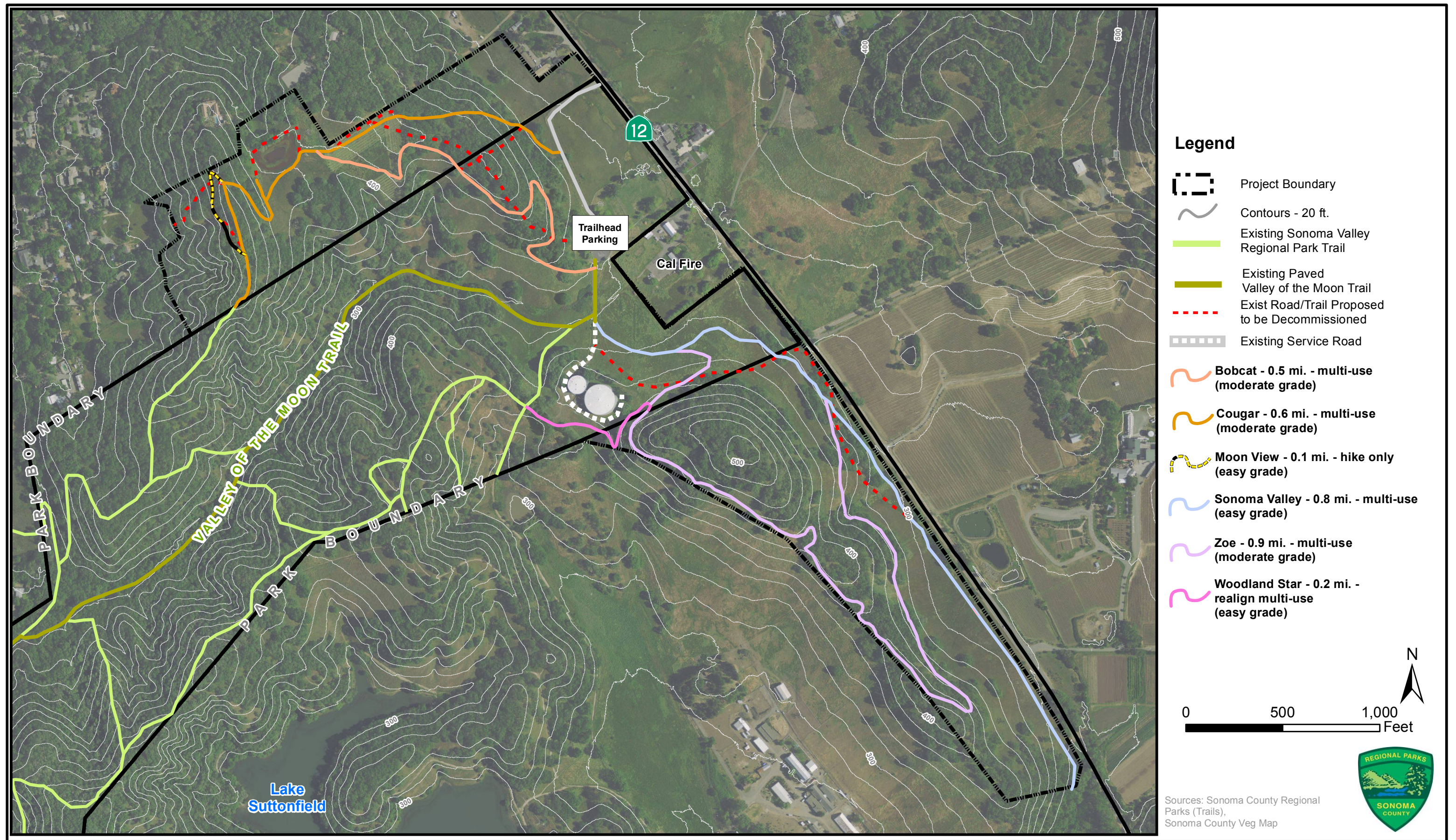
Sources: Sonoma County Regional Parks (Trails),  
Sonoma County Veg Map



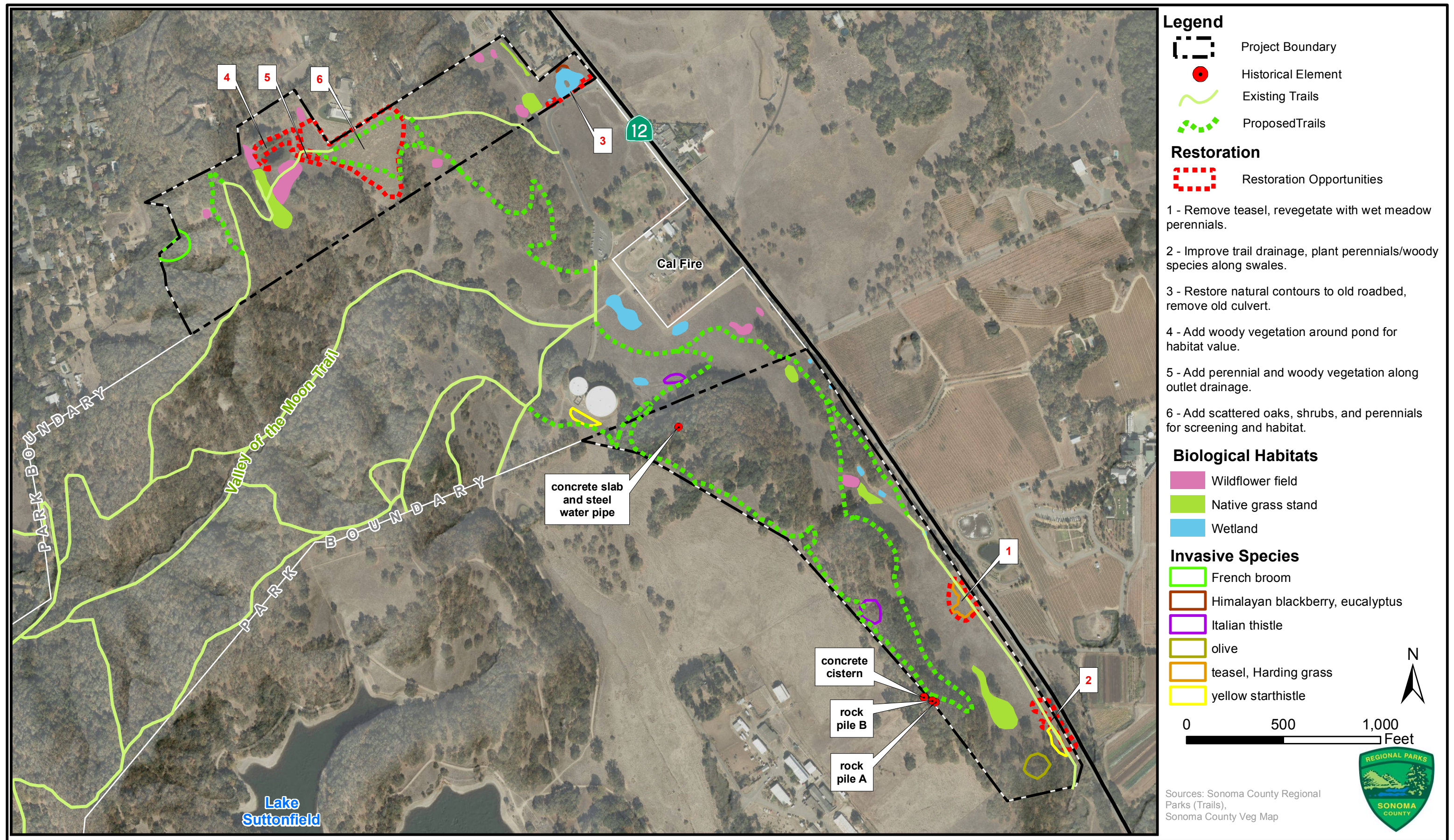
Sonoma Valley Regional Park Expansion Master Plan  
Sonoma County, CA

Exhibit 4  
Plant Communities









Sonoma Valley Regional Park Expansion Master Plan  
Sonoma County, CA

Exhibit 6  
Restoration and Enhancement Opportunities /  
Areas of Management Concern



## **Appendices**

- A. Conservation Easements
- B. Plant Species Observed
- C. Plant Species for Revegetation Efforts
- D. Habitat Restoration Methods
- E. Trail Construction Details

## **Appendix A – Conservation Easements**



Official Records Of Sonoma County  
William F. Rousseau  
10/30/2014 02:54 PM  
NORTH COAST TITLE COMPANY

CEDEED 25 Pgs

Fee: \$0.00

2



RECORDING REQUESTED BY AND RETURN TO:

Clerk of the Board of Directors  
Sonoma County Agricultural  
Preservation and Open Space District  
575 Administration Drive, Room 102A  
Santa Rosa, CA 95403

Free recording per Government Code 6103

A. P. No. 054-270-034 (ptn)

DEED AND AGREEMENT  
BY AND BETWEEN  
THE COUNTY OF SONOMA  
AND  
THE SONOMA COUNTY AGRICULTURAL PRESERVATION  
AND OPEN SPACE DISTRICT  
CONVEYING A CONSERVATION EASEMENT  
AND  
ASSIGNING DEVELOPMENT RIGHTS

THE COUNTY OF SONOMA ("GRANTOR") and the Sonoma County Agricultural Preservation and Open Space District, a public agency formed pursuant to the provisions of Public Resources Code sections 5500 et seq. ("DISTRICT"), agree as follows:

RECITALS

A. GRANTOR is the owner in fee simple of that certain real property located in Sonoma County and more particularly described in Exhibit A, attached hereto and incorporated herein by this reference ("the Property").

B. In 1990 the voters of Sonoma County approved the creation of DISTRICT and the imposition of a transactions and use tax by the Sonoma County Open Space Authority ("the Authority"). The purpose for the creation of DISTRICT and the imposition of the tax by the Authority was to provide for the preservation of agriculture and open space through the acquisition of interests in appropriate properties from willing sellers. The DISTRICT was created and the tax imposed in order to further the state policy for the preservation of agricultural and open space lands, to meet the mandatory requirements imposed on the County and each of its cities by Government Code sections 65560 et seq., and to advance the implementation of the open space elements of their respective general plans. In order to accomplish those purposes, DISTRICT and the Authority entered into a contract whereby, in consideration of the Authority's financing of DISTRICT's acquisitions, DISTRICT agreed to and did adopt an acquisition program that was in conformance with the Authority's voter approved Expenditure Plan. In 2006, the voters of Sonoma County approved an extension of the transaction and use tax, a transfer of the taxing authority to the County of Sonoma, and an update of the Expenditure Plan. The DISTRICT's acquisition program remains in full compliance with that updated voter-approved Expenditure Plan.

C. On 10/21/2014, DISTRICT's Board of Directors, pursuant to Government Code section 65402 and Sonoma County Ordinance No. 5180, determined, by its Resolution No. 14-0439, that the acquisition of a conservation easement in the Property was consistent with the Sonoma County General Plan (specifically the Plan's Land Use and Open Space and Resource Conservation Elements) because it preserves important biotic resource areas and scenic features with consistent uses and intensities; preserves roadside landscapes that have a high visual quality as they contribute to the living environment of local residents and to the county's tourism economy; protects and enhances the county's natural habitats and diverse plant and animal communities; and contributes to the establishment of a countywide park and trail system that meets future recreational needs of the county's residents. By that same resolution, the DISTRICT's Board of Directors determined that the acquisition of the conservation easement is consistent with the voter-approved Expenditure Plan.

D. DISTRICT has the authority to acquire conservation easements by virtue of Public Resources Code section 5540 and possesses the ability and intent to enforce the terms of this Easement.

THEREFORE, in consideration of the foregoing recitations and of the mutual covenants, terms, conditions, and restrictions herein set forth and other valuable consideration receipt of which is hereby acknowledged, GRANTOR and DISTRICT agree as follows:

## **EASEMENT**

### **PART ONE: GRANT OF EASEMENT**

**1. Grant and Acceptance of Conservation Easement and Assignment of Development Rights.** Pursuant to the common and statutory law of the State of California including the provisions of Civil Code sections 815 to 816, inclusive, GRANTOR hereby grants to DISTRICT and DISTRICT accepts a conservation easement over the Property in perpetuity under the terms and conditions set forth herein ("the Easement"). GRANTOR hereby irrevocably assigns to DISTRICT all development rights associated with the Property, except those rights which are specifically reserved by GRANTOR through this Easement.

**2. Conservation Values.** The Property is located between the town of Glen Ellen and Highway 12 in the Sonoma Valley. Critical resources on the Property (collectively "the Conservation Values"), include scenic and open space resources, natural resources and connectivity, and recreational and educational resources. These include, but are not limited to the following:

**2.1 Scenic and Open Space Resources.** The Property is highly visible, both as the hillside backdrop for the town of Glen Ellen and from Highway 12, which is a General Plan-identified Scenic Corridor. The Property has about 100 feet of frontage along Highway 12, with the views of the Property from Highway 12 rising to the top of the near ridgeline. The Property is within a General-Plan identified Scenic Resource area, a District-identified Scenic Hillside, and is located adjacent to the General Plan-identified Glen Ellen/Agua Caliente Community Separator, which was established to provide rural open space to separate cities and other communities, to contain urban development, and to provide city and community identity by



providing visual relief from continuous urbanization. The adjacency of the property to other public and protected land provides added benefit to the scenic and open space resources.

**2.2 Natural Resources and Connectivity.** The Property provides crucial connectivity and wildlife passage between core blocks of habitat in the southern Mayacamas Mountains and Sonoma Mountain. The Property is adjacent to the Sonoma Valley Habitat Connectivity Corridor that is identified in the Sonoma County 2020 General Plan Open Space and Resource Conservation Element, and is identified in the Bay Area Critical Linkages Project and the Sonoma Valley Wildlife Corridor Project administered by the Sonoma Land Trust. Protection of the Property is important to the continued existence of wildlife in the region, and will add to the preservation of this regionally-significant wildlife corridor in the Sonoma Valley.

The Property is comprised of oak woodlands, grasslands, seasonal wetlands, and a pond. The oak woodlands on the Property are extensive and provide continuous habitat with adjoining properties, providing wildlife movement corridors to and from surrounding lands. The structurally-diverse woodland supports diverse wildlife communities. A pond at the Property's upper elevations provides habitat for a variety of waterfowl, amphibians, and invertebrates and is a reliable water source for local wildlife. The proximity of the pond to the adjacent woodlands is critical for providing cover for wildlife species utilizing the pond. Lower on the Property is a shallow seasonal swale that supports wetlands habitat. The Property is within the Sonoma Valley groundwater sub-basin.

The area along Highway 12 on the Property is designated as a Special Status Species Habitat for dwarf downingia (*Downingia pusilla*). At least two listed taxa, Sonoma sunshine (*Blennosperma bakeri*) and dwarf downingia, grow in vernal pools on nearby properties. Other rare plant taxa for which suitable habitat may exist include Napa false-indigo (*Amorpha californica* ssp. *napensis*), which grows on adjacent properties, and a few grassland and oak woodland plant taxa, such as round-leaved filaree (*California macrophylla*), bristly leptosiphon (*Leptosiphon acicularis*), and Jepson's leptosiphon (*L. jepsonii*). There is high potential that suitable habitat exists for the following special-status wildlife species: Pacific pond turtle (*Actinemys marmorata*), California red-legged frog (*Rana draytonii*), grasshopper sparrow (*Ammodramus savannarum*) and great blue heron (*Ardea herodias*).

**2.3 Recreational and Educational Resources.** The Property provides the unique opportunity to expand the adjacent Sonoma Valley Regional Park to the north, increasing opportunities for enjoyment of and education about the natural features of the area. Protection of the Property provides opportunities for low-intensity recreation appropriate for natural, undeveloped open space lands with limited recreational amenities, and that restore and improve opportunities for native plant and animal migration and dispersal.

**3. Conservation Purpose.** It is the purpose of this Easement to preserve and protect forever the Conservation Values of the Property, as described in Section 2. This purpose shall hereinafter be referred to as "the Conservation Purpose of this Easement." GRANTOR and DISTRICT intend that this Easement will confine the use of the Property to activities that are consistent with the Conservation Purpose of this Easement and will prohibit and prevent any use of the Property that will materially impair or interfere with the Conservation Values of the Property. GRANTOR and DISTRICT intend that all Conservation Values of the Property will

be fully preserved and protected in perpetuity. In the event, however, that the preservation and protection of one Conservation Value becomes irreconcilably inconsistent with the preservation and protection of another Conservation Value, the following priorities shall be followed: preservation and protection of scenic resources, then natural resources, and then recreational and educational uses.

## **PART TWO: RESERVED AND RESTRICTED RIGHTS**

**4. Affirmative Rights of DISTRICT.** DISTRICT shall have the following affirmative rights under this Easement:

**4.1 Protecting Conservation Values.** DISTRICT shall have the right to preserve, protect and document in perpetuity the Conservation Values of the Property.

**4.2 Property Inspections.** DISTRICT shall have the right to enter upon the Property and to inspect, observe, and study the Property for the purposes of (i) identifying the current activities and uses thereon and the condition thereof, (ii) monitoring the activities and uses thereon to determine whether they are consistent with the terms, conditions and Conservation Purpose of this Easement, (iii) enforcing the terms, conditions and Conservation Purpose of this Easement, and (iv) exercising its other rights under this Easement. Such entry shall be permitted at least once a year at reasonable times, upon one week's prior notice to GRANTOR, and shall be made in a manner that will not unreasonably interfere with GRANTOR's use and quiet enjoyment of the Property pursuant to the terms and conditions of this Easement. Each entry shall be for only so long a duration as is reasonably necessary to achieve the purposes of this Section 4.2, but shall not necessarily be limited to a single physical entry during a single twenty-four hour period. Notwithstanding the foregoing, should DISTRICT's General Manager have a reasonable belief that GRANTOR is in breach of this Easement, DISTRICT shall have the right at any time, upon twenty-four hours' prior notice to GRANTOR, to enter upon the Property for the purpose of determining whether such breach has occurred. The rights of entry provided by this Section 4.2 shall extend to the officers, agents, consultants, and volunteers of DISTRICT.

**4.3 Enforcement.** DISTRICT shall have the right to enforce the rights herein granted and to prevent or stop, by any legal means, any activity or use on the Property that is inconsistent with the terms, conditions or Conservation Purpose of this Easement and to require restoration of such areas or features as may be damaged by such activities or uses.

**4.4 Audit.** DISTRICT shall have the right to inspect, copy and audit GRANTOR's financial and programmatic records, of any type, nature or description, as DISTRICT deems necessary to ensure GRANTOR's compliance with Section 5.1.7.

**4.4 Approval of Certain Uses.** DISTRICT shall have the right to review and approve proposed uses and activities on the Property as more specifically set forth in Section 5 and Section 6.

**4.5 DISTRICT Signage.** DISTRICT shall have the right to erect and maintain a sign or other appropriate marker in a location on the Property acceptable to GRANTOR, visible from a public road, bearing information indicating that the Property is protected by DISTRICT and acknowledging the sources of DISTRICT funding for the acquisition of this Easement. The

wording and design of the sign or marker shall be determined by DISTRICT with consent of GRANTOR. No such sign or marker shall exceed thirty-two (32) square feet in size nor be artificially illuminated. DISTRICT shall be responsible for the cost of erecting and maintaining such sign or marker.

**5. GRANTOR's Reserved and Restricted Rights.** GRANTOR shall confine the use of the Property to activities and uses that are consistent with the Conservation Purpose of this Easement. Any activity or use that is inconsistent with the Conservation Purpose of this Easement is prohibited. Without limiting the generality of the foregoing, the following activities and uses are expressly reserved, restricted or prohibited as set forth below. GRANTOR and DISTRICT acknowledge that the following list does not constitute an exhaustive recital of consistent and inconsistent activities and uses, but rather (i) establishes specific allowed activities and uses, (ii) establishes specific prohibited activities and uses, and (iii) provides guidance for determining the consistency of similar activities and uses with this Easement, in accordance with the procedures set forth in Section 6.

#### **5.1 General Requirements for All Uses.**

5.1.1 Compliance with Governmental Regulations. All activities and uses on the Property shall be undertaken in a manner consistent with all applicable federal, state, and local statutes, ordinances, rules, and regulations.

5.1.2 Compliance with Terms, Conditions and Conservation Purpose of this Easement. All activities and uses on the Property shall be undertaken in a manner consistent with the terms, conditions and Conservation Purpose of this Easement.

5.1.3 Protection of Conservation Values. All activities and uses on the Property shall be undertaken in a manner that protects and preserves the Conservation Values.

5.1.4 Protection of Soil and Water. No activity or use on the Property shall be undertaken in a manner that results in significant soil degradation or pollution, or significant degradation or pollution of any surface or subsurface waters.

#### 5.1.5 Criteria for Use.

a) All uses and activities of the Property shall be designed and undertaken in a manner that ensures preservation and protection of the natural resources of the Property in perpetuity; and

b) No use or improvement shall materially impair GRANTOR's ability to provide for low-intensity public recreational uses as provided herein; and

c) All construction shall follow low-impact development practices to the greatest extent feasible, which is defined in general as development that minimizes impacts to natural hydrology and aims for ecological sustainability.

5.1.6 Notice and Approval Procedures. Whenever in this Section 5, prior notice to or approval by DISTRICT is required, such notice shall be given or approval shall be obtained in accordance with Section 6 of this Easement.

5.1.7 Revenue Generation. Any revenue generated from activities and uses on the Property shall be used toward the cost of operating, maintaining, restoring, and enhancing the Property, and/or towards educational or recreational programs that take place on the Property or Sonoma Valley Regional Park.

5.1.8 Master Plan. On January 17, 1984, GRANTOR's Board of Supervisors adopted the Sonoma Valley Regional Park Master Plan (Master Plan), which GRANTOR intends to update to incorporate the Property as part of Sonoma Valley Regional Park. The updated Master Plan and future updates and amendments will be subject to review and approval by DISTRICT in accordance with Section 6.1 of the Easement. The Master Plan shall not be implemented on the Property until written approval has been received from DISTRICT.

The Master Plan may be amended, revised or updated from time to time provided that such amendment, revision or update shall be subject to DISTRICT's approval in accordance with Section 6.1 of this Easement.

**5.2 Land Uses.** Use of the Property is restricted solely to natural resource preservation and protection, and recreational and educational uses as defined in this Section 5.2. Residential, commercial, or industrial use of or activity on the Property is prohibited except for commercial uses as expressly reserved in Section 5.2.3.

5.2.1 Natural Resource Preservation, Protection, Restoration and Enhancement. GRANTOR reserves the right to protect, preserve, restore and enhance the natural resources of the Property in accordance with sound, generally-accepted conservation practices and the provisions of Section 5.5.

a) Environmental Mitigation. The Property shall be available to mitigate adverse environmental impacts resulting from on-site permitted uses and activities. The Property shall not be available to mitigate for adverse environmental impacts resulting from projects located off site.

5.2.2 Recreational and Educational Use. GRANTOR shall make the Property available to the public for low-intensity public outdoor recreation and education except as set forth in Section 5.6. All public outdoor recreational and educational uses and activities on the Property shall be designed and undertaken in a manner compatible with natural resource preservation and protection and the particular management needs associated with ensuring the promotion of wildlife movement and passage. Such uses may include, but are not limited to, hiking; bicycling; picnicking; public educational programs; and other such uses similar in nature and intensity. Uses may also include recreational and educational special events, such as non-motorized trail race events, to six (6) times per year subject to prior District approval pursuant to Sections 5.1.6, 6.1 or 6.2.



5.2.3 Commercial. GRANTOR reserves the right to use the Property for the following commercial uses:

a) Recreation and Education. Nominal fee for permitted recreational and educational uses in accordance with Section 5.2.2.

b) Special Events. Fees for special public and private events held in accordance with Section 5.2.2.

c) Leases and Rentals.

i. Leases or rentals for recreational and educational uses in accordance with Section 5.2.2.

ii. Leases for grazing for vegetation management and fire management in accordance with Sections 5.5.1 and 5.5.5.

d) Ancillary. Subject to DISTRICT approval, other minor recreational and educational commercial uses found to be consistent with Conservation Values of this Easement.

**5.3 Subdivision and Parcels.** GRANTOR and DISTRICT acknowledge and agree that the Property is now and shall always remain one legal parcel under one common ownership. GRANTOR shall not divide the Property, whether by subdivision, conveyance, lot line adjustment, or any other means, nor shall GRANTOR gain or seek to gain recognition, by certificate of compliance under the Subdivision Map Act or otherwise, of additional parcels which may have previously been created on the Property by prior patent or deed conveyances, subdivisions, or surveys, nor shall GRANTOR place or convey any portion of the Property into ownership separate from the whole of the Property.

5.3.1 Exceptions. This prohibition against division of the Property shall be inapplicable to:

a) Conveyance to Government or Non-Profit Entity. Subject to prior written approval by DISTRICT, GRANTOR may voluntarily convey a portion of the Property to a government or non-profit entity exclusively for conservation or public access purposes.

5.3.2 Historic Parcels. GRANTOR acknowledges that one or more additional historic parcels may exist on the Property, previously created by patent or deed conveyances, subdivisions, lot line adjustments, surveys, recorded or unrecorded maps or other documents. GRANTOR waives all rights to recognition of such historic parcels, whether through certificate of compliance under the Subdivision Map Act or otherwise.

**5.4 Structures and Improvements.** Except as authorized in a Master Plan approved pursuant to Section 5.1.6 of this Easement, GRANTOR may repair, replace, construct, place and

maintain structures and improvements on the Property only as provided below. No structure or improvement shall exceed 12 feet in height. Outside lighting is prohibited.

5.4.1 Maintenance, Repair or Replacement of Structures and Improvements.

GRANTOR may maintain, repair or replace structures and improvements existing at the date hereof or constructed subsequently pursuant to the provisions of this Easement, as follows:

a) If the maintenance, repair or replacement does not increase the height of the structure or improvement, increase the land surface area it occupies or change its location or function, no notice to or approval by DISTRICT shall be required.

b) Any maintenance, repair or replacement that increases the height of the structure or improvement, increases the land surface area it occupies, or changes its location or function shall be treated as new construction and shall be subject to the provisions of Sections 5.4.2 through 5.4.6.

5.4.2 Structures and Improvements Accessory to Natural Resource Preservation, Protection, Restoration and Enhancement. Subject to prior written notice to DISTRICT, GRANTOR may place or construct temporary minor accessory structures and improvements reasonably necessary for natural resource restoration and enhancement activities on the Property, including, but not limited to, sheds, and above-ground irrigation tubes and tanks. Roads, fences, gates, utilities and energy resource improvements shall be limited as provided in Sections 5.4.4 through 5.4.6.

5.4.3 Improvements for Recreational and Educational Uses. GRANTOR may construct or place improvements associated with permitted outdoor recreational and educational uses, including, but not limited to:

a) Benches, picnic tables, informational display cases, refuse and recycling containers and other similar minor improvements without any notice to or approval from DISTRICT.

b) Paved or permeable trails and pathways, restrooms, drinking fountains, and other similar improvements only with prior written approval of DISTRICT.

5.4.4 Access Roads. Subject to prior written approval of DISTRICT, GRANTOR may remove, expand or realign the existing road on the Property, and may realign the Sonoma Valley Regional Park driveway onto the Property, provided that any such expansion or realignment (i) is directly required for uses and activities allowed herein; and (ii) is the minimum necessary for such uses and activities. Roads shall be constructed and maintained so as to minimize erosion and sedimentation and ensure proper drainage, utilizing Best Management Practices for roads as recommended by California Department of Fish and Wildlife or other similar or successor entity or other regulatory entity. The Sonoma Valley Regional Park driveway if realigned onto the Property may be paved with asphalt, concrete, or other impervious surface. All other roads may not be paved with asphalt, concrete or other impervious surface unless such

paving is required by any federal, state or local law, code, ordinance or regulation. Roads that are abandoned, permanently closed and/or decommissioned shall be revegetated with native species, stabilized and ensured of proper drainage.

**5.4.5 Fences and Gates.** GRANTOR may construct, place and erect fencing and gates only as necessary for permitted uses of the Property. Fencing must be the minimum necessary for such use. All fencing and gates must i) preserve the scenic values of the Property; ii) not impede wildlife movement except in cases where necessary to protect the allowed natural resources preservation, protection, restoration or enhancement activities described in this Easement; and iii) comply with the DISTRICT's then current guidelines for fences on conservation lands. Notwithstanding the provisions of Section 5.4.1, in the event of destruction or deterioration of any fences and gates, whether existing at the date hereof or constructed subsequently in accordance with the provisions of this Easement, GRANTOR may maintain and/or replace such fencing and gates only pursuant to the provisions of this Section 5.4.5. In the event any fence or gate, or portion thereof, becomes obsolete or unnecessary for the uses described in this Section 5.4.5, GRANTOR shall remove such fencing or gate from the Property.

**5.4.6 Utilities and Energy Resources.** Subject to prior written approval of DISTRICT, GRANTOR may expand existing or develop or construct new utilities, including but not limited to electric power, septic or sewer, communication lines, and water storage and delivery systems that are directly required for permitted uses on the Property and are reasonably scaled to serve only those uses.

a) In addition, GRANTOR may, without notice to or approval of DISTRICT, place or construct solar panels on the roofs of existing structures or any future additional structures placed on the Property pursuant to Sections 5.4.2 and 5.4.3, provided that such solar panels do not cause the structure or improvement to exceed 12 feet in height.

**5.4.7 Signs.** Signs shall be limited to those reasonably necessary for permitted recreation and education uses, including entry, trailhead, boundary, directional, interpretive signs, and those setting forth park rules. The size and number of such signs shall be limited to that which is reasonably necessary to accomplish the permitted uses herein, and shall be sited and constructed in a manner that does not create a significant visual impact. At no time shall any sign exceed thirty-two (32) square feet or be artificially illuminated.

**5.5 Land and Resource Management.** All land and resource management activities shall be designed and implemented in accordance with sound, generally-accepted conservation practices.

**5.5.1 Natural Resource Preservation, Protection, Restoration and Enhancement.** GRANTOR reserves the right to undertake natural resource preservation, restoration and enhancement activities, including, but not limited to, bank and soil stabilization, practices to reduce erosion, enhancement of water quality, and plant and wildlife habitat, and activities that promote biodiversity and habitat connectivity. GRANTOR may remove or

control invasive, non-native plant and animal species that threaten the Conservation Purpose of this Easement or impede the growth of native species, provided the techniques used minimize harm to native wildlife and plants and are in accordance with all applicable laws.

5.5.2 Surface Alteration. Alteration of the contour of the Property in any manner whatsoever is prohibited, including, but not limited to, excavation, removal or importation of soil, sand, gravel, rock, peat or sod, except as reasonably necessary in connection with the uses allowed under Section 5 of this Easement.

5.5.3 Water Resources. Draining, filling, dredging, diking, damming or other alteration, development or manipulation of watercourses, subsurface water, springs, ponds and wetlands is prohibited except as reasonably necessary in connection with (i) the maintenance, replacement, development and expansion of water storage and delivery systems allowed under Section 5.4.6, and (ii) the preservation, restoration and enhancement of natural resources allowed under Section 5.5.1.

5.5.4 Mineral Exploration. Exploration for, or development and extraction of, minerals and hydrocarbons by any surface or sub-surface mining or any other method is prohibited.

5.5.5 Fire Management. GRANTOR reserves the right to undertake vegetation management activities for the purpose of fire control provided the techniques used minimize harm to native wildlife and plants. Fire management methods are limited to: (a) brush removal, mowing, limited grazing of the Property, other methods of similar nature and intensity, and (b) subject to prior written notice to DISTRICT, prescriptive burning undertaken in a manner consistent with the standards and requirements of the local fire protection agency having jurisdiction. The requirement for notice under this Section 5.5.5 may be satisfied by the submission of an annual fire management plan.

5.5.6 Native Tree Removal. Harvesting, cutting, removal or destruction of any native trees is prohibited, except as reasonably necessary (i) to control insects and disease; (ii) to prevent personal injury and property damage; (iii) for the purpose of fire management, in accordance with Section 5.5.5; (iv) for natural resource preservation, restoration and enhancement as set forth in Section 5.5.1 of this Easement; and (v) with prior written approval of DISTRICT, within the footprint of permitted trails. Native trees removed pursuant to this Section 5.5.6 may be used for firewood and other improvements associated with permitted uses.

5.5.7 Native Non-tree Vegetation Removal. Removal or destruction of any native non-tree vegetation is prohibited, except as reasonably necessary (i) within footprint of permitted structures and improvements; (ii) to control insects and disease; (iii) to prevent personal injury and property damage; (iv) for the purpose of fire management, in accordance with Section 5.5.5; and (v) for natural resource preservation, restoration and enhancement, as set forth in Section 5.5.1 of this Easement.

5.5.8 Native Animal Removal. Killing, hunting, trapping, injuring or removing native animals is prohibited except (i) under imminent threat to human life or safety; and



(ii) as reasonably necessary to promote or sustain biodiversity in accordance with natural resource preservation, protection, restoration and enhancement activities as set forth in Section 5.5.1, using selective control techniques consistent with the policies of the Sonoma County Agricultural Commissioner and other governmental entities having jurisdiction.

**5.5.9 Non-Native Plant and Animal Removal.** GRANTOR reserves the right to remove or control non-native plant and animal species provided that techniques used minimize harm to native wildlife and plants and are in accordance with sound, generally-accepted conservation practices.

**5.5.10 Off-road Motorized Vehicle Use.** Use of motorized vehicles off roadways is prohibited, except for the minimum necessary in connection with permitted construction, maintenance, emergency access and property management activities.

**5.5.11 Dumping.** Dumping, releasing, burning or other disposal of wastes, refuse, debris, non-operative motorized vehicles or hazardous substances is prohibited.

**5.6. Public Access Limitations.** GRANTOR and DISTRICT understand and agree that the Property will be developed for and will continue to be a public park in perpetuity. GRANTOR, however, reserves the right to exclude the public from the Property on a temporary basis to the extent necessary for public health or safety or for preservation of the Conservation Values of the Property. Nothing in this Easement shall be construed to preclude GRANTOR's right to grant access to third parties to the Property consistent with the terms, conditions and Conservation Purpose of this Easement.

**5.7. Easements.** GRANTOR may continue the use of existing easements of record granted prior to this Easement. The granting of new temporary or permanent easements, and the modification or amendment of existing easements is prohibited without the prior written approval of the DISTRICT. It is the duty of GRANTOR to prevent the use of the Property by third parties that may result in the creation of prescriptive rights.

### **PART THREE: PROCEDURES AND REMEDIES**

**6. Notice and Approval Procedures.** Some activities and uses permitted by this Easement require that prior written notice be given by GRANTOR to DISTRICT, while other activities and uses permitted by this Easement require the prior written approval of DISTRICT. Unless and until such notice is given or approval is obtained in accordance with this Section 6, any such activity or use shall be deemed to be prohibited on the Property. GRANTOR shall use the procedures set forth below to provide notice to DISTRICT or to obtain DISTRICT's approval. All notices and requests for approval shall include all information necessary to permit DISTRICT to make an informed judgment as to the consistency of the GRANTOR's request with the terms, conditions and Conservation Purpose of this Easement. Forms for notices and requests for approval shall be available at DISTRICT's offices.

**6.1 Approval, Amendments, Revisions and Updates of Master Plan.** GRANTOR and DISTRICT acknowledge that GRANTOR intends to update the Sonoma Valley Regional Park Master Plan to incorporate the Property into the Regional Park. The update is intended to define and guide future use and development of the Property and to streamline DISTRICT approvals under this Easement. For purposes of this Easement, it is agreed that the Master Plan and any amendments, revisions or updates (collectively "Revision") will be deemed sufficient for its purpose provided the plan or Revision identifies (a) all major components of park use (including recreational, educational, and resource management use), (b) the nature of each proposed use and its intended location, (c) all proposed structures and improvements, and (d) all actions to be taken to protect natural resources. Such Master Plan and Revision require DISTRICT's approval prior to their implementation. DISTRICT's approval shall be based solely upon its reasonable determination as to whether the Master Plan or Revision is consistent with the terms, conditions and Conservation Purpose of this Easement. DISTRICT acknowledges that, in light of the public processes required for development of the Property for recreation and educational use and natural resource preservation, time is of the essence and DISTRICT's approval shall not be unreasonably withheld or delayed. GRANTOR shall use the following procedure to obtain DISTRICT's approval for the Master Plan and Revision:

6.1.1 GRANTOR may, at its discretion, at any time, submit a Master Plan or Revision to DISTRICT for its review and approval. DISTRICT shall have forty-five (45) days from the receipt of the Master Plan or Revision, plus fourteen (14) days from any subsequent or follow up submittal, to review the Master Plan or Revision and either approve the Master Plan or Revision or notify GRANTOR of any objection thereto. DISTRICT's response, whether tentative approval or objection, shall be in writing and delivered to GRANTOR in accordance with Section 19. If DISTRICT has any objections to the Master Plan or Revision, it shall state such objections in sufficient detail to enable GRANTOR to modify the Master Plan or Revision so as to bring it into compliance with the terms, conditions and Conservation Purpose of this Easement.

6.1.2 In connection with any environmental review of the Master Plan or Revision under the California Environmental Quality Act or any successor statute then in effect, GRANTOR shall provide DISTRICT with notification of and opportunity to comment on any draft environmental document made public under the statute, prior to adoption or certification of that environmental document.

6.1.3 Upon DISTRICT's approval and GRANTOR's adoption of a Master Plan or Revision, all uses and improvements described therein and all development reasonably necessary to implement those described uses and improvements, shall be deemed to be consistent with the terms, conditions and Conservation Purpose of this Easement and shall be permitted on the Property with no further notice to or approval by DISTRICT required. All such uses, development, improvements and activities shall at all times remain subject to the substantive limitations of Section 5. Any update or amendment to the Master Plan or Revision shall be subject to DISTRICT approval.

**6.2 Uses/Activities Requiring Notice or Approval to DISTRICT.** In the absence of a Master Plan or Revision approved by DISTRICT, or for uses and activities not described in a Master Plan or Revision approved by DISTRICT, the following procedures shall be followed for giving notice or obtaining DISTRICT approval where such notice or approval is required by this

Easement. Unless and until such notice is given or approval is obtained in accordance with this Section 6.2, any such activity or use shall be deemed to be prohibited on the Property. In any instance in which DISTRICT approval is required, DISTRICT's approval shall be based solely upon its reasonable determination as to whether the activity or use is consistent with the terms, conditions and Conservation Purpose of this Easement. DISTRICT acknowledges that, in light of the public processes required for development of the Property for recreation and educational use and natural resource preservation, time is of the essence and DISTRICT's approval shall not be unreasonably withheld or delayed.

6.2.1 Uses/Activities Requiring Notice to DISTRICT. For any activity or use that requires prior written notice to DISTRICT, GRANTOR shall deliver such notice to DISTRICT at least forty-five (45) days prior to the commencement of such activity or use. That forty-five (45) day time period provides DISTRICT an opportunity to evaluate whether the proposed activity or use is consistent with the terms, conditions and Conservation Purpose of this Easement before the activity or use is begun.

6.2.2 Uses/Activities Requiring Prior Approval from DISTRICT. For any activity or use that requires prior written approval from DISTRICT, GRANTOR shall file a request for such approval ("GRANTOR's request") at least forty-five (45) days prior to the intended commencement of such activity or use. DISTRICT shall have forty-five (45) days from the receipt of a complete request to review the request and to approve, conditionally approve, disapprove or notify GRANTOR of any objection thereto. Disapproval or objection, if any, shall be based on DISTRICT's reasonable determination that the proposed activity or use is inconsistent with the terms, conditions or Conservation Purpose of this Easement or that GRANTOR's request is incomplete or contains material inaccuracies. If, in DISTRICT's judgment, the proposed activity or use would not be consistent with the terms, conditions or Conservation Purpose of this Easement or the request is incomplete or contains material inaccuracies, DISTRICT's notice to GRANTOR shall inform GRANTOR of the reasons for DISTRICT's disapproval or objection. Only upon DISTRICT's express written approval, given by DISTRICT's General Manager, may the proposed activity or use be commenced, and then only in accordance with the terms and conditions of DISTRICT's approval.

6.2.3 DISTRICT's Failure to Respond. Should DISTRICT fail to respond to GRANTOR's request for approval within forty-five (45) days of the receipt of GRANTOR's request, GRANTOR may, after giving DISTRICT ten (10) days written notice by registered or certified mail, commence an action in a court of competent jurisdiction to compel DISTRICT to respond to GRANTOR's request. In the event that such legal action becomes necessary to compel DISTRICT to respond and GRANTOR prevails in that action, DISTRICT shall reimburse GRANTOR for all reasonable attorney fees incurred in that action. In the alternative, GRANTOR may commence a proceeding in arbitration under Section 13.

6.2.4 Uses Not Expressly Addressed: DISTRICT's Approval. In the event GRANTOR desires to commence an activity or use on the Property that is neither expressly reserved nor expressly prohibited in Section 5, GRANTOR shall seek DISTRICT's prior written approval of such activity or use in accordance with the

procedure set forth in Section 6.2. The exercise of any activity or use not expressly reserved in Section 5 may constitute a breach of this Easement and may be subject to the provisions of Section 10.

## **7. Costs and Liabilities Related to the Property.**

**7.1 Operations and Maintenance of the Property.** GRANTOR agrees to bear all costs and liabilities of any kind related to the operation, upkeep, and maintenance of the Property and does hereby indemnify and hold DISTRICT harmless therefrom. Without limiting the foregoing, GRANTOR agrees to pay any and all real property taxes, fees, exactions, and assessments levied or imposed by local, state or federal authorities on the Property. GRANTOR further agrees to maintain general liability insurance or adequate self-insurance covering acts on the Property. Except as specifically set forth in Section 8.2 below, DISTRICT shall have no responsibility whatever for the operation of the Property, the monitoring of hazardous conditions thereon, or the protection of GRANTOR, the public, or any third parties from risks relating to conditions on the Property. Except as otherwise provided in Section 8.1, GRANTOR hereby agrees to indemnify and hold DISTRICT harmless from and against any damage, liability, claim, or expense, including attorneys' fees, relating to such matters.

## **7.2 Hazardous Materials.**

**7.2.1 No DISTRICT Obligation or Liability.** Notwithstanding any other provision of this Easement to the contrary, the parties do not intend and this Easement shall not be construed such that it creates in DISTRICT:

- a) The obligations or liabilities of an "owner" or "operator" as those words are defined and used in environmental laws, as defined below, including, but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 United States Code, sections 9601 et seq.) ("CERCLA");
- b) The obligations or liabilities of a person described in 42 United States Code section 9607(a)(3) or any successor statute then in effect;
- c) The right to investigate and remediate any hazardous materials, as defined below, on or associated with the Property; or
- d) Any control over GRANTOR's ability to investigate and remediate any hazardous materials, as defined below, on or associated with the Property.

**7.2.2 Warranty of Compliance.** GRANTOR represents, warrants, and covenants to DISTRICT that GRANTOR's use of the Property shall comply with all environmental laws, as defined below.

**7.2.3 Definitions.** For the purposes of this Easement:

- a) The term "hazardous materials" includes, but is not limited to, any flammable explosives, radioactive materials, hazardous materials, hazardous

wastes, hazardous or toxic substances, or related materials defined in CERCLA, the Hazardous Materials Transportation Act, as amended (49 United States Code sections 1801 et seq.), the Resource Conservation and Recovery Act of 1976, as amended (42 United States Code sections 6901 et seq.), sections 25117 and 25316 of the California Health & Safety Code, and in the regulations adopted and publications promulgated pursuant to them, or any other federal, state, or local environmental laws, ordinances, rules, or regulations concerning the environment, industrial hygiene or public health or safety now in effect or enacted after the date of this Easement.

b) The term "environmental laws" includes, but is not limited to, any federal, state, local or administrative agency statute, regulation, rule, ordinance, order or requirement relating to environmental conditions or hazardous materials.

## **8. Indemnification.**

**8.1 GRANTOR's Indemnity.** GRANTOR shall hold harmless, indemnify, and defend DISTRICT, its agents, employees, volunteers, successors and assigns, from and against all damages, liabilities, claims and expenses, including reasonable attorneys' fees, arising from or in any way connected with (i) injury to or the death of any person, or physical damage to any property resulting from any act, omission, condition or other matter related to or occurring on or about the Property, except to the extent that such damage, liability, claim or expense is the result of the negligence, gross negligence, or intentional misconduct of DISTRICT; and (ii) the obligations specified in Section 7; and (iii) any approvals given under Section 6. In the event of any claim, demand, or legal complaint against DISTRICT, the right to the indemnification provided by this Section 8.1 shall not apply to any cost, expense, penalty, settlement payment, or judgment, including attorneys' fees, incurred prior to DISTRICT's written notice of such claim, demand, or legal complaint to GRANTOR, unless GRANTOR has acquired knowledge of the matter by other means, nor to any costs, expenses, or settlement payment, including attorneys' fees, incurred subsequent to that notice unless such cost, expense, or settlement payment shall be approved in writing by GRANTOR, which approval shall not be unreasonably withheld.

**8.2 DISTRICT's Indemnity.** DISTRICT shall hold harmless, indemnify, and defend GRANTOR, its heirs, devisees, successors and assigns, from and against all damages, liabilities, claims and expenses, including reasonable attorneys' fees, arising from or in any way connected with injury to or the death of any person, or physical damage to any property, resulting from any act, omission, condition, or other matter related to or occurring on or about the Property and attributable to DISTRICT, except to the extent that such damage, liability, claim or expense is the result of the negligence, gross negligence, or intentional misconduct of GRANTOR. In the event of any claim, demand, or legal complaint against GRANTOR, the right to the indemnification provided by this Section 8.2 shall not apply to any cost, expense, penalty, settlement payment, or judgment, including attorneys' fees, incurred prior to GRANTOR's written notice of such claim, demand, or legal complaint to DISTRICT, nor to any costs, expenses, or settlement payment, including attorneys' fees, incurred subsequent to that notice unless such cost, expense, or settlement payment shall be approved in writing by DISTRICT, which approval shall not be unreasonably withheld. DISTRICT hereby also agrees to hold harmless, indemnify and defend GRANTOR from and against all damages, liabilities, claims and



expenses, including attorneys' fees, asserted against GRANTOR by any officer, agent, employee, or volunteer of DISTRICT, for personal injury and/or property damage arising out of any inspection or visit to the Property by any such officer, agent, employee or volunteer on behalf of DISTRICT, except to the extent that such injury is attributable to the negligence, gross negligence or intentional misconduct of GRANTOR.

**9. Baseline Documentation for Enforcement.** In order to establish the present condition of the Property, DISTRICT has prepared a Baseline Documentation Report which will be maintained on file with DISTRICT and which is intended to serve as an objective information baseline for monitoring compliance with the terms of this Easement. A copy of the Baseline Documentation Report has been reviewed and approved by GRANTOR. The parties agree that the Baseline Documentation Report provides an accurate representation of the Property at the time of the execution of this Easement. The Baseline Report will be supplemented through periodic monitoring reports as the DISTRICT performs its regular monitoring of the Property.

**10. Remedies for Breach.**

**10.1 DISTRICT's Remedies.** In the event of a violation or threatened violation by GRANTOR of any term, condition or restriction contained in this Easement, DISTRICT may, following notice to GRANTOR, institute a suit to enjoin and/or recover damages for such violation and/or to require the restoration of the Property to the condition that existed prior to such violation. The DISTRICT's notice to GRANTOR shall contain a general description of the condition claimed by DISTRICT to be a violation and shall contain a reasonable and specific cure period by which the violation is to cease and the Property is to be restored to the condition that existed prior to the violation. The notice shall be provided in accordance with Section 19. If DISTRICT reasonably determines that circumstances require immediate action to prevent or mitigate significant damage to the Conservation Values protected by this Easement, DISTRICT (a) may pursue any and all remedies available under law without waiting for the cure period to expire, and (b) shall have the right, upon the giving of 24 hours' notice, to enter the Property for the purpose of assessing damage or threat to the Conservation Values protected by this Easement and determining the nature of curative or mitigation actions that should be taken. DISTRICT's rights under this Section 10 shall apply equally in the event of either actual or threatened violations of the terms of this Easement. GRANTOR agrees that DISTRICT's remedies at law for any violation of the terms of this Easement are inadequate and that DISTRICT shall be entitled to injunctive relief, both prohibitive and mandatory and including specific performance, in addition to such other relief, including damages, to which DISTRICT may be entitled, without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies.

**10.2 DISTRICT's Discretion.** Enforcement of the terms of this Easement shall be at the sole discretion of DISTRICT, and any forbearance by DISTRICT to exercise its rights under this Easement in the event of any violation or threatened violation of any term of this Easement shall not be deemed or construed to be a waiver by DISTRICT of such term or of any subsequent violation or threatened violation of the same or any other term of this Easement. Any failure by DISTRICT to act shall not be deemed a waiver or forfeiture of DISTRICT's right to enforce any terms or conditions of this Easement in the future.

**10.3 Liquidated Damages.** Inasmuch as the actual damages that would result from the loss or deprivation of the Conservation Values of the Property caused by a violation by GRANTOR of the terms of this Easement are uncertain and would be impractical or extremely difficult to measure, GRANTOR and DISTRICT agree that the damages allowed by Civil Code section 815.7(c) shall be measured as follows:

a) For an improvement prohibited by this Easement, an amount equal to the product of (i) the market value of the improvement, (ii) the length of time that the improvement exists on the Property (in terms of years or portion thereof) after notice of violation has been given, and (iii) the then current annual interest rate for post judgment interest; and

b) For an activity or change in use prohibited by this Easement, whether or not it involves an improvement, an amount equal to any economic gain realized by GRANTOR because of the activity or change in use; and

c) For an activity or change in use prohibited by this Easement, whether or not it involves an improvement and where there is no measurable economic gain realized by GRANTOR, the product of (i) the cost of restoration, as set forth in a written estimate by a qualified person selected by DISTRICT, (ii) the length of time that the prohibited activity or use continues (in terms of years or portion thereof) after notice of the violation has been given, and (iii) the then current annual interest rate for post judgment interest.

**10.4 GRANTOR's Compliance.** If DISTRICT, in the notice to GRANTOR, demands that GRANTOR remove an improvement, discontinue a use or both and claims the damages allowed by Civil Code section 815.7(c), then GRANTOR may mitigate damages by fully complying with DISTRICT's notice within the cure period provided therein. If GRANTOR so complies, then in the event of litigation arising out of the notice, brought either by GRANTOR or by DISTRICT, if GRANTOR prevails, then GRANTOR shall be entitled to economic damages, if any, resulting from its compliance with DISTRICT's notice. Neither DISTRICT nor GRANTOR shall be entitled to damages where DISTRICT has not claimed damages in its notice.

**10.5 Remedies Nonexclusive.** The remedies set forth in this Section 10 are in addition to, and are not intended to displace, any other remedy available to either party as provided by this Easement, Civil Code sections 815 et seq. or any other applicable local, state or federal law.

**11. Acts Beyond GRANTOR's Control.** Nothing contained in this Easement shall be construed to entitle DISTRICT to bring any action against GRANTOR for any injury to or change in the Property resulting from causes beyond GRANTOR's control, including, but not limited to, fire, flood, storm, earth movement, or a tortious or criminal act of a third party which GRANTOR could not have reasonably prevented, or from any prudent action taken by GRANTOR under emergency conditions to prevent, abate, or mitigate significant injury to the Property resulting from such causes so long as such action, to the extent that GRANTOR has control, is designed and carried out in such a way as to further the Conservation Purpose of this Easement.

**12. Arbitration.** If a dispute arises between the parties concerning the consistency of any activity or use, or any proposed activity or use, with the terms, conditions or Conservation Purpose of this Easement, or any other matter arising under or in connection with this Easement or its interpretation, either party, with the written consent of the other, may refer the dispute to arbitration by a request made in writing upon the other. Provided that GRANTOR agrees not to proceed with any activity or use that is the subject of the dispute pending resolution of the dispute, the parties shall select a single arbitrator to hear the matter. If the parties are unable to agree on the selection of a single arbitrator, then each party shall name one arbitrator and the two arbitrators thus selected shall select a third arbitrator who shall be a retired United States District Court or California Superior Court judge; provided, however, if either party fails to select an arbitrator within fourteen (14) days of delivery of the request for arbitration, or if the two arbitrators fail to select a third arbitrator within fourteen (14) days after the appointment of the second arbitrator, then in each such instance, a proper court, on petition of any party, shall appoint the second or third arbitrator or both, as the case may be, in accordance with California Code of Civil Procedure sections 1280 et seq., or any successor statutes then in effect. The arbitration shall be conducted in accordance with said statute, including, without limitation, the provisions of Section 1283.05 of the Code of Civil Procedure which are incorporated into, made a part of, and made applicable to any arbitration pursuant to this Section 12. The Conservation Purpose of this Easement, the terms and conditions of this Easement, and the applicable laws of the State of California shall be the bases for determination and resolution, and a judgment of the arbitration award may be entered in any court having jurisdiction thereof. The prevailing party shall be entitled, in addition to such other relief as may be granted, to a reasonable sum as and for all its costs and expenses related to such arbitration, including, but not limited to, the fees and expenses of the arbitrators, but excluding attorneys' fees, which sum shall be determined by the arbitrators and any court of competent jurisdiction that may be called upon to enforce or review the award.

### **13. Extinguishment and Condemnation.**

**13.1 Extinguishment.** Subject to the requirements and limitations of California Public Resources Code section 5540, or successor statute then in effect, if circumstances arise in the future that render the Conservation Purpose of this Easement impossible to accomplish, this Easement can only be terminated or extinguished, whether in whole or in part, by judicial proceedings in a court of competent jurisdiction, and the amount of the compensation to which DISTRICT shall be entitled from any sale, exchange or involuntary conversion of all or any portion of the Property after such termination or extinguishment, shall be determined, unless otherwise provided by California law at the time, in accordance with Section 13.2. All proceeds paid to DISTRICT shall be used by DISTRICT for the purpose of the preservation of agriculture and open space within Sonoma County.

**13.2 Condemnation.** If all or any part of the Property is taken by exercise of the power of eminent domain or acquired by purchase in lieu of condemnation; whether by public, corporate, or other authority, so as to terminate this Easement in whole or in part, either GRANTOR or DISTRICT (or both, on such conditions as they may agree) may commence appropriate actions to recover the full value of the Property (or portion thereof) subject to the condemnation or in-lieu purchase and all direct or incidental damages resulting therefrom. Any expense incurred by GRANTOR or DISTRICT in any such action shall first be reimbursed out

of the recovered proceeds; the remainder of such proceeds shall be divided between GRANTOR and DISTRICT in proportion to their interests in the Property, as established by Section 13.3.

**13.3 Property Interest and Fair Market Value.** This Easement constitutes a real property interest immediately vested in DISTRICT. For the purpose of this Section 13, the parties stipulate that, in the event of condemnation of the Property or any portion thereof, the fair market value of the Property for purposes of just compensation shall be determined as though this Easement did not exist. GRANTOR and DISTRICT shall share the compensation on the following basis: GRANTOR 100% of the value of any improvements and DISTRICT 100% of the value of the land, or as otherwise agreed upon by them in writing at the time of condemnation.

#### **PART FOUR: MISCELLANEOUS**

**14. Approvals.** Whenever in this Easement the consent or approval of one party is required for an act of the other party, such consent or approval shall not be unreasonably withheld, conditioned or delayed.

**15. Interpretation and Construction.** To the extent that this Easement may be uncertain or ambiguous such that it requires interpretation or construction, then it shall be interpreted and construed in such a way that best promotes the Conservation Purpose of this Easement.

**16. Easement to Bind Successors.** The Easement herein granted shall be a burden upon and shall continue as a restrictive covenant and equitable servitude running in perpetuity with the Property and shall bind GRANTOR, GRANTOR's heirs, personal representatives, lessees, executors, successors, including but not limited to purchasers at tax sales, assigns, and all persons claiming under them forever. The parties intend that this Easement shall benefit and burden, as the case may be, their respective successors, assigns, heirs, executors, administrators, agents, officers, employees, and all other persons claiming by or through them pursuant to the common and statutory law of the State of California. Further, the parties agree and intend that this Easement creates an easement encompassed within the meaning of the phrase "easements constituting servitudes upon or burdens to the property," as that phrase is used in California Revenue & Taxation Code section 3712(d), or any successor statute then in effect, such that a purchaser at a tax sale will take title to the Property subject to this Easement.

**17. Subsequent Deeds and Leases.** GRANTOR agrees that a clear reference to this Easement will be made in any subsequent deed, or other legal instrument, by means of which any interest in the Property (including, but not limited to, a leasehold interest) is conveyed and that GRANTOR will attach a copy of this Easement to any such instrument. GRANTOR further agrees to give written notice to DISTRICT of the conveyance of any interest in the Property at least ten (10) days prior to any such conveyance. These obligations of GRANTOR shall not be construed as a waiver or relinquishment by DISTRICT of rights created in favor of DISTRICT by Section 16 of this Easement, and the failure of GRANTOR to perform any act required by this Section 17 shall not impair the validity of this Easement or limit its enforceability in any way.

**18. Warranty of Ownership.** GRANTOR warrants that it is the owner in fee simple of the Property, and that on the date it executed this Easement the Property is not subject to any liens or deeds of trust.

**19. Notices.**

**19.1 Method of Delivery.** Except as otherwise expressly provided herein, all notices, (including requests, demands, approvals or communications) under this Easement shall be in writing and either served personally or sent by first class mail, postage prepaid, private courier or delivery service or telecopy addressed as follows:

To GRANTOR:       Regional Parks Director  
2300 County Center Drive, Suite 120A  
Santa Rosa, CA 95403  
(707) 565-2041 (phone)  
(707) 59-8247 (fax)

To DISTRICT:       General Manager  
Sonoma County Agricultural Preservation and Open Space District  
747 Mendocino Avenue, Suite 100  
Santa Rosa, CA 95401  
(707) 565-7360 (phone)  
(707) 565-7359 (fax)

Or to such other address as such party from time to time may designate by written notice pursuant to this Section 19.

**19.2 Effective Date of Notice.** Notice shall be deemed given for all purposes as follows:

a) When mailed first class postage prepaid to the last address designated by the recipient pursuant to Section 19.1, notice is effective one business day following the date shown on the postmark of the envelope in which such notice is mailed or, in the event the postmark is not shown or available, then one business day following the date of mailing. A written declaration of mailing executed under penalty of perjury by the GRANTOR or DISTRICT or an officer or employee thereof shall be sufficient to constitute proof of mailing.

b) When sent by telex or fax to the last telex or fax number of the recipient known to the party giving notice, notice is effective on receipt as long as (i) a duplicate copy of the notice is promptly given by first-class or certified mail or by overnight delivery or (ii) the receiving party delivers a written confirmation of receipt. Subject to the foregoing requirements, any notice given by telex or fax shall be considered to have been received on the next business day if it is received after 5 p.m. (recipient's time) or on a non-business day.

c) In all other instances, notices shall be effective upon delivery.



**19.3 Refused or Undeliverable Notices.** Any correctly addressed notice that is refused or undeliverable because of an act or omission of the party to be notified shall be considered to be effective as of the first date that the notice was refused or considered undeliverable by the postal authorities, messenger, or delivery service.

**20. Amendment.** If circumstances arise under which an amendment or modification of this Easement would be appropriate, GRANTOR and DISTRICT shall be free to jointly amend this Easement, provided that any amendment shall be consistent with the Conservation Purpose of this Easement, shall ensure protection of the Conservation Values of the Property, shall not affect the Easement's perpetual duration and shall be consistent with Public Resources Code section 5540 and any successor statute then in effect. Any such amendment shall be in writing, executed by GRANTOR and DISTRICT, and recorded in the Office of the Sonoma County Recorder.

**21. No Forfeiture.** Nothing contained in this Easement shall result in a forfeiture or reversion of GRANTOR's title in any respect.

**22. Termination of Rights and Obligations.** A party's rights and obligations under this Easement shall terminate upon transfer of the party's interest in the Property, except that liability for acts or omissions occurring prior to transfer shall survive transfer.

**23. Enforceable Restriction.** This Easement and each and every term contained herein is intended for the benefit of the public and constitutes an enforceable restriction pursuant to the provisions of Article XIII, section 8 of the California Constitution, California Public Resources Code section 5540, and California Revenue and Taxation Code section 421 et seq., or any successor constitutional provisions or statutes then in effect.

**24. Applicable Law and Forum.** This Easement shall be construed and interpreted according to the substantive law of California, excluding the law of conflicts. Any action to enforce the provisions of this Easement or for the breach thereof shall be brought and tried in the County of Sonoma.

**25. DISTRICT's General Manager.** Wherever used herein, the term DISTRICT's General Manager, and any pronoun used in place thereof, shall mean and include the General Manager of DISTRICT and his duly authorized representatives.

**26. Entire Agreement.** This instrument sets forth the entire agreement of the parties with respect to this Easement and supersedes all prior discussions, negotiations, understandings, or agreements relating to this Easement, all of which are merged herein. No alteration or variation of this instrument shall be valid or binding unless contained in a written amendment prepared, executed and recorded in accordance with Section 20.

**27. Severability.** In the event any provision of this Easement is determined by the appropriate court to be void and unenforceable, all remaining terms and conditions shall remain valid and binding. If the application of any provision of this Easement is found to be invalid or unenforceable as to any particular person or circumstance, the application of such provisions to persons or circumstances, other than those as to which it is found to be invalid, shall not be affected thereby.

**28. Estoppel Certificates.** DISTRICT shall, at any time during the existence of this Easement, upon not less than thirty (30) days' prior written notice from GRANTOR, execute and deliver to GRANTOR a statement in writing certifying that this Easement is unmodified and in full force and effect (or, if modified, stating the date of execution and date of recording of the respective amendment) and acknowledging that there is not, to DISTRICT's knowledge, any default by GRANTOR hereunder, or, if DISTRICT alleges a default by GRANTOR, specifying such default. DISTRICT's obligation to deliver the statement of certification is conditioned on GRANTOR's reimbursing DISTRICT for all costs and expenses reasonably and necessarily incurred in its preparation as determined by DISTRICT's General Manager.

**29. No Liens, Encumbrances, or Conveyances.** GRANTOR warrants that after it has executed this Easement, it will not record any lien, encumbrance, or otherwise convey any right, title, or interest in and to the Property until such time as this Easement has been accepted and recorded by DISTRICT.

**30. Effective Date.** This Easement shall be effective as of the date of its acceptance by DISTRICT pursuant to California Public Resources Code sections 5500 et seq.

IN WITNESS WHEREOF, GRANTOR and DISTRICT have executed this Easement this 21<sup>st</sup> day of October, 2014.

GRANTOR: THE COUNTY OF SONOMA

By:   
Chair of the Board of Supervisors  
David Rabbitt

DISTRICT:

SONOMA COUNTY AGRICULTURAL PRESERVATION AND OPEN SPACE  
DISTRICT

By:   
President of the Board of Directors  
David Rabbitt

ATTEST: Veronica A. Ferguson

by Roxanne Epstein  
Clerk of the Board of Directors  
Roxanne Epstein

**NOTE: ACKNOWLEDGMENTS MUST BE ATTACHED FOR ALL SIGNATORIES.**

# CALIFORNIA ALL-PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

State of California

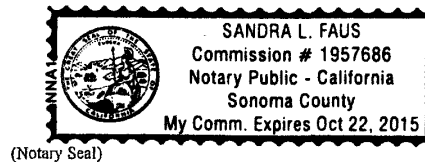
County of SonomaOn October 21, 2014 before me, Sandra L. Faus, Notary Public  
(Here insert name and title of the officer)personally appeared David Rabbitt

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Sandra L. Faus  
Signature of Notary Public



## ADDITIONAL OPTIONAL INFORMATION

### DESCRIPTION OF THE ATTACHED DOCUMENT

Deed &amp; Agmt Between SCAPOSD &amp; So County

(Title or description of attached document)

Curreri (Deed #2005-026605; 28.97 Acres)

(Title or description of attached document continued)

Number of Pages \_\_\_\_\_ Document Date 10/21/201410/21/14, Board Item #43 APOSD

(Additional information)

### CAPACITY CLAIMED BY THE SIGNER

☐ Individual (s)☐ Corporate Officer

(Title)

☐ Partner(s)☐ Attorney-in-Fact☐ Trustee(s)☒ Other President, Board of Directors SCAPOSDand/or Chairman, Board of Supervisors

### INSTRUCTIONS FOR COMPLETING THIS FORM

Any acknowledgment completed in California must contain verbiage exactly as appears above in the notary section or a separate acknowledgment form must be properly completed and attached to that document. The only exception is if a document is to be recorded outside of California. In such instances, any alternative acknowledgment verbiage as may be printed on such a document so long as the verbiage does not require the notary to do something that is illegal for a notary in California (i.e. certifying the authorized capacity of the signer). Please check the document carefully for proper notarial wording and attach this form if required.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. he/she/they, is /are ) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
  - ❖ Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
  - ❖ Indicate title or type of attached document, number of pages and date.
  - ❖ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document

EXHIBIT 'A'

Lying within the County of Sonoma, State of California, being a portion of the lands of Paul Norman Curreri and Yvette N. Curreri as described by Grant Deed filed as Document Number 2005-026605, Sonoma County Records, said portion being more particularly described as follows:

All said lands of Curreri lying northerly and easterly of the following described line:

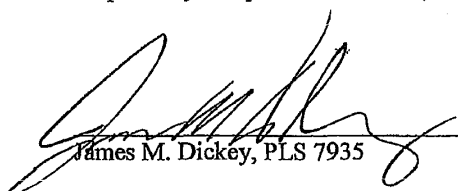
COMMENCING at the most easterly corner of said lands of Curreri, said point being on the westerly right of way of State Highway 12; thence along the southeasterly boundary of said Lands of Curreri, South  $56^{\circ}55'17''$  West 2462.12 feet to a point being marked by a set 1/2 inch iron pipe tagged PLS 7935, said point being the POINT OF BEGINNING of the line described herein; thence leaving said southeasterly boundary, North  $27^{\circ}54'01''$  West 286.16 feet to a set 1/2 inch iron pipe tagged PLS 7935; thence North  $04^{\circ}42'50''$  West 69.49 feet to a set 1/2 inch iron pipe tagged PLS 7935; thence North  $20^{\circ}12'27''$  West 64.27 feet to a set 1/2 inch iron pipe tagged PLS 7935; thence North  $07^{\circ}09'27''$  West 45.43 feet to a set 1/2 inch iron pipe tagged PLS 7935; thence North  $51^{\circ}39'14''$  East 132.36 feet to a set 1/2 inch iron pipe tagged PLS 7935; thence North  $21^{\circ}37'32''$  West 175.00 feet to a set 1/2 inch iron pipe tagged PLS 7935; thence North  $81^{\circ}03'41''$  West 116.14 feet to a point on the northwesterly boundary of said lands of Curreri, said point being marked by a set 1/2 inch iron pipe tagged PLS 7935 and also being the TERMINUS of the line described herein.

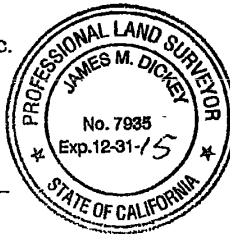
Containing 28.97 acres more or less.

Basis of Bearings: That certain Amended Record of Survey filed in Book 745 of Maps at Page 23, Sonoma County Records.

This Lot Line Adjustment and all set pipes referenced herein will be shown on a Record of Survey to be filed with the County Surveyor of Sonoma County per California State law.

Prepared by Cinquini & Passarino, Inc.

  
James M. Dickey, PLS 7935



10/15/2014  
Date


1360 North Dutton Avenue, Suite 150, Santa Rosa, CA 95401  
Tel: (707) 542-6268 Fax: (707) 542-2106  
www.cinquinipassarino.com  
CPI No.: 6851-14

**CERTIFICATE OF ACCEPTANCE**  
(Government Code Section 27281)  
**OF REAL PROPERTY BY THE**  
**BOARD OF DIRECTORS OF THE**  
**SONOMA COUNTY AGRICULTURAL PRESERVATION**  
**AND OPEN SPACE DISTRICT**

This is to certify that the interests in real property conveyed by the Conservation Easement Agreement dated 10/21/14 from the County of Sonoma, a public agency, to the Sonoma County Agricultural Preservation and Open Space District, a governmental agency formed pursuant to the provisions of Public Resources Code Section 5506.5, is hereby accepted by the President of the Board of Directors on behalf of the District pursuant to the authority conferred by Resolution No. 14-0438 + 14-0439 of the Board of Directors, dated 10/21/14 and the District consents to the recording thereof by its duly authorized officer.

Dated: 10/21/14

Sonoma County Agricultural Preservation and  
Open Space District

By:   
David Rabbitt, President  
Board of Directors

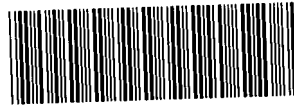
ATTEST:

Veronica A. Ferguson  
by Roxanne Epstein  
Clerk of the Board of Directors



RECORDING REQUESTED BY AND  
RETURN TO:

Sonoma County Agricultural  
Preservation and Open Space District  
575 Administration Drive, Room 102A  
Santa Rosa, CA 95403



2007070503

OFFICIAL RECORDS OF  
SONOMA COUNTY

NORTH AMERICAN TITLE CO. JANICE ATKINSON  
06/22/2007 08:00 TRD  
RECORDING FEE: 0.00  
PAID

18 PGS



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DEED AND AGREEMENT  
BY AND BETWEEN  
THE COUNTY OF SONOMA  
AND  
THE SONOMA COUNTY AGRICULTURAL PRESERVATION  
AND OPEN SPACE DISTRICT  
CONVEYING A CONSERVATION EASEMENT  
(Addition to Sonoma Valley Regional Park)

The County of Sonoma, a political subdivision of the State of California (hereinafter referred to as GRANTOR), and the Sonoma County Agricultural Preservation and Open Space District, a public agency formed pursuant to the provisions of Public Resources Code sections 5500 et seq. (hereinafter DISTRICT), agree as follows:

RECITALS

A. GRANTOR is the owner in fee simple of certain property (hereinafter "the Property") located in Sonoma County and more particularly described in Exhibit "A", attached hereto and made a part of this Agreement by reference.

B. In 1990 the voters of Sonoma County approved the creation of DISTRICT and the imposition of a transactions and use tax by the Sonoma County Open Space Authority ("the Authority"). The purpose for the creation of DISTRICT and the imposition of the tax by the Authority was to preserve agriculture and open space by acquiring interests in appropriate properties from willing sellers in order to meet the mandatory requirements imposed on the County and each of its cities by Government Code sections 65560 et seq. and by the open space elements of their respective general plans. In order to accomplish that purpose, DISTRICT entered into a contract with the Sonoma County Open Space Authority whereby, in consideration of that entity financing DISTRICT'S acquisitions, DISTRICT agreed to and did adopt an acquisition program that was in conformance with the Authority's Expenditure Plan.

C. On May 1, 1998, DISTRICT'S General Manager and GRANTOR entered into negotiations for the purchase by DISTRICT of a conservation easement in the Property. Those negotiations culminated in an agreement which is memorialized by this writing.

D. On August 22, 2000, DISTRICT's Board of Directors, in its Resolution No. 00-1005, determined, pursuant to Government Code section 65402 and Sonoma County Ordinance No. 5180, that the acquisition of the Property including the conveyance of a conservation easement by County to District, was consistent with the 1989 Sonoma County General Plan (specifically the Plan's Agricultural Resources and Open Space elements) because: the Property is adjacent to the Highway 12 Scenic Corridor and is within the Glen Ellen/Agua Caliente Community Separator. On May 29, 2007, the Authority determined, in its Resolution No. 2007-004, that the acquisition was consistent with its Expenditure Plan.

E. DISTRICT has the authority to acquire conservation easements by virtue of Public Resources Code section 5540 and possesses the ability and intent to enforce the terms of this Agreement.

THEREFORE, in consideration of the mutual covenants and agreements of the parties, and other valuable consideration receipt of which is acknowledged, the parties enter into this Agreement.

## AGREEMENT

1. **Purpose.** It is the purpose of this Agreement to preserve the scenic open space, and natural resource values of the Property, and each of them, including low intensity public outdoor recreation, and to prevent any uses of the Property that will significantly impair or interfere with those values. The Property consists of oak woodland and open meadows, which provides habitat for important plant and animal species integral to preserving the natural character of the Sonoma Valley and Sonoma County. The Property is also highly visible from the Highway 12 scenic corridor, and provides a natural separator between the urban areas of Glen Ellen and Agua Caliente/Boyes Hot Springs. Accordingly, this Agreement will primarily protect those values and prohibit any use that would impair, degrade, or damage those values. This purpose, as further defined by the provisions of this Agreement, is generally referred to collectively herein as "the Conservation Purpose of this Agreement."

2. **Grant and Acceptance of Conservation Easement.** Pursuant to the common and statutory law of the State of California including the provisions of Civil Code sections 815 to 816, inclusive, GRANTOR hereby grants to DISTRICT and DISTRICT

accepts, for the purposes set forth in Recital B, a conservation easement in the Property in perpetuity.

3. **Affirmative Rights of DISTRICT.** Subject to the conditions and rights expressly reserved in this Agreement, including but not limited to the provisions of paragraph 6(B), the affirmative rights conveyed to DISTRICT are the following:

A. To identify, to preserve, and to protect in perpetuity the scenic open space, and natural resource values represented by the Conservation Purpose of this Agreement and identified in Paragraph 1 of this Agreement.

B. To enter upon the Property and to inspect, observe, and study the Property for the purposes of (i) identifying the current uses and practices thereon and the baseline condition thereof (in cooperation with GRANTOR), and (ii) monitoring the uses and practices regarding the Property to determine whether they are consistent with this Agreement. Such entry shall be permitted at least once a year at reasonable times, upon 24 hours' prior notice to GRANTOR, and shall be made in a manner that will not unreasonably interfere with the proper uses and practices regarding the Property. Each entry shall be for only so long a duration as is reasonably necessary to achieve the purposes of this paragraph 3, but not necessarily limited to a single physical entry during a single twenty-four hour period. Notwithstanding the foregoing, should DISTRICT'S General Manager have a reasonable belief that GRANTOR is in breach of this Agreement, DISTRICT shall have the right, upon the giving of 24 hours' notice, at any time, to enter the Property for the purposes of determining if such breach has occurred. The rights of entry provided by this paragraph 3.B. shall extend to the employees, agents, and consultants of DISTRICT.

4. **GRANTOR'S Use of the Property.** This Agreement shall confine the uses of the Property to the uses which are described herein.

A. *Permitted and Prohibited Uses.* Examples of uses, practices and improvements which are consistent with the Conservation Purpose of this Agreement, and which are hereby expressly reserved by GRANTOR, are set forth in Exhibit "B," attached hereto and incorporated herein by this reference. Examples of uses, practices and improvements which are inconsistent with the Conservation Purpose of this Agreement, and which are hereby expressly forbidden, are set forth in Exhibit "C," attached hereto and incorporated herein by this reference. The uses and practices set forth in both Exhibits "B" and "C" are not necessarily exhaustive recitals of consistent and inconsistent activities, respectively. They are set forth both to establish specific permitted and prohibited activities and to provide guidance in determining the consistency of other activities with the Conservation Purpose of this Agreement pursuant to the procedure set forth in paragraph 5 of this Agreement.

The allowed uses, practices and rights to improve the Property which are not retained by GRANTOR are hereby extinguished. In the event that such extinguishment is determined to be unlawful or otherwise unenforceable, then those uses, practices and rights to improve the Property are hereby assigned by GRANTOR to DISTRICT.

Neither GRANTOR nor DISTRICT shall use or receive the benefit from any increase in allowable uses, practices and development rights associated with the Property resulting from any change in applicable governmental land use regulations.

*B. Conveyance of Separate Parcels; Merger.* GRANTOR acknowledges that the Property currently consists of a single parcel as described in Exhibit "A". More than one parcel may exist on the Property through the recognition of previously unrecognized parcels created by patent or deed conveyances, subdivisions, lot line adjustments, surveys, recorded or unrecorded maps or other documents and, under existing or future land use regulations, these parcels may be sold or otherwise conveyed separately from one another as separate legal parcels but for the provisions of this Agreement.

(i) Except as provided in subparagraph C(ii), the sale or conveyance of any or all of these parcels, as separate and distinct from the Property as a whole, is inconsistent with the Conservation Purpose of this Agreement and is prohibited. To that end, GRANTOR shall, to the extent not already accomplished as a condition precedent to the acceptance by DISTRICT of the easement conveyed herein, apply for and pursue to completion an application to the County of Sonoma, or, such other governmental agency having jurisdiction, for the consolidation or merger of any existing parcels or claimed parcels of the Property into a single parcel, or failing such consolidation or merger, pursue and secure such other applicable legal restrictions so that such existing parcels or claimed parcels may not be separately sold or conveyed from the others.

(ii) Even if the parcels cannot be merged because of their lack of contiguity or for any other reason, GRANTOR will not sell, alienate or convey any such parcels separately or apart from the entire Property.

*C. Subdivision of the Property.* GRANTOR shall not divide, subdivide or de facto subdivide the Property; provided, however, that

(i) The voluntary conveyance to a government or non-profit entity exclusively for conservation or public access purposes is permitted pursuant to the procedure set forth in Paragraph 5 of this Agreement;

(ii) A lease of a portion of the Property solely for an agricultural use that is consistent with the Conservation Purpose of this Agreement may be permitted following the approval of GRANTOR'S application pursuant to paragraph 5 of this Agreement; and

(iii) In the event that the GRANTOR, following the execution of this Agreement, divides the Property in violation of this Agreement, GRANTOR shall not sell, lease or finance the resulting parcels and shall immediately merge all resulting parcels in the manner set forth in Paragraph 4.B. of this Agreement.

5. **Approval Procedure and Criteria.** GRANTOR agrees to notify DISTRICT in writing before exercising any right not expressly described in Exhibit "B" as a permitted use, the exercise of which may constitute a breach of this Agreement. Further, any act, enterprise, or activity proposed to be done or undertaken by GRANTOR which requires the prior approval of DISTRICT pursuant to the express provisions of Exhibits "B" or "C" hereof shall be commenced only after satisfaction of the notice and approval conditions of this Paragraph 5.

A. *GRANTOR'S Written Notice.* Prior to the commencement of any activity, use, or enterprise requiring DISTRICT'S approval, GRANTOR shall send DISTRICT written notice of GRANTOR'S intention to commence or undertake such activity, use or enterprise. Said notice shall inform DISTRICT of all relevant aspects of such proposed activity, use, or enterprise including, but not limited to, the nature, siting, size, capacity, and number of similar and dissimilar structures, improvements, facilities, uses or enterprises.

B. *DISTRICT'S Response.* DISTRICT shall have forty-five (45) days from the mailing of such notice, as indicated by the registered or certified return receipt, to review the proposed activity, use, or enterprise, and to notify GRANTOR of its approval or any objection thereto. Such objection, if any, shall be based upon DISTRICT'S opinion that the proposed activity is inconsistent with the Conservation Purpose of this Agreement or that the notice is incomplete or inaccurate. If, in DISTRICT'S judgment, the proposed activity, use or enterprise would not be consistent with the Conservation Purpose of this Agreement, said notice shall inform GRANTOR of the reasons for the DISTRICT'S objection. Except as provided in subparagraph C. of this Paragraph 5, only upon DISTRICT'S prior written approval, given by DISTRICT'S General Manager, may the proposed activity, use, or enterprise be commenced and/or conducted, and only in the manner explicitly represented by GRANTOR and approved or conditionally approved by DISTRICT.

C. *DISTRICT'S Failure to Respond.* Should DISTRICT fail to post its response to GRANTOR'S notice within forty-five (45) days of the mailing of said notice,



GRANTOR shall send a second notice by registered or certified mail. Should DISTRICT fail to respond to said second notice within ten (10) days of the mailing thereof, GRANTOR may either appeal to District's Board of Directors or commence an action in a court of competent jurisdiction to compel DISTRICT to respond to GRANTOR'S notice. Regardless of the outcome of the court action, GRANTOR'S costs of suit, including attorneys' fees, shall be borne by DISTRICT, provided that the court finds that DISTRICT'S General Manager actually received both the first and second notices and that the notices were timely.

**6. Costs and Liabilities Related to the Property.**

A. GRANTOR agrees to bear all costs and liabilities of any kind related to the operation, upkeep, and maintenance of the Property and does hereby indemnify and hold DISTRICT harmless therefrom. Without limiting the foregoing, GRANTOR agrees to pay any and all real property taxes and assessments levied by competent authority on the Property. GRANTOR shall be solely responsible for any costs related to the maintenance of general liability insurance covering acts on the Property. DISTRICT shall have no responsibility whatever for the operation of the Property, the monitoring of hazardous conditions thereon, or the protection of GRANTOR, the public, or any third parties from risks relating to conditions on the Property. GRANTOR hereby agrees to indemnify and hold DISTRICT harmless from and against any damage, liability, claim, or expense (including attorneys' fees) relating to such matters. Without limiting the foregoing, other than is provided in paragraph 5.C., DISTRICT shall not be liable to GRANTOR or any other person or entity in connection with consents given or withheld hereunder, or in connection with any entry upon the Property occurring pursuant to this Agreement, or on account of any claim, liability, damage, or expense suffered or incurred by or threatened against GRANTOR or any other person or entity, except as such claim, liability, damage, or expense is the result of DISTRICT'S negligence, gross negligence, or intentional misconduct.

B. Notwithstanding any other provision of this Agreement to the contrary, the parties do not intend and this Agreement shall not be construed such that (1) it creates in DISTRICT the obligations or liabilities of an "owner" or "operator" as those words are defined and used in environmental laws, as defined below, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 United States Code, sections 9601 et seq. and hereinafter "CERCLA") or (2) it creates in DISTRICT the obligations or liabilities of a person described in 42 United States Code section 9607(a)(3) or (3) DISTRICT has the right to investigate and remediate any hazardous materials, as defined below, associated with the Property or (4) DISTRICT has any control over GRANTOR'S ability to investigate and remediate any hazardous materials associated with the Property. GRANTOR represents, warrants and

covenants to DISTRICT that GRANTOR'S use of the Property shall comply with all environmental laws as that phrase is defined below.

For the purposes of this Agreement:

i. The term "hazardous materials" includes, without limitation, any flammable explosives, radioactive materials, hazardous materials, hazardous wastes, hazardous or toxic substances, or related materials defined in CERCLA, the Hazardous Materials Transportation Act, as amended (49 United States Code sections 1801 et seq.), the Resource Conservation and Recovery Act of 1976, as amended (42 United States Code sections 6901 et seq.), sections 25117 and 25316 of the California Health & Safety Code, and in the regulations adopted and publications promulgated pursuant to them, or any other federal, state, or local environmental laws, ordinances, rules, or regulations concerning the environment, industrial hygiene or public health or safety now in effect or enacted after this date.

ii. The term "environmental laws" includes, without limitation, any federal, state, local or administrative agency statute, regulation, rule, ordinance, order or requirement relating to environmental conditions or hazardous materials.

#### **7. Indemnities.**

A. *GRANTOR'S Indemnity.* GRANTOR shall hold harmless, indemnify, and defend DISTRICT from and against damages, liabilities, claims and expenses, including reasonable attorneys' fees, arising from or in any way connected with (i) injury to or the death of any person, or physical damage to property resulting from any act, omission, condition or other matter related to or occurring on or about the Property, except as such damage, liability, claim or expense is the result of the negligence, gross negligence, or intentional misconduct of DISTRICT (it being the intent of this provision to limit GRANTOR'S indemnity to the proportionate part of DISTRICT'S damage, liability, claim or expense for which GRANTOR is responsible); and (ii) the obligations specified in Paragraph 6. In the event of any claim, demand, or legal complaint against DISTRICT, the right to the indemnification provided by this subparagraph 7.A. shall not apply to any cost, expense, penalty, settlement payment, or judgment, including attorneys' fees, incurred prior to DISTRICT'S written notice of such claim, demand, or legal complaint to GRANTOR, unless GRANTOR has acquired knowledge of the matter by other means, nor to any costs, expenses, or settlement payment, including attorneys' fees, incurred subsequent to that notice unless such cost, expense, or settlement payment shall be approved in writing by GRANTOR, which approval shall not be unreasonably withheld.

B. ***DISTRICT'S Indemnity.*** DISTRICT shall hold harmless, indemnify, and defend GRANTOR from and against all damages, liabilities, claims and expenses, including reasonable attorneys' fees, arising from or in any way connected with injury to or the death of any person, or physical damage to any property, resulting from any act, omission, condition, or other matter related to or occurring on or about the Property and attributable to DISTRICT, except to the extent that such damage, liability, claim or expense is the result of the negligence, gross negligence, or intentional misconduct of GRANTOR (it being the intent of this provision to limit DISTRICT'S indemnity to the proportionate part of GRANTOR'S damage, liability, claim or expense for which DISTRICT is responsible). In the event of any claim, demand, or legal complaint against GRANTOR, the right to the indemnification provided by this subparagraph B. shall not apply to any cost, expense, penalty, settlement payment, or judgment, including attorneys' fees, incurred prior to GRANTOR'S written notice of such claim, demand, or legal complaint to DISTRICT, nor to any costs, expenses, or settlement payment, including attorneys' fees, incurred subsequent to that notice unless such cost, expense, or settlement payment shall be approved in writing by DISTRICT, which approval shall be in DISTRICT'S sole discretion. DISTRICT hereby also agrees to hold harmless, indemnify and defend GRANTOR from and against all damages, liabilities, claims and expenses, including attorneys' fees, asserted against GRANTOR by any officer, agent, employee, or volunteer of DISTRICT, for personal injury and/or property damage arising out of any inspection or visit to the Property by any such officer, agent, employee or volunteer of DISTRICT, except to the extent that such injury is attributable to the negligence, intentional act or willful misconduct of GRANTOR.

8. ***Public Access to the Property.*** Nothing contained in this Agreement shall be construed as granting, permitting, or affording the public access to any portion of the Property. Nothing in this Agreement shall be construed to preclude GRANTOR'S right to grant access to third parties across the Property, provided that such access is allowed in a reasonable manner and is consistent with the Conservation Purpose of this Agreement.

9. ***Interpretation and Construction.*** To the extent that this Agreement may be uncertain or ambiguous such that it requires interpretation or construction, then it shall be interpreted and construed in such a way that meets the Conservation Purpose of this Agreement and the public policy goals referenced in Recital B. It is the intention of the parties that any interpretation or construction shall promote the Conservation Purpose of this Agreement. If any provision of this Agreement or the application thereof to any person or circumstance is found to be invalid, the remainder of the provisions of this Agreement and the application of such provisions to persons or circumstances, other than those as to which it is found to be invalid, shall not be affected thereby.

10. ***Baseline Documentation for Enforcement.*** In order to establish the present condition of the Property's protected values, DISTRICT will prepare Baseline

Documentation prior to the recording of this Agreement, which will be maintained on file with DISTRICT and which is intended to serve as an objective information baseline for monitoring compliance with the terms of this Agreement. The parties agree that the Baseline Documentation provides collectively an accurate representation of the Property at the time of the execution of this Agreement. DISTRICT shall provide GRANTOR, free of charge, one complete copy of all of the Baseline Documentation promptly after it is prepared.

11. **Remedies for Breach.**

A. *DISTRICT'S Remedies.* In the event of a violation or threatened violation of any term, condition, covenant, or restriction contained in this Agreement, DISTRICT'S General Manager may, following notice to GRANTOR, which notice shall contain a reasonable and specific cure period, institute a suit to enjoin and/or recover damages for such violation and/or to require the restoration of the Property to the condition that existed prior to such violation. In the alternative, DISTRICT may, with the consent of GRANTOR, commence a proceeding in arbitration under paragraph 13 of this Agreement. The notice shall be a general written notification of the condition claimed by the DISTRICT to be a violation that is either mailed or delivered by DISTRICT to GRANTOR. If DISTRICT reasonably determines that circumstances require immediate action to prevent or mitigate significant damage to any natural conditions of the Property protected by this Agreement, DISTRICT may pursue its remedies under this paragraph without waiting for the period provided for cure to expire. DISTRICT'S rights under this paragraph apply equally in the event of either actual or threatened violations of the terms of this Agreement, and GRANTOR agrees that DISTRICT'S remedies at law for any violation of the terms of this Agreement are inadequate and that DISTRICT shall be entitled to the injunctive relief described in this paragraph, both prohibitive and mandatory, in addition to such other relief, including damages, to which DISTRICT may be entitled, including specific performance of the terms of this Agreement, without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies.

B. *DISTRICT'S Discretion.* Enforcement of the terms of this Agreement shall be at the discretion of DISTRICT, and any forbearance by DISTRICT to exercise its rights under this Agreement in the event of any breach of any term of this Agreement by GRANTOR shall not be deemed or construed to be a waiver by DISTRICT of such term or of any subsequent breach of the same or any other term of this Agreement. Any failure by DISTRICT to act shall not be deemed a waiver or forfeiture of DISTRICT'S right to enforce any term, condition, covenant, or purpose of this Agreement in the future.

C. *Liquidated Damages.* Inasmuch as the actual damages which would result from the loss of the values associated with the Conservation Purpose of this

Agreement and caused by its breach by GRANTOR are uncertain and would be impractical or extremely difficult to measure, the parties agree that the damages allowed by Civil Code section 815.7(c) shall be measured as follows:

(i) for an improvement prohibited by this Agreement, an amount equal to the product of (A) the market value of the improvement, (B) the length of time that the improvement exists on the Property, and (C) the then current interest rate for post judgment interest; and

(ii) for a change in use prohibited by this Agreement, whether or not it involves an improvement, an amount equal to any economic gain realized by GRANTOR because of the change in use; and

(iii) for a change in use prohibited by this Agreement, whether or not it involves an improvement and where there is no measurable economic gain realized by GRANTOR, the product of (A) the cost of restoration, as set forth in a written estimate by a qualified person selected by DISTRICT, (B) the length of time that the prohibited use continues and (C) the then current interest rate for post judgment interest.

D. *GRANTOR'S Compliance.* If DISTRICT, in the notice to GRANTOR, demands that GRANTOR remove an improvement, discontinue a use or both and claims the damages allowed by Civil Code section 815.7(c), then GRANTOR may mitigate damages by fully complying with DISTRICT'S notice within the cure period provided therein. In the event of such full and timely compliance, DISTRICT shall not be entitled to damages for the breach specified in the notice. In the event of litigation arising out of the notice, brought either by GRANTOR or by DISTRICT, in which GRANTOR prevails, then GRANTOR shall be entitled to economic damages; provided that neither DISTRICT nor GRANTOR shall be entitled to damages where DISTRICT has not claimed damages in its notice.

E. *Remedies Nonexclusive.* The remedies set forth in this paragraph 11 are not intended to displace any other remedy available to either party as provided by this Agreement, Civil Code sections 815 et seq. or any other applicable law.

12. **Acts Beyond GRANTOR'S Control.** Nothing contained in this Agreement shall be construed to entitle DISTRICT to bring any action against GRANTOR for any injury to or change in the Property resulting from causes beyond GRANTOR'S control, including, without limitation, fire, flood, storm, and earth movement, or from any prudent action taken by GRANTOR under emergency conditions to prevent, abate, or mitigate significant injury to the Property resulting from such causes so long as such action, to the extent that GRANTOR has control, is designed and carried out in such a way as to further the Conservation Purpose of this Agreement.



13. **Arbitration.** If a dispute arises between the parties concerning the consistency of any proposed use or activity with the Conservation Purpose of this Agreement, or any other dispute arising under this Agreement, either party, with the prior written consent of the other, may refer the dispute to arbitration by a request made in writing upon the other. Provided that GRANTOR agrees not to proceed with the use or activity pending resolution of the dispute, and upon the agreement of the parties to proceed to arbitration, within thirty (30) days of the receipt of such a request, the parties shall select a single arbitrator to hear the matter. If the parties are unable to agree on the selection of a single arbitrator, then each party shall name one arbitrator and the two arbitrators thus selected shall select a third arbitrator who shall be a retired Federal District Court or California Superior Court judge; provided, however, if either party fails to select an arbitrator, or if the two arbitrators fail to select a third arbitrator within fourteen (14) days after the appointment of the second arbitrator, then in each such instance, a proper court, on petition of a party, shall appoint the second or third arbitrator or both, as the case may be, in accordance with sections 1280, *et seq.* of the California Code of Civil Procedure or any successor statute then in effect. The arbitration shall be determined in accordance with said statute, with the Conservation Purpose of this Agreement, and all relevant provisions of this Agreement, and the applicable laws of the State of California, as the bases for determination and resolution, and a judgment of the arbitration award may be entered in any court having jurisdiction thereof. The prevailing party shall be entitled, in addition to such other relief as may be granted, to a reasonable sum as and for all its costs and expenses related to such arbitration, including, without limitation, the fees and expenses of the arbitrators but excluding attorneys' fees, which shall be determined by the arbitrators and any court of competent jurisdiction that may be called upon to enforce or review the award.

14. **Condemnation.** In the event that the Property or some portion thereof is condemned for public use by an entity other than DISTRICT, the market value for purposes of just compensation shall be determined as though this Agreement did not exist and GRANTOR and DISTRICT shall share the compensation on the following basis: GRANTOR 0% and DISTRICT 100%. In the apportionment of the proceeds from an eminent domain proceeding, an adjustment shall be made in GRANTOR's favor for any increase in value after the date of this Agreement that is attributable to improvements; provided such increase in value is earned through GRANTOR's efforts and is not the result of value added by this easement, the passage of time or other passive means; and provided, further, that such increase in value is not the result of activities constituting a breach of this Agreement.

15. **Agreement to Bind Successors.** The conservation easement herein granted shall be a burden upon and shall continue as a restrictive covenant and equitable servitude running in perpetuity with the Property and shall bind GRANTOR, GRANTOR'S heirs,

personal representatives, lessees, executors, successors, including but not limited to purchasers at tax sales, and assigns forever. The parties intend that this Agreement shall benefit and burden, as the case may be, their respective successors, assigns, heirs, executors, administrators, agents, employees, and all other persons claiming by or through them pursuant to the common and statutory law of the State of California, including, *inter alia*, Civil Code sections 815-816.

16. **Subsequent Deeds and Leases.** GRANTOR agrees that a clear reference to this Agreement will be made in any subsequent deed, or other legal instrument, by means of which any interest in the Property (including, but not limited to, a leasehold interest) is conveyed, and that GRANTOR will notify DISTRICT in writing ten (10) days prior to any such conveyance. These obligations of GRANTOR shall not be construed as a waiver or relinquishment by DISTRICT of rights created in favor of DISTRICT by Paragraph 15 of this Agreement.

17. **Notices.** Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and either served personally or sent by first class mail, postage prepaid, addressed as follows:

**To GRANTOR:** Director of Regional Parks  
County of Sonoma  
2300 County Center Drive, Ste. 120A  
Santa Rosa, CA 95403

**To DISTRICT:** General Manager  
Sonoma County Agricultural Preservation  
and Open Space District  
747 Mendocino Avenue, Ste. 100  
Santa Rosa, CA 95401

or to such other address as either party from time to time shall designate by written notice to the other. Notice, if mailed, shall be deemed to have been given upon the day following the day shown on the postmark of the envelope in which such notice is mailed or, in the event there is no such date shown on the postmark, then the day following the date of mailing shown on DISTRICT'S written declaration of mailing, which writing shall have been executed by a DISTRICT officer or employee.

18. **Successors and Assigns.** The terms GRANTOR and DISTRICT wherever used herein, and any pronouns used in place thereof, shall mean and include the above-named GRANTOR and his heirs, personal representatives, lessees, executors, successors, and assigns, including any person claiming under them, and the above-named DISTRICT and its successors and assigns, respectively.

19. **Integration.** This Agreement is the final and complete expression of the Agreement between the parties and any and all prior or contemporaneous agreements written or oral are merged into this written instrument.

20. **Estoppel Certificates.** DISTRICT shall, at any time during the existence of the Agreement, upon not less than thirty (30) days' prior written notice from GRANTOR, execute and deliver to GRANTOR a statement in writing certifying that the Agreement is unmodified and in full force and effect (or, if modified, stating the nature of such modification) and acknowledging that there is not, to DISTRICT'S knowledge, any default by GRANTOR hereunder, or, if DISTRICT alleges a default by GRANTOR, specifying such default.

IN WITNESS WHEREOF, GRANTOR and DISTRICT have executed this Agreement this 20th day of June, 2007.

GRANTOR:  
COUNTY OF SONOMA

By: Mike Reilly  
Mike Reilly  
Board of Supervisors

GRANTEE:  
SONOMA COUNTY AGRICULTURAL  
PRESERVATION AND OPEN SPACE  
DISTRICT

By: Mike Reilly  
Mike Reilly  
Board of Directors

ATTEST:

By: Robert Deis by J. Borelli  
Robert Deis, Clerk of the Board of Directors

[ACKNOWLEDGEMENTS]

# CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of Sonoma

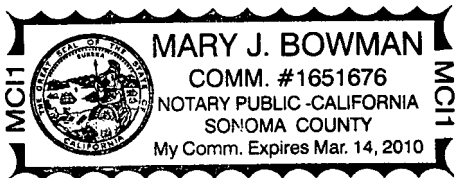
ss.

On June 20, 2007, before me, Mary J. Bowman, Notary Public,  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Mike Reilly,  
Name(s) of Signer(s)

☒ personally known to me

☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Place Notary Seal Above

Mary J. Bowman  
Signature of Notary Public

## OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

### Description of Attached Document

Title or Type of Document: Deed and Agreement Conveying Conservation Easement

Document Date: June 18, 2007 Number of Pages: 13

Signer(s) Other Than Named Above: \_\_\_\_\_

### Capacity(ies) Claimed by Signer(s)

Signer's Name: \_\_\_\_\_

- ☐ Individual  
☐ Corporate Officer — Title(s): \_\_\_\_\_  
☐ Partner — ☐ Limited ☐ General  
☐ Attorney in Fact  
☐ Trustee  
☐ Guardian or Conservator  
☐ Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

RIGHT THUMBPRINT  
OF SIGNER  
Top of thumb here

Signer's Name: \_\_\_\_\_

- ☐ Individual  
☐ Corporate Officer — Title(s): \_\_\_\_\_  
☐ Partner — ☐ Limited ☐ General  
☐ Attorney in Fact  
☐ Trustee  
☐ Guardian or Conservator  
☐ Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

RIGHT THUMBPRINT  
OF SIGNER  
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## EXHIBIT "A"

### DESCRIPTION:

The land referred to herein is situated in the State of California, County of Sonoma, Unincorporated Area, and is described as follows:

THE PARCEL OF LAND LYING NEAR THE EASTERLY BOUNDARY OF RANCHO AQUA CALIENTE, AND BEING A PORTION OF THE LANDS DEEDED BY WILLIAM McPHERSON HILL TO THE STATE OF CALIFORNIA DATED OCTOBER 3, 1889, AND RECORDED IN BOOK 123 OF DEEDS, AT PAGE 266, SONOMA COUNTY RECORDS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A 3/4 INCH IRON PIPE WITH BRASS CAP STAMPED "SSH", ACCEPTED AS MARKING THE MOST EASTERLY CORNER OF THE PARCEL DESCRIBED IN THE CORRECTION DEED FROM THE STATE OF CALIFORNIA TO THE COUNTY OF SONOMA DATED JULY 17, 1978, AND RECORDED IN BOOK 3456 AT PAGE 474; THENCE ALONG THE SOUTHERLY BOUNDARY OF SAID PARCEL SOUTH 67° 06' 45" WEST, 1,262.31 FEET TO AN IRON PIPE TAGGED RCE 28044; THENCE LEAVING SAID SOUTHERLY BOUNDARY SOUTH 78° 07' 10" EAST, 300.1 FEET TO AN IRON PIPE TAGGED RCE 28044; THENCE SOUTH 60° 13' 19" EAST, 880.48 FEET TO AN IRON PIPE TAGGED RCE 28044; THENCE SOUTH 42° 00' 50" EAST, 1,101.52 FEET TO AN IRON PIPE TAGGED RCE 28044; THENCE SOUTH 37° 45' 14" EAST, 663.55 FEET TO AN IRON PIPE TAGGED RCE 28044; THENCE NORTH 77° 04' 55" EAST, 364.47 FEET TO AN IRON PIPE TAGGED RCE 28044; THENCE NORTH 15° 07' 44" EAST, 169.37 FEET TO AN IRON PIPE TAGGED RCE 28044 IN THE WESTERLY BOUNDARY OF STATE HIGHWAY 12 AS SAID HIGHWAY IS DESCRIBED IN SENATE BILL 310 AND SHOWN UPON THE RIGHT-OF-WAY RECORD MAP FILED WITH THE STATE OF CALIFORNIA AND NUMBERED R-501.19 AND R-501.20; THENCE CONTINUING ALONG THE WESTERLY BOUNDARY OF SAID HIGHWAY 12 THE FOLLOWING COURSES:

NORTH 29° 41' 30" WEST, 162.06 FEET; THENCE ALONG A NON-TANGENT CURVE TO THE LEFT HAVING A RADIUS OF 2,970.05 FEET AND AN ARC LENGTH OF 266.95 SUBTENDED BY A CHORD BEARING NORTH 52° 16' 00" WEST, 266.86 FEET; THENCE NORTH 34° 50' 30" WEST, 1,736.71 FEET TO A 6 X 6 CONCRETE MONUMENT WITH A STEEL PIN AT THE CENTER ACCEPTED AS MARKING THE SOUTHERLY END OF A CURVE AS SHOWN ON SAID DRAWING R-501.19; THENCE ALONG A NON-TANGENT CURVE TO THE LEFT WITH A RADIUS OF 4,966.38 FEET AND ARC LENGTH 336.09 FEET TO A 6 X 6 CONCRETE MONUMENT WITH A STEEL PIN AT THE CENTER ACCEPTED AS MARKING THE NORTHERLY END OF SAID CURVE, SUBTENDED BY A CHORD BEARING NORTH 36° 46' 45" WEST, 336.03 FEET; THENCE NORTH 38° 43' 00" WEST, 34.73 FEET RETURNING TO THE POINT OF BEGINNING.

THE BASIS OF BEARING IS THE 336.03 FOOT CHORD BEARING NORTH 36° 46' 45" WEST, CALCULATED FROM RECORD CURVE DATA BETWEEN THE TWO 6 X 6 CONCRETE MONUMENTS SHOWN ON MAP R-501.19.

APN: 054-150-008 (portion)



## EXHIBIT "B"

### PERMITTED USES

Uses and practices that are consistent with the Sonoma Valley Regional Master Plan Amendment to be completed by Regional Parks, approved by DISTRICT's General Manager, and approved by the County Board of Supervisors are permitted under this Agreement provided that they are undertaken in accordance with the terms and provisions of this Agreement and in a manner consistent with Conservation Purpose of this Agreement, and further provided that they are undertaken in compliance with all applicable laws and regulations and that all applicable governmental approvals and permits are properly obtained and followed.

The Sonoma Valley Regional Master Plan may be further amended from time to time as required by changed conditions such as the evolving recreational needs of the public so long as any amendment to uses within the subject addition to Sonoma Valley Regional Park is not inconsistent with the Conservation Purpose of this Agreement and is subject to approval of DISTRICT's General Manager.

## EXHIBIT "C"

### PROHIBITED USES

Any use or practice that is inconsistent with the Permitted Uses expressed in Exhibit "B" of this Agreement is prohibited.

Any act or omission causing a default of any of the obligations set forth in the State of California Quitclaim Deed of the property to GRANTOR is prohibited.

CERTIFICATE OF ACCEPTANCE  
(Government Code Section 27281)  
OF REAL PROPERTY BY THE  
BOARD OF DIRECTORS OF THE  
SONOMA COUNTY AGRICULTURAL PRESERVATION  
AND OPEN SPACE DISTRICT

This is to certify that the interests in real property conveyed by the Conservation Easement Agreement dated JUNE 20 2007, from the County of Sonoma to the Sonoma County Agricultural Preservation and Open Space District, a governmental agency formed pursuant to the provisions of Public Resources Code Section 5506.5, is hereby accepted by the President of the Board of Directors on behalf of the District pursuant to the authority conferred by the Board of Directors Resolution No. 07-0323, dated APRIL 24, 2007 and the District consents to the recordation thereof by its duly authorized officer.

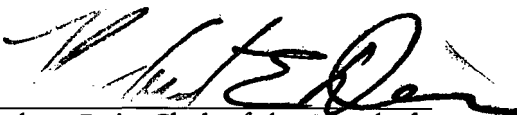
Sonoma County Agricultural Preservation and  
Open Space District

Dated: 4/24/07

By: Valerie Brown

Valerie Brown  
President Board of Directors

ATTEST:

  
Robert Deis, Clerk of the Board of  
Directors

**Appendix B**  
**Plant Species Observed**  
**Sonoma Valley Regional Park Expansion, March-April 2016**

Common Name	Latin Name	Native (N) or Introduced (I)
awl-leaf lilaea	<i>Lilaea scilloides</i>	N
bindweed	<i>Convolvulus arvensis</i>	I
black mustard	<i>Brassica nigra</i>	I
black oak	<i>Quercus kelloggii</i>	N
blue gum	<i>Eucalyptus globulus</i>	I
blue oak	<i>Quercus douglasii</i>	N
blue wildrye	<i>Elymus glaucus</i>	N
blue-eyed grass	<i>Sisyrinchium bellum</i>	N
bractless hedgehyssop	<i>Gratiola ebracteata</i>	N
bristly ox-tongue	<i>Helminthotheca echioides</i>	I
brome fescue	<i>Festuca bromoides</i>	I
bullthistle	<i>Cirsium vulgare</i>	I
buttercup	<i>Ranunculus californicus</i>	N
butter'n'eggs	<i>Triphysaria erianthassp.</i>	N
California bay	<i>Umbellularia californica</i>	N
California buckeye	<i>Aesculus californica</i>	N
California fescue	<i>Festuca californica</i>	N
California oat grass	<i>Danthonia californica</i>	N
California polypody	<i>Polypodium californicum</i>	N
California poppy	<i>Eschscholzia californica</i>	N
checkerbloom	<i>Sidalcea cf. malviflora ssp.</i>	N
cleavers	<i>Galium aparine</i>	N
coast live oak	<i>Quercus agrifolia</i>	N
coffee fern	<i>Pellaea andromedifolia</i>	N
common fiddleneck	<i>Amsinckia intermedia</i>	N
common groundsel	<i>Senecio vulgaris</i>	I
common maidenhair fern	<i>Adiantum capillus-veneris</i>	N
common manzanita	<i>Arctostaphylos manzanita</i>	N
common meadowfoam	<i>Limnanthes douglasii</i>	N
coyote brush	<i>Baccharis pilularis</i>	N
creeping spikerush	<i>Eleocharis macrostachya</i>	N
curly dock	<i>Rumex crispus</i>	I
cut-leaf geranium	<i>Geranium dissectum</i>	I
Douglas fir	<i>Psuedotsuga menziesii var.</i>	N
English plantain	<i>Plantago lanceolata</i>	I
farmer's foxtail	<i>Hordeum murinum ssp.</i>	I
fennel	<i>Foeniculum vulgare*</i>	I
field marigold	<i>Calendula arvensis*</i>	I
French broom	<i>Genista monspessulana*</i>	I
fringe pod	<i>Thysanocarpus curvipes</i>	N
goldenback fern	<i>Pentagramma triangularis</i>	N
Harding grass	<i>Phalaris aquatica*</i>	I
hillside pea	<i>Lathyrus vestitus</i>	N
Himalayan blackberry	<i>Rubus armeniacus*</i>	I
honeysuckle	<i>Lonicera hispidula</i>	N
hound's tongue	<i>Cynoglossum grande</i>	N
hyssop loosestrife	<i>Lythrum hyssopifolia</i>	I
Idaho fescue	<i>Festuca idahoensis</i>	N
imbricate phacelia	<i>Phacelia imbricata</i>	N
Italian ryegrass	<i>Festuca perennis</i>	I

\*Invasive species.

**Appendix B**  
**Plant Species Observed**  
**Sonoma Valley Regional Park Expansion, March-April 2016**

Common Name	Latin Name	Native (N) or Introduced (I)
Italian thistle	<i>Carduus pycnocephalus</i>	I
Kellogg's yampah	<i>Perideridia kelloggii</i>	N
Klamath weed	<i>Hypericum perforatum*</i>	I
lanceleaf water plantain	<i>Alisma lanceolatum</i>	I
lemon balm	<i>Melissa officinalis</i>	I
long beaked filaree	<i>Erodium botrys</i>	I
low bulrush	<i>Scirpus cernuus</i>	N
mannagrass	<i>Glyceria sp.</i>	varies
Mediterranean barley	<i>Hordeum marinum ssp.</i>	I
medusahead	<i>Elymus caput-medusae</i>	I
milk thistle	<i>Silybum marianum</i>	I
milk-maids	<i>Cardamine californica</i>	N
miner's lettuce	<i>Claytonia perfoliata</i>	N
miniature lupine	<i>Lupinus bicolor</i>	N
mosquito fern	<i>Azolla filiculoides</i>	N
narrow leaf mule ears	<i>Wyethia angustifolia</i>	N
native iris	<i>Iris sp.</i>	N
needle leaved navarretia	<i>Navarretia intertexta ssp.</i>	N
needle spikerush	<i>Eleocharis acicularis</i>	N
olive	<i>Olea europaea*</i>	I
ookow	<i>Dichelostemma congestum</i>	N
Oregon oak	<i>Quercus garryana</i>	N
Pacific madrone	<i>Arbutus menziesii</i>	N
Pacific sanicle	<i>Sanicula crassicaulis</i>	N
parrot feather	<i>Myriophyllum aquaticum</i>	I
pennyroyal	<i>Mentha pulegium</i>	I
pine	<i>Pinus sp.</i>	I
popcornflower	<i>Plagiobothrys sp.</i>	N
pricklefruit buttercup	<i>Ranunculus muricatus</i>	I
prickly lettuce	<i>Lactuca serriola</i>	I
purple needle grass	<i>Stipa pulchra</i>	N
purple sanicle	<i>Sanicula bipinnatifida</i>	N
purple vetch	<i>Vicia benghalensis</i>	I
red maids	<i>Calandrinia ciliata</i>	N
red stemmed filaree	<i>Erodium cicutarium</i>	I
ripgut brome	<i>Bromus diandrus</i>	I
rosy sandcrocus	<i>Romulea rosaea</i>	I
rough cat's ear	<i>Hypochaeris radicata</i>	I
scarlet pimpernel	<i>Anagallis arvensis</i>	I
sedge	<i>Carex sp.</i>	N
sheep sorrel	<i>Rumex acetosella</i>	I
silver wattle	<i>Acacia dealbata*</i>	I
sky lupine	<i>Lupinus nanus</i>	N
slender wild oat	<i>Avena barbata</i>	I
snowberry	<i>Symphoricarpos albus</i>	N
soap plant	<i>Chlorogalum pomeridianum</i>	N
soft chess brome	<i>Bromus hordeaceus</i>	I
spreading hedgeparsley	<i>Torilis arvensis</i>	I
spreading rush	<i>Juncus patens</i>	N
spring vetch	<i>Vicia sativa</i>	I

\*Invasive species.



**Appendix B**  
**Plant Species Observed**  
**Sonoma Valley Regional Park Expansion, March-April 2016**

Common Name	Latin Name	Native (N) or Introduced (I)
sticky chickweed	<i>Cerastium glomeratum</i>	I
stinking chamomile	<i>Anthemis cotula</i>	I
sun cups	<i>Camissonia ovata</i>	N
tall flatsedge	<i>Cyperus eragrostis</i>	N
teasel	<i>Dipsacus sativus</i>	I
toad rush	<i>Juncus bufonius</i> var. <i>bufonius</i>	N
toyon	<i>Heteromeles arbutifolia</i>	N
valley oak	<i>Quercus lobata</i>	N
vinegar weed	<i>Trichostema lanceolatum</i>	N
western poison oak	<i>Toxicodendron diversilobum</i>	N
wild hyacinth	<i>Dichelostemma capitatum</i>	N
wild radish	<i>Raphanus sativus</i>	I
willow	<i>Salix</i> sp.	N
willow herb	<i>Epilobium</i> sp.	varies
wire rush	<i>Juncus balticus</i>	N
wood fern	<i>Dryopteris arguta</i>	N
woodland star	<i>Lithophragma affine</i>	N
yampah	<i>Perideridia kelloggii</i>	N
yarrow	<i>Achillea millefolium</i>	N
yellow starthistle	<i>Centaurea solstitialis</i> *	I

\*Invasive species.

**Appendix C**  
**Plant Species Suitable for Revegetation Efforts**  
**Sonoma Valley Regional Park Expansion**

Life Form	Common Name	Latin Name	Sun and Moisture Requirements (Full sun and drought tolerant once established unless otherwise noted)	Notes
Tree	black oak	<i>Quercus kelloggii</i>		
Tree	blue oak	<i>Quercus douglasii</i>		Suitable for visual buffer on northern boundary
Tree	California bay	<i>Umbellularia californica</i>		
Tree	California buckeye	<i>Aesculus californicus</i>		
Tree	coast live oak	<i>Quercus agrifolia</i>		
Tree	madrone	<i>Arbutus menziesii</i>		Suitable for visual buffer on northern boundary
Tree	Oregon oak	<i>Quercus garryana</i>		
Tree	shining willow	<i>Salix lasiandra</i>	edge of seasonally or perennially ponded areas	Suitable for revegetation/shading around pond
Shrub	arroyo willow	<i>Salix lasiolepis</i>	seasonally ponded areas	Suitable for wildlife screening around pond
Shrub	California blackberry	<i>Rubus ursinus</i>	part shade, some moisture	
Shrub	coffeeberry	<i>Frangula californica</i>		Suitable for visual buffer on northern boundary, pond outlet drainage top of bank
Shrub	coyote brush	<i>Baccharis pilularis</i>		Fast growing, good for disturbed soil/erosion control; suitable for visual buffer on northern boundary, pond outlet drainage top of
Shrub	common manzanita	<i>Arctostaphylos manzanita</i>		Suitable for visual buffer on northern boundary
Vine	honeysuckle	<i>Lonicera hispidula</i>	part shade	
Shrub	snowberry	<i>Symphoricarpos albus, mollis</i>	sun to part shade	
Shrub	toyon	<i>Heteromeles arbutifolia</i>	sun to part shade	Suitable for visual buffer on northern boundary
Grass	blue wildrye	<i>Elymus glaucus</i>	sun to part shade	from seed; fast growing, good for erosion control
Grass	California brome	<i>Bromus carinatus</i>	sun to part shade	from seed; fast growing, good for erosion control
Grass	California fescue	<i>Festuca californica</i>	part shade	from plugs; suitable for trail edges in woodland and understory restoration demonstration area
Grass	California oatgrass	<i>Danthonia californica</i>		from plugs; suitable for trail edges in open areas
Grass	purple needlegrass	<i>Stipa pulchra</i>		from seed or plugs; suitable for pond outlet drainage top of bank
Grass	creeping wild rye	<i>Elymus triticoides</i>	seasonally wet areas	from plugs; rhizomatous, suitable for teasel removal area
Grass	meadow barley	<i>Hordeum brachyantherum</i>	seasonally wet areas	from seed; suitable for teasel removal area
Rush	wire rush	<i>Juncus balticus</i>	seasonally wet areas	from plugs; rhizomatous, good for erosion control
Rush	common rush	<i>Juncus patens</i>	seasonally wet areas	from plugs; bunching; good for erosion control
Herb	California poppy	<i>Eschscholzia californica</i>		from seed

**Appendix C**  
**Plant Species Suitable for Revegetation Efforts**  
**Sonoma Valley Regional Park Expansion**

Life Form	Common Name	Latin Name	Sun and Moisture Requirements (Full sun and drought tolerant once established unless otherwise noted)	Notes
Herb	common buttercup	<i>Ranunculus californicus</i>	seasonally wet areas	from seed
Herb	iris	<i>Iris douglasiana</i>	sun to part shade	from bulbs; suitable for understory restoration demonstration area
Herb	miniature lupine	<i>Lupinus bicolor</i>		from seed
Herb	red maids	<i>Calandrinia ciliata</i>		from seed
Herb	self-heal	<i>Prunella vulgaris</i>	part shade, some moisture	from plugs
Herb	sky lupine	<i>Lupinus nanus</i>		from seed
Herb	soap plant	<i>Chlorogalum pomeridianum</i>	sun to part shade	from seed or bulbs; suitable understory restoration demonstration area
Herb	Spanish clover	<i>Acmispon americanus</i>		from seed
Herb	sword fern	<i>Polystichum munitum</i>	part shade, some moisture	from containers
Herb	vinegar weed	<i>Trichostema lanceolatum</i>		from seed; suitable for trail decommissioning areas in sun
Herb	western goldenrod	<i>Euthamia occidentalis</i>	seasonally wet areas	from seed; rhizomatous; suitable for teasel removal area
Herb	yampah	<i>Perideridia kelloggii</i>		from plugs
Herb	yarrow	<i>Achillea millefolium</i>		from seed

## Appendix D - Habitat Restoration Methods

This Plan provides general guidance on restoration for the Expansion properties. Once specific projects are selected for implementation, site-specific plans should be developed by a restoration specialist. Plans typically include a statement of project goals, site preparation methods (soil treatments and invasive species control) as needed, planting locations, plant species composition, plant sourcing plans, plant protection methods, and maintenance and watering protocols. For larger projects, identifying monitoring methods, success criteria, and potential remedial actions are also important. The level of detail needed for the restoration plan will depend on the scope of the project, and the sensitivity of the habitat involved.

### *Identifying Project Goals*

Clearly identifying project goals from the start provides a basis for success criteria, and for determining whether project efforts were effective. For instance, a goal for a project that combines invasive teasel removal and planting of native perennials could be to replace invasive teasel stands with a structurally diverse suite of native wet meadow perennials that supports birds and pollinators. A goal for a planting around Damsel Pond may be to establish increased cover of native shrubs and trees to support wildlife use of the pond.

### *Preparing the Site*

Site preparation for restoration may include invasive species control or, on slopes, installation of biodegradable erosion control materials. For trail decommissioning, decompaction of soil by tilling and, where topsoil is lacking, incorporation of weed-free composted plant material, is valuable to improve soil structure, biology, and chemistry. Low nutrient levels typically favor native species over introduced species, so high-nitrogen supplements should generally be avoided. Native soil layers should generally be kept intact. However, if soil is infested with weed seeds, a restoration specialist may decide to bury infested soil under other soil layers, or take other actions to limit invasive germination. There may be other areas, such as the vernal pool on the Curreri property, where soil nutrient levels are relatively high and may be reducing the ability of small native forbs to successfully compete with non-native grasses. Removal of some topsoil could be considered within the pool to reduce nutrient availability, but should only be done under the direction of an experienced restoration specialist after study of the site's soil and seedbank conditions.

Where substantial invasive species populations are present, control or eradicate these before planting; see *Invasive Plant Management* for details.

## *Planting Design*

Planting design may be illustrated in detail (i.e., all plants individually called out on drawings) or more generally (i.e., appropriate planting zones identified). If the site includes a variety of microhabitats, appropriate species for each setting should be called out. Generally, mimicking natural distribution of plants is desirable for an open space setting. Creating same-species clusters, rather than dispersing all species evenly over the site, can facilitate wildlife use. Plant spacing and total plant numbers should be guided by expected mortality and project goals as well as by each species' typical growth patterns. For plantings intended to slow the spread of invasive species, dense plantings may be crucial to success.

## *Selecting a Plant Palette and Propagule Types*

Appendix C provides lists of species suitable for restoration seeding or planting on the Expansion properties, with guidance on species' sun and moisture needs. These lists are not exhaustive, but any additional species selected should be reviewed by a botanist or restoration specialist. On the Expansion properties, restoration needs are limited, and abundant nearby intact habitat can be used as a guide for species selection. As we change the Earth's climate, we also need to consider what species are likely to thrive in more volatile, warming conditions. In general, including a diversity of plant types appropriate to the habitat (e.g., shrubs, vines, perennials, and herbaceous species rather than only trees in a woodland setting) will provide the greatest ecological benefits. Using a range of species is also wise when conditions are changing and unpredictable, to enhance the likelihood of success. Other constraints such as propagule availability, ease of establishment, and irrigation needs should also be considered in species selection.

Suitable propagule types will depend on plans for irrigation, maintenance, and plant protection, and on availability. On the Expansion properties, native trees should generally be planted directly from seed, or from restoration nursery containers (e.g. deep, narrow containers such as Deepots or Treepots); in focal areas with more traffic, larger specimens may be desirable but are likely to need more irrigation to establish. Shrubs will typically be planted from restoration containers. Herbaceous perennials can be planted from plugs or, in some cases, from seed. Perennial grasses can be planted from seed or plugs; see Appendix C for recommendations by species. See below for discussion of possible vernal pool seeding.

## *Seed or Plant Collection/Propagation*

Revegetation efforts should use genetically appropriate local plant material. In general, seed sources should be from the Park and Expansion properties or adjacent wildlands, or at least from the larger Sonoma Creek watershed. Any seeding within the vernal pools should be directed by a botanist knowledgeable about vernal pool plants and their genetics. Inoculation of the Curreri pool with a small amount of duff and topsoil (which typically contains many seeds) from a more diverse adjacent pool on



the existing Park or Bouverie Preserve could be considered. This would require careful oversight and planning.

As climate continues to change, it may be desirable to select species or seed sources that are nearby but from slightly hotter, dryer, or more exposed locations or topographic positions, in an attempt to incorporate the genetic stock of individuals tolerant of new conditions. This approach is still under consideration by restoration scientists and should be carefully researched to avoid unintentional deleterious effects on local genetic diversity.

Occasionally, appropriate material may be available commercially from local nurseries or regional native seed producers. More often, custom collection and/or propagation will need to take place. This may be done in partnership with local organizations that operate restoration nurseries, such as the county jail, or with commercial restoration nurseries. Seed collection will frequently be possible on the Expansion properties itself. Seed collection can be a good activity for supervised volunteers under the guidance of a restoration specialist. Seed collection efforts must be certain not to damage donor populations, and should aim to incorporate an array of the existing diversity in the donor population.

### *Planting from Seed*

Seeding may be accomplished by broadcasting and raking in (for small areas). If seeding of extensive roadside areas is undertaken, hydroseeding could also work well. All seeding methods must ensure that seed is in contact with soil, and is covered by appropriate mulch or a thin layer of soil. This covering helps protect seeds from predation and helps soil retain moisture. Mulch may consist of a variety of weed-free materials such as weed-free straw or native grass hay, hydromulch, or biodegradable erosion control mats.

### *Planting from Containers and Plant Protection*

Planting holes should generally be as deep as the root ball of container plants, and approximately twice as wide as the root mass. Providing a soil berm around the plant helps retain water. Mulching with clean, weed-free, chipped woody material (typically to a depth of 3", and a diameter of 2') helps retain soil moisture and reduce weed growth. Weed mats of biodegradable material such as cardboard or burlap may also be used, but must be securely anchored in areas of seasonal flooding. Protective netting, tubing, or fencing will probably be needed to protect Expansion property woody plantings from herbivory by deer, rabbits, and rodents, and from string trimming damage. Ensure that any non-biodegradable materials are removed from the site when the protection is no longer needed.

### *Irrigation*

For woody plantings outside of an active channel, irrigation is usually very helpful in establishing native species. Typically, plantings are irrigated for three to five years after planting, and waterings are

gradually reduced in frequency as plants become established. Two common approaches to irrigation in open space settings are drip systems or time-release water products such as DriWater™. Drip irrigation generally produces best results in plant survival and growth, but can be expensive and requires a nearby water source. On the Expansion properties, drip irrigation would probably not be feasible, but DriWater™ could be used. This is a gel installed in plastic tubes that slowly releases water as natural bacterial action breaks down the gel. The product is installed at planting time and the gel is replaced on an approximately monthly basis during the dry season. While not as effective as drip irrigation or hand watering, DriWater™ may increase plant survival where no other irrigation method is feasible. Finally, if volunteer labor and supervision are available, and plantings are close to a fire road, a water truck could be used, with volunteers taking buckets of water to individual plants, or using a hose to reach plants.

For herbaceous perennial plantings, irrigation is often helpful when it is available, but is not necessarily essential in a wildlands setting like the Expansion properties. Using vigorous, well-rooted plugs and planting during the early rainy season will increase chances of success without irrigation.

### *Monitoring and Maintenance*

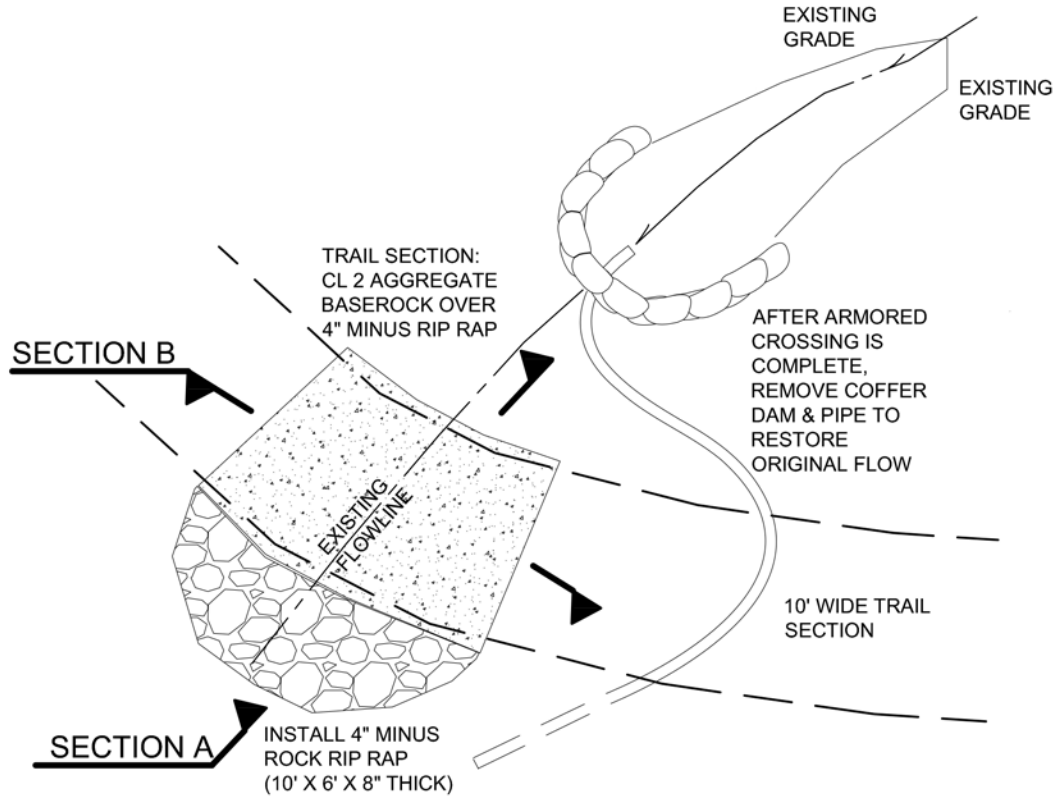
Maintenance and monitoring of revegetation efforts typically continues for at least three to five years after planting. Monitoring results will help identify maintenance needs, show project progress or lack thereof, and help inform future efforts. For small projects, monitoring may be informal; for more substantial efforts, recording data on survivorship, growth, native plant cover or richness, and invasive species abundance is very useful. Remedial actions can include replanting (often with different species better suited to site conditions), increased irrigation or plant protection, erosion repair, and weed control. Photomonitoring can be helpful to show qualitative changes in the site over time. To assess herbaceous establishment, either formal (e.g., line intercept or quadrat-based) or informal (e.g., visually estimated) quantitative assessment of plant cover can be used.

### *Schedule of Work*

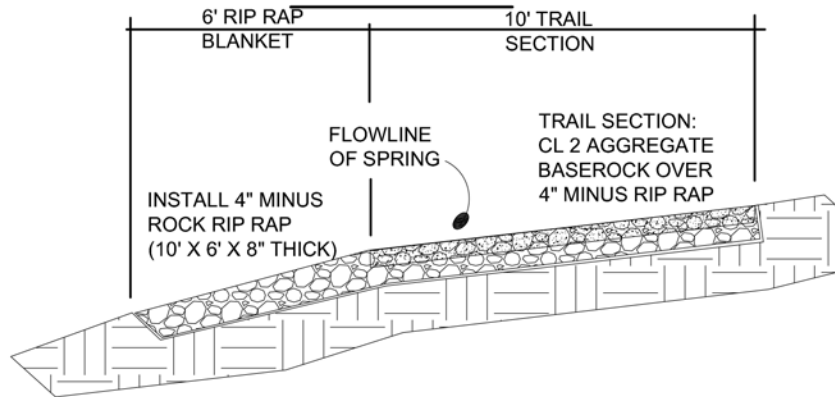
Most native plant installation should occur in October through December, when rainfall supports plant establishment. Planting at other times of year may reduce likelihood of establishment, or may require additional irrigation. Weed control and irrigation are usually needed from approximately April through September, depending on annual weather conditions. Maintenance of plant protection may be needed throughout the year, depending on pressure from wildlife and other site conditions. Formal monitoring for herbaceous species is easiest to conduct when most species are blooming, in April or May. Formal monitoring for planted woody species can be conducted at any time when deciduous plants are in full leaf, but monitoring in late summer will provide the best assessment of dead plants if replacement plantings are planned.

## **Appendix E – Trail Construction Details**

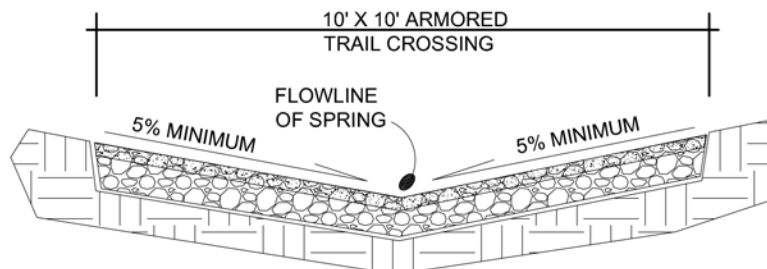
# ARMORED CROSSING



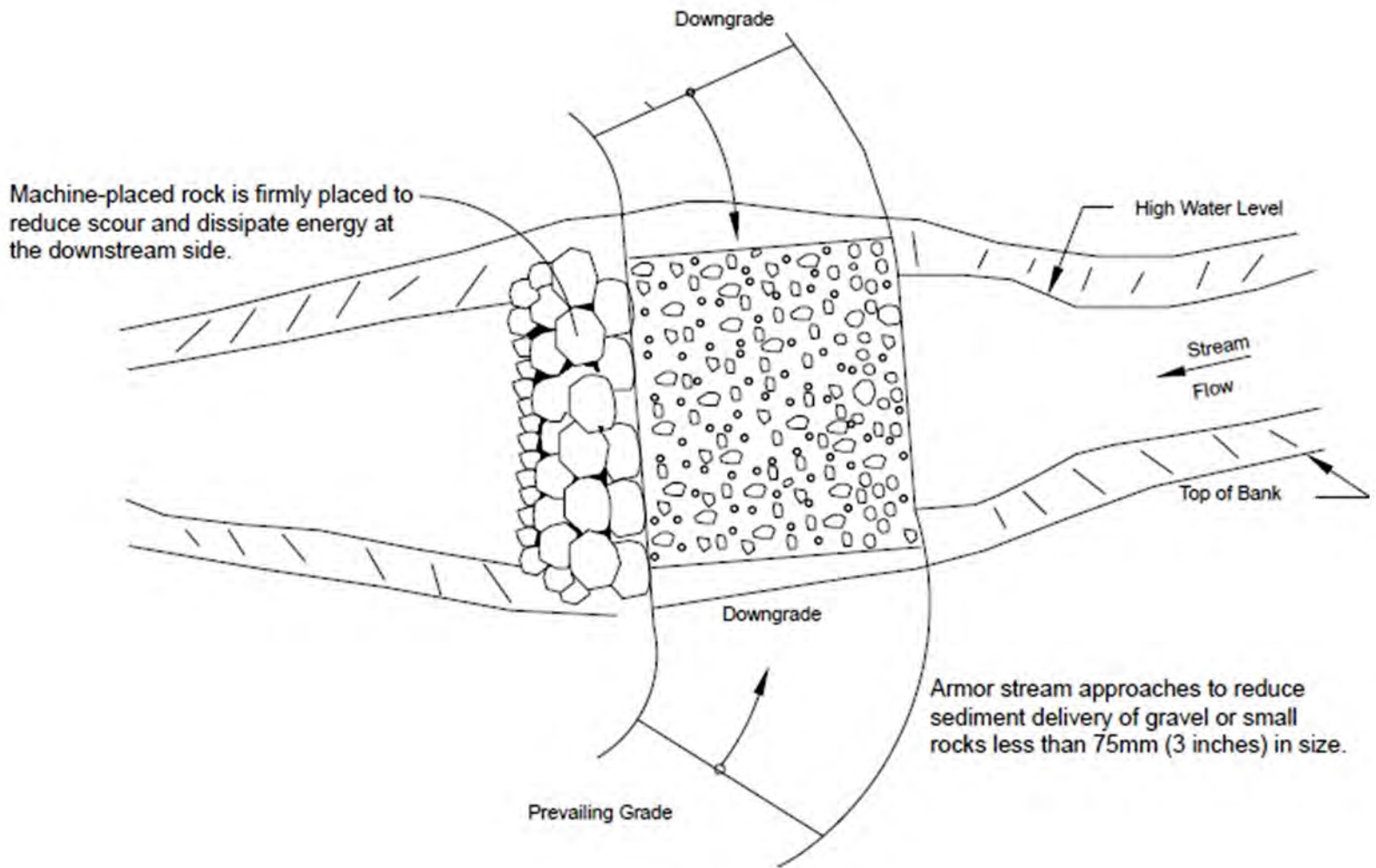
## PLAN VIEW



## SECTION A - ARMORED CROSSING

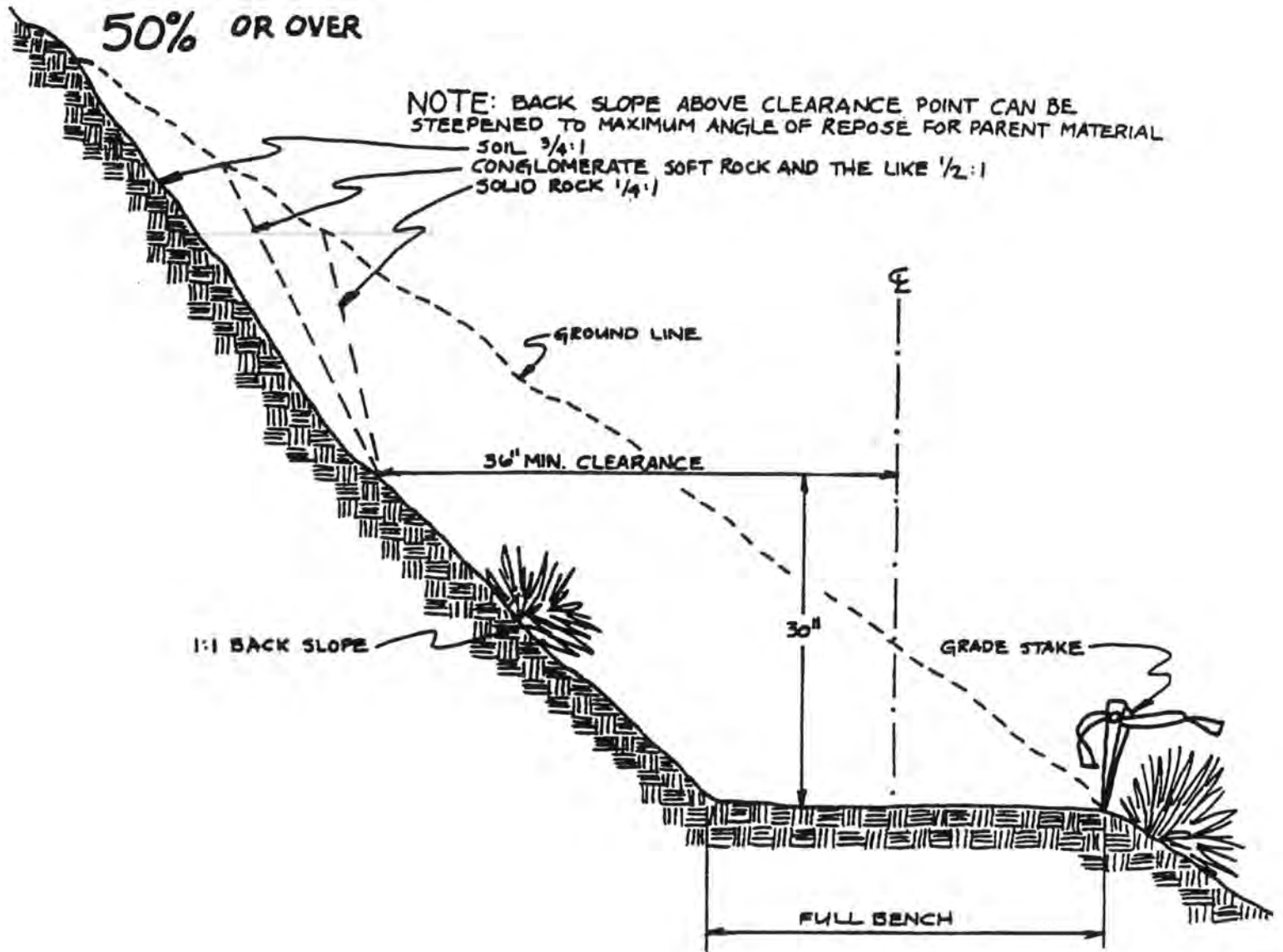


# ARMORED DIP

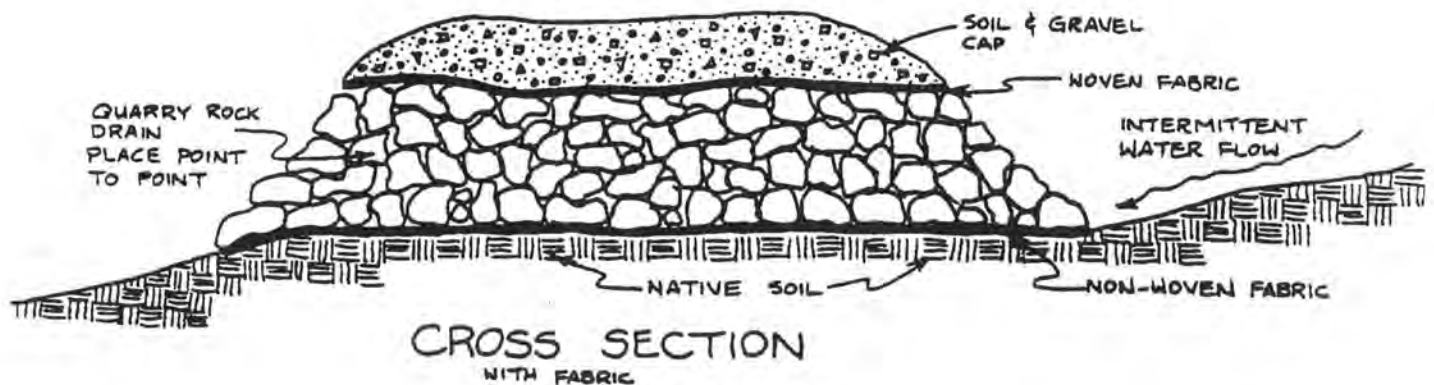
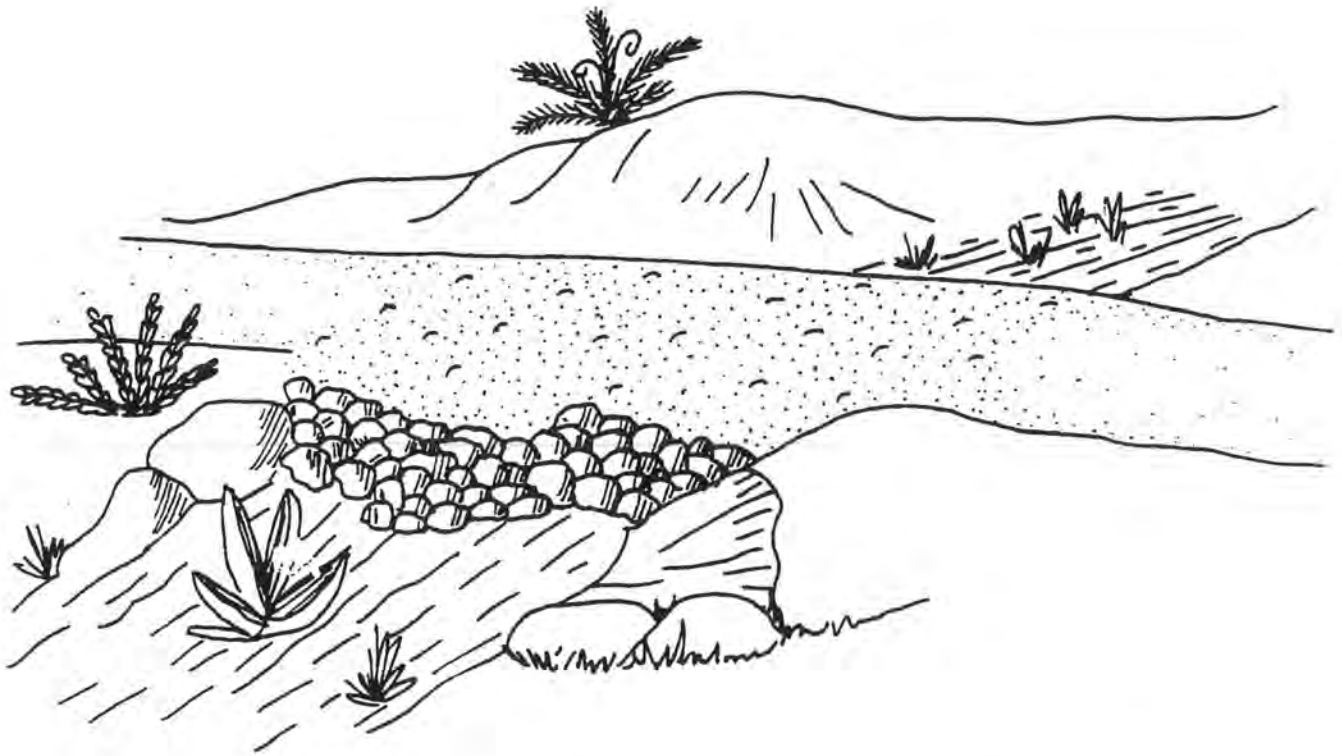




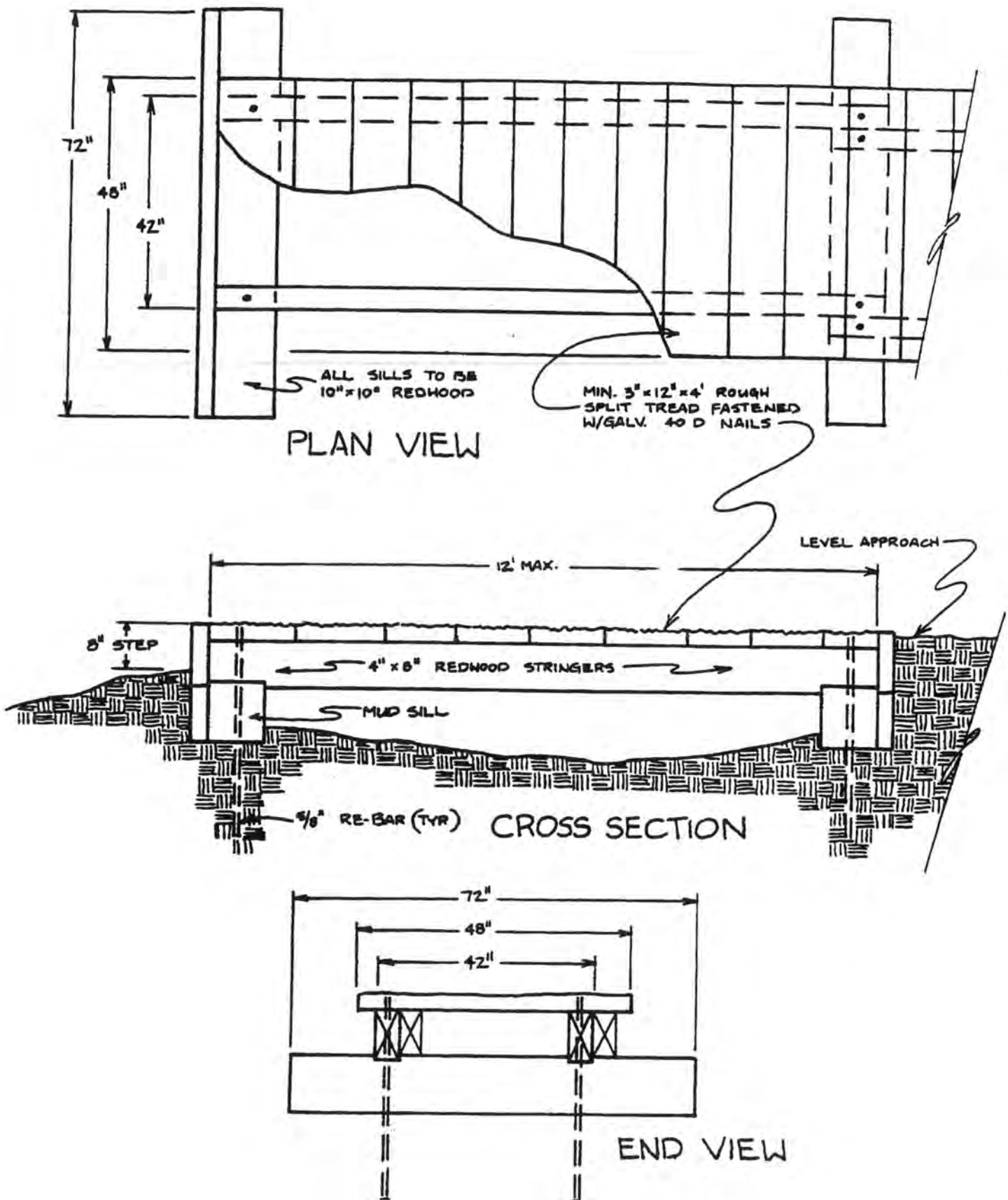
# BENCH CUT



# TYPICAL DRAINAGE LENSE

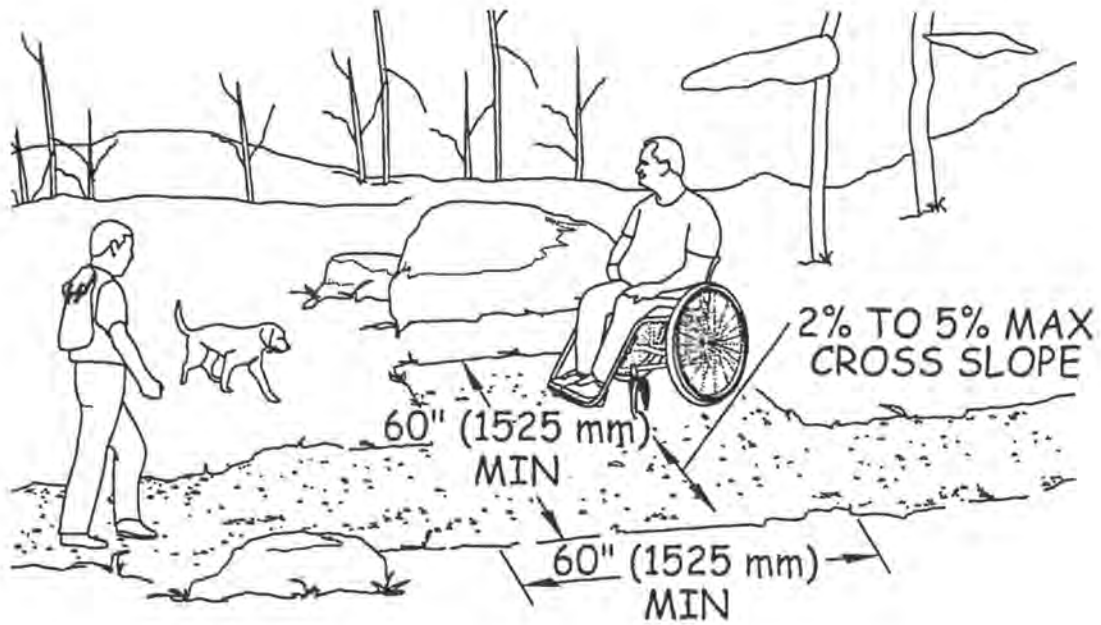


# TYPICAL PUNCHEON



## RESTING SPACE

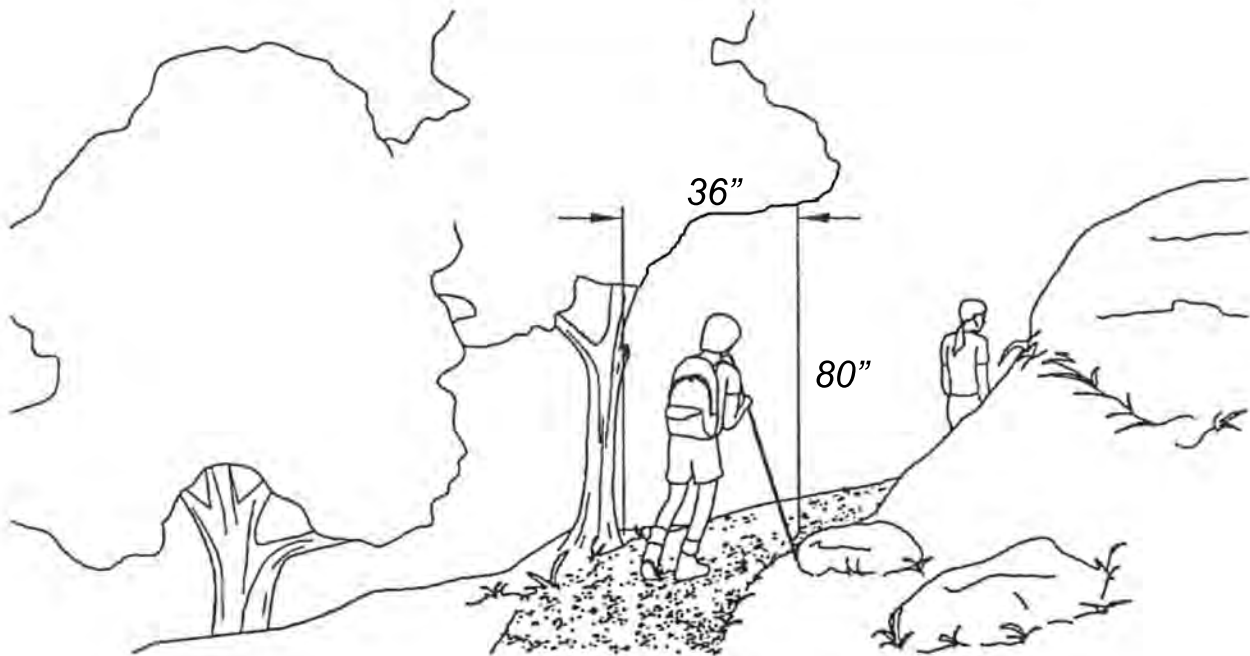
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Minimum dimensions for a passing space

## TRAIL WIDTH

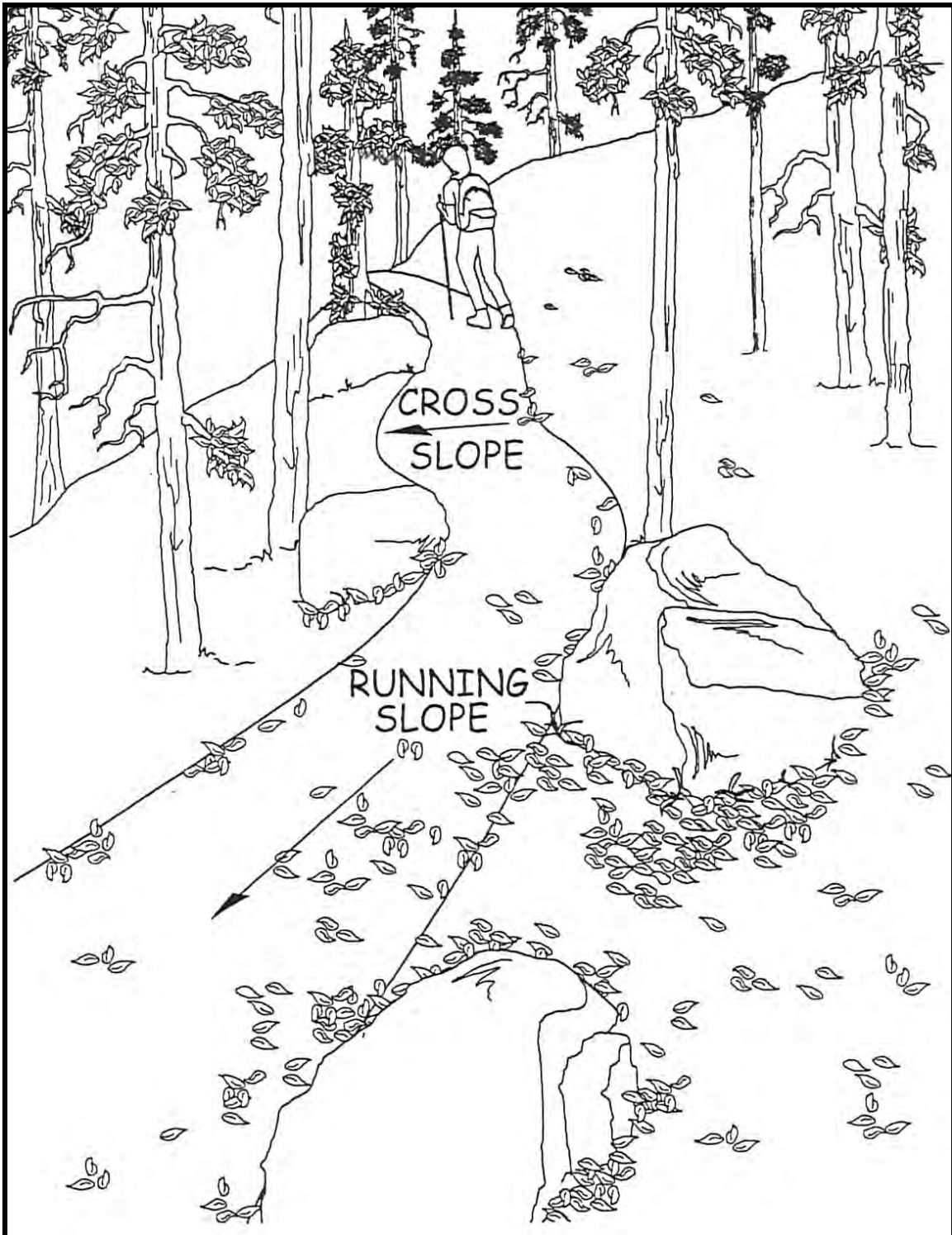
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Minimum clear trail tread width and obstruction height

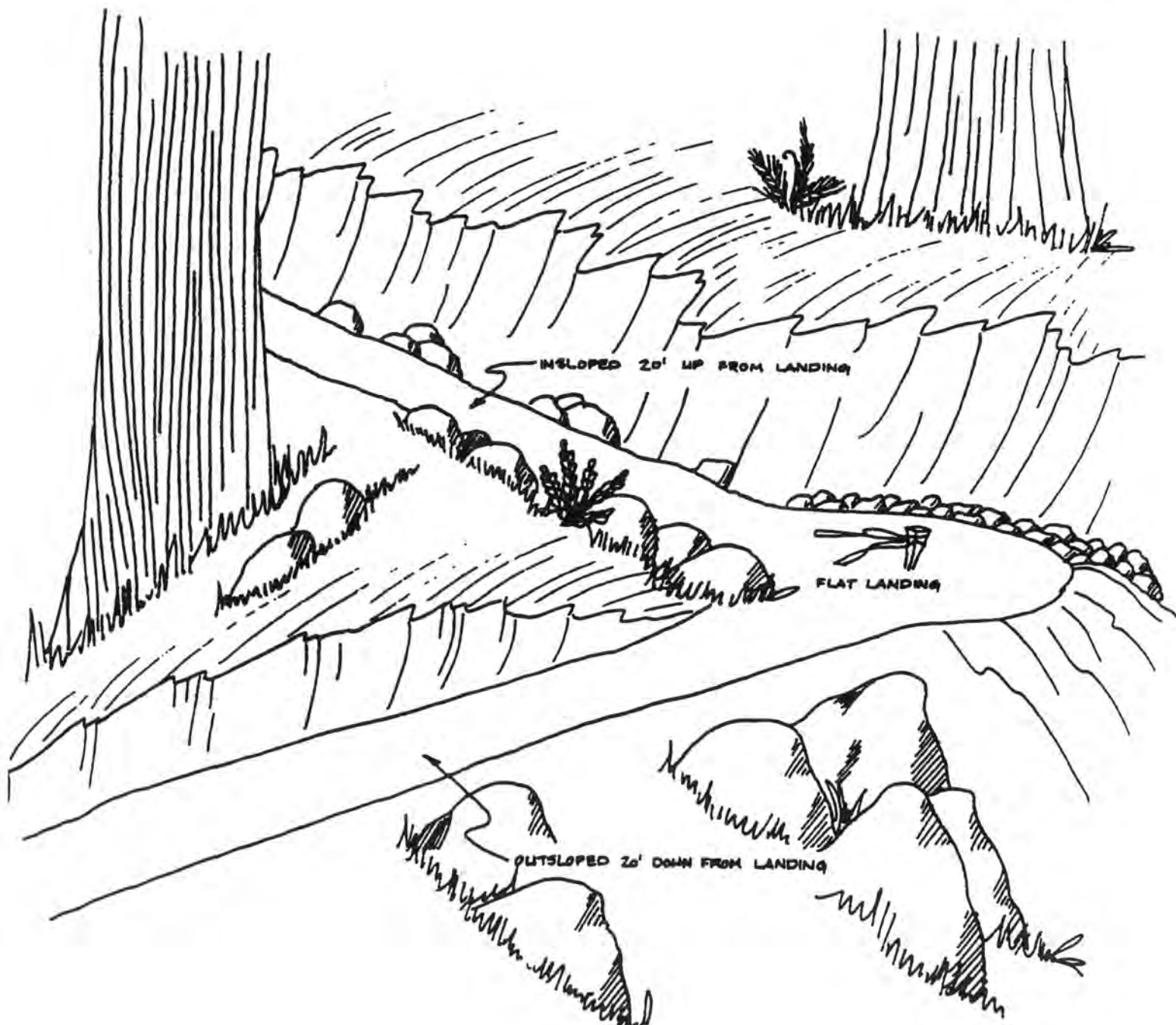
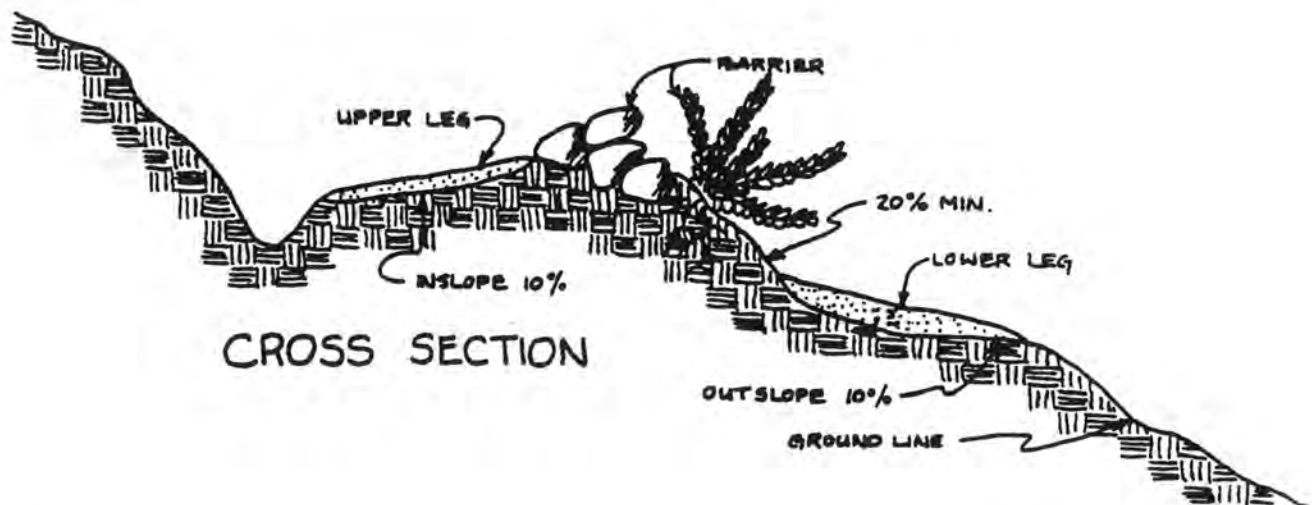
## Maximum Running Slope and Segment Length

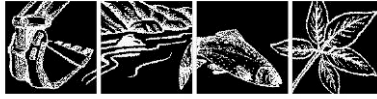
Running Slope of Trail Segment		Maximum Length of Segment
Steeper Than	But Not Steeper Than	
1:20 (5%)	1:12 (8.33%)	200 feet
1:12 (8.33%)	1:10 (10%)	30 feet
1:10 (10%)	1:8 (12%)	10 feet





# TYPICAL SWITCHBACK





**PRUNUSKE CHATHAM, INC.**



**Biological Resources Evaluation  
Sonoma Valley Regional Park Expansion  
April 2016**

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## Attachments

Figure 1: Location and Regional Context

Figure 2: Special-Status Species Occurrences in Vicinity and Regional Wildlife Corridor

Figure 3: Plant Communities

Figure 4: Areas of Management Concern

### List of Plant Species Observed

California Department of Fish and Wildlife, Natural Diversity Database – Glen Ellen, Kenwood, Rutherford and Sonoma USGS Quadrangles

U.S. Fish and Wildlife Service, Information for Planning and Conservation (IPaC) Trust Resources Report.

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## **1 Introduction**

Sonoma County Regional Parks (Regional Parks) is in the initial stages of developing a master plan for two properties totaling 75 acres that will expand the footprint of Sonoma Valley Regional Park (Park), which is currently 162 acres. The expansion properties are already used by park visitors and include some existing trails. Potential future enhancements to the expansion properties include additional trails and additional parking for equestrians.

Regional Parks requested a biological evaluation of the park expansion properties to describe their natural resources, identify sensitive resources, and guide planning of future recreational facilities. Prunuske Chatham, Inc. (PCI) performed this evaluation in spring 2016. This report summarizes our assessment and provides general recommendations to protect biological resources.

## **2 Field Survey Methods**

A field survey of the expansion properties was completed on March 14, 2016, by PCI's Senior Wildlife Biologist and Vegetation Ecologist, who are familiar with the region's flora and fauna. A follow-up botanical survey was completed on April 12, 2016. Locations on the existing Park where new trails and parking are proposed to enhance access to the expansion properties (i.e., the lower, eastern portion) were also briefly reviewed. The assessment was intended as a general inventory of species observed or potentially occurring within the project area; it did not include focused surveys for special-status species. Observations were restricted to a one-day survey for wildlife and two one-day surveys for plants and their habitats and were limited in scope due to the seasonal distribution of some species and rarity of others. The primary purposes were to characterize biological communities within the expansion properties and to determine whether or not suitable habitat for special-status species is present. The potential presence of and impacts on special-status species were determined based on the proximity of the park expansion properties to reported occurrences, species' geographic ranges, and a comparison of existing habitat conditions and features with those required by the sensitive species.

Methods followed protocols established by California Department of Fish and Wildlife (CDFW 2009) and industry-wide protocols for the preparation of biological site evaluations. During the survey, an inventory of all plant and wildlife species observed was compiled. The survey was conducted with the aid of binoculars (Swarovski™ 10 x 42). Visual cues, calls, songs, and direct observations were used to identify wildlife species. Each habitat was examined for presence of birds, mammals, amphibians, reptiles, and invertebrates. A list of all plant species observed was compiled. The survey consisted of evaluating the entire project footprint and a buffer around it.

Figure 1 shows the project location and regional context. Figure 2 shows the reported occurrences of special-status species within the project area's region (CDFW 2016). Representative photographs taken during the field survey are also provided at the end of this report.

This biological assessment is specific to the project identified above; impacts beyond the project boundaries were not evaluated. It does not include an evaluation of the cumulative effects of the project within the context of potential future development within the area. This report represents PCI's best professional effort to identify all sensitive habitats, species, and resources of concern based on the proposed project.

### **3 Setting**

The Park is located east of the town of Glen Ellen, adjacent to Highway 12, in the Sonoma Valley. It is mapped on the Glen Ellen USGS quadrangle (38°21'42"N and 122°30'31"W). The expansion properties lie along the northern boundary and the southeastern boundary of the existing Park. The existing Park comprises 162 acres; the expansion property to the north, the Curreri parcel, comprises 34 acres; and the expansion property to the southeast, referred to as the SDC 41 parcel, comprises 41 acres. Elevations within the expansion properties range from approximately 320' at Highway 12 to approximately 480' on ridgetops.

To the east, south, and southwest, the Park and expansion properties are surrounded by protected public and private lands, including the state-owned Sonoma Developmental Center (SDC) immediately to the south and southwest and the private Bouverie Preserve to the east (Figure 1). This swath of protected lands extends east and upslope into the Mayacamas and west and upslope onto Sonoma Mountain. As a result, these protected lands form a wildlife corridor that is considered highly important for conservation (Figure 2). To the north and northwest of the Park, there is a mixture of residential, rural residential, and agricultural lands.

The Park and expansion properties are within the Sonoma Creek watershed. They drain to the north into Stuart Creek or Calabazas Creek near their confluence with Sonoma Creek, into Butler Canyon Creek to the south, or directly into Sonoma Creek itself. Only ephemeral drainages are present on the expansion properties.

The Curreri parcel includes two northwest-southeast trending ridges, as well as gently sloping areas in between the two and on the eastern edge of the parcel. An artificially impounded pond is present between the two ridges. An excavated channel leads from the southern side of the pond to the southeast, where it feeds into a natural swale on the existing Park property. Another channel leads from the pond embankment to the north, onto private property. Other drainages on the property are ephemeral.

The SDC 41 parcel includes one northwest-southeast trending ridge, and the lowlands to its east. An intermittent creek channel runs along the southwestern border of the parcel, parallel to Highway 12. Numerous ephemeral swales drain from the ridge onto the lowlands. During PCI's March site visit, substantial runoff was flowing in a small eroded channel in the bed of the trail, feeding into Butler Canyon Creek on the SDC property to the south.

#### 4 Soils

The soils within the expansion properties are mapped as Spreckels loam, Goulding cobbly clay loam, Red Hill clay loam, Tuscan cobbly clay loam, and Los Robles gravelly clay loam (NRCS 2016). The soil types on the easternmost edge of the properties are of alluvial origin, while the remainder of the soil types are derived from volcanic and metamorphic rock.

Soil Type & Typical Slopes	Underlying Material	Distribution on Expansion Properties and Typical Vegetation	Drainage/ Permeability	Runoff/Erosion
Goulding cobbly clay loam, 5-15%	Metamorphosed volcanic rock, at 12-24"	Pond vicinity and eastern grasslands on Curreri; grasslands with scattered oaks and shrubs	Somewhat excessively drained/Moderate	Medium to rapid/ Moderate to high
Los Robles gravelly clay loam, 0-5%	Gravelly sandy clay loam subsoil, underlain by mixed alluvium at 36-48"	Southeastern edge of SDC 41; grassland, scattered valley or live oaks	Moderately well-drained/ Moderately slow	Slow/ Slight
Red Hill clay loam, 2-30%	Volcanic and metamorphic rock, at 30-60"	Ridge in SDC 41; forest and woodland	Moderately well-drained/ Moderately slow	Medium to rapid/ Moderate to high
Spreckles loam, 15-30%	Clay subsoil underlain by volcanic ash at 22-60"	Northwestern-most corner of Curreri; woodland	Well-drained/ Slow	Medium to rapid/ Slight to high
Tuscan cobbly clay loam, 0-9%	Indurated hardpan of igneous materials at 10-25", on old terraces	Eastern periphery of both properties, including Curreri vernal pools; grassland	Moderately well-drained/ Slow	Slow to medium/ Slight to moderate

## 5 Existing Communities

### 5.1 Botanical Resources

Plant communities within the expansion properties include oak woodland [including blue oak (*Quercus douglasii*) and mixed oak (*Quercus agrifolia*) stands]; annual non-native grassland; native perennial grassland; and wetland vegetation associated with the pond, vernal pools, seeps and drainages. The table below lists each of these plant communities with the vegetation alliances they include and their rarity based on CDFW rankings. Vegetation alliances are based on the Classification of the Vegetation Alliances and Associations of Sonoma County, California, prepared by CDFW and partners (CDFW 2015). Figure 3 provides a general map of vegetation types, based on PCI's field surveys and draft data provided by the Sonoma County Vegetation Mapping and LiDAR Program (Sonoma County Agricultural Preservation and Open Space District 2016).

**Table 1. Plant Communities within the Expansion Properties**

Community Type	Sensitivity <sup>1</sup>	Vegetation Alliance (Manual of CA Vegetation)	CDFW Rank <sup>2</sup>
Oak woodland	Yes	Blue oak woodland ( <i>Quercus douglasii</i> Alliance)	G4S4
		Mixed oak forest [ <i>Quercus (agrifolia, douglasii, garryana, kelloggii, lobata, wislizenii)</i> Forest Alliance]	G4S4
Annual grassland	No	Wild oats grassland ( <i>Avena barbata</i> Semi-natural Stands)	N/A
		Annual brome grassland ( <i>Bromus hordeaceus</i> Semi-natural Stands)	N/A
Native perennial grassland	Yes	California oat grass grassland ( <i>Danthonia californica</i> Alliance)	G4S3
		Purple needlegrass grassland ( <i>Stipa pulchra</i> Alliance)	G4 S3
Vernal pool/swale	Yes	Perennial ryegrass fields ( <i>Lolium perenne</i> (= <i>Festuca perennis</i> ) Semi-natural Herbaceous Stand)	G4S4
Aquatic vegetation (pond)	Yes	Mosquito fern mats <i>Azolla (filiculoides, mexicana)</i> Alliance	G4S4

<sup>1</sup> Sensitivity based on federal (U.S. Army Corps of Engineers; Section 404), state (CDFW), and local (Sonoma County) regulations.

<sup>2</sup> Alliances ranked G3S3 or lower are considered by CDFW to be of high inventory priority. Non-native alliances (a.k.a. Semi-natural stands) are not ranked. “G” indicates conservation priority at the global level, and “S” refers to the state level. 1 = critically imperiled; 2 = imperiled; 3 = vulnerable; 4 = apparently secure; 5 = secure. “?” indicates the need for further study.

### 5.1.1 Oak Woodland

Oak woodland is the most abundant plant community on the expansion properties. Most stands are dominated by blue oak, with other deciduous oak species commonly present including Oregon oak, apparent blue-Oregon oak hybrids (*Q. x eplingii*), and black oak, and occasional coast live oaks. A few stands just south of the water tanks are more mixed, with greater components of Oregon oak, coast live oak, and black oak. Other tree species present in the oak woodlands include buckeye (*Aesculus californicus*), madrone (*Arbutus menziesii*), and bay (*Umbellularia californica*). The canopy is relatively open except where coast live oak is more dominant on the northwestern part of SDC 41, where its evergreen canopy is nearly closed. Some natural regeneration of trees is evident in most stands.

Understory vegetation is mostly herbaceous, comprised of non-native annual grasses as well as native forbs and perennials. Non-native annual grasses dominate in many places; these include wild oats (*Avena* spp.), ripgut brome (*Bromus diandrus*), and hedgehog dogtail (*Cynosurus echinatus*). Natives that are abundant include soaproot (*Chlorogalum pomeridianum*), yarrow (*Achillea millefolium*) and miner’s lettuce (*Montia perfoliata*). Non-native, invasive Italian thistle (*Carduus pycnocephalus*) is scattered throughout the woodlands and is especially common on the SDC 41 parcel. On the western portion of Curreri and much of SDC 41, shrubs are present at low cover, including poison oak (*Toxicodendron diversilobum*), occasional manzanita (*Arctostaphylos manzanita*), and coyote brush (*Baccharis pilularis*). One non-native tree is present in the SDC 41 woodlands, common olive (*Olea europaea*); saplings are abundant in the southern part of that woodland.

Habitat quality in these woodlands is high. Although annual grasses are common in the understory, a diversity of native herbaceous species is also present. Invasive species are limited. Natural regeneration is visible on the edges of woodlands in adjacent grasslands. The woodlands extend beyond the expansion property borders, and this connectivity enhances their importance for wildlife habitat and may also increase their resilience to changes like warming climate. Management concerns in the oak woodland include supporting continued regeneration, protecting the native understory,



decommissioning unneeded trails and preventing people from establishing new ones, controlling non-native thistles and olives, and removing wildlife-unfriendly fencing.

Key ecosystem services provided by oak woodlands include habitat for a diversity of wildlife discussed below, carbon sequestration, soil protection, and cooling and shading for humans and wildlife.

### 5.1.2 Grassland

Grassland occurs throughout the lower elevations of the expansion properties. In most locations, it is dominated by non-native annual species including bromes (*Bromus diandrus*, *B. hordeaceus*) and wild oats. However, native grasses and native wildflowers occur within most grassland areas at low cover, and in a few locations at high cover. California oatgrass (*Danthonia californica*) is very common in lower, moister settings, and scattered stands of purple needlegrass (*Stipa pulchra*) are present in drier locations. In addition, a number of very showy, dense stands of lupine (*Lupinus nanus*, *L. bicolor*) are present on slopes. Narrow leaf mule ears (*Wyethia angustifolia*) occurs in distinct patches scattered throughout the lower grasslands. Other common natives include sun cups (*Camissonia ovata*), blue-eyed grass (*Sisyrinchium bellum*), and popcorn flower (*Plagiobothrys* sp.). See Figure 4 for locations of native grassland and native wildflower stands.

Substantial native grass and wildflower cover do occur in some of the locations under consideration for park trails or parking. The potential parking area between the CalFire facility and the dog park is dominated by wild oats but also has substantial cover of California oatgrass and stands of native perennial mule's ear (*Wyethia* sp.). The proposed equestrian parking area north of the entry road is dominated by California oatgrass, with abundant soap root, lupine, and blue-eyed grass. A strip of purple needlegrass occurs in a drier strip behind the residential buildings on the adjacent property. Non-native grasses are also present at lower cover.

Several invasive species of concern are present in scattered locations throughout the grasslands, including medusahead (*Elymus caput-medusae*), Klamath weed (*Hypericum perforatum*), yellow star thistle (*Centaurea solstitialis*), teasel (*Dipsacus sativus*), Harding grass, and fennel (*Foeniculum vulgare*). See Section 6 for details.

Overall, habitat quality in the grasslands is moderate. Non-native annual species are dominant in most places, but native species are present at low densities throughout the properties and are dominant in scattered locations.

Key ecosystem services provided by grasslands include wildlife habitat and soil protection. Especially in areas with stands of native perennial grasses and forbs, the grasslands also provide carbon sequestration and native plant diversity.

### 5.1.3 Wetlands and Aquatic Resources

The pond on the Curreri parcel, formed by an earthen embankment on the north side, was densely covered with native mosquito fern during the March site visit. Patches of invasive non-native parrot feather (*Myriophyllum aquaticum*) were also present. At pond edges, seasonal wetland species were present including non-native water plantain (*Alisma* sp.) and pennyroyal (*Mentha pulegium*), and native creeping spikerush (*Eleocharis macrostachya*),

The vernal pool at the Park entry is dominated by non-native Italian rye grass, but also includes some common native species typical of vernal pools and swales, including toad rush (*Juncus bufonius*), hyssop loosestrife (*Lythrum hyssopifolium*), and manna grass (*Glyceria* sp.). Additional species may become evident later in the spring and summer.

The vernal pool adjacent to the dog park is dominated by non-native grasses including Italian rye and annual bluegrass (*Poa annua*), native creeping spikerush, and non-native forbs [cutleaf geranium (*Geranium dissectum*), dog fennel (*Anthemis cotula*), pricklefruit buttercup (*Ranunculus muricatus*), clover (*Trifolium* sp.)].

Other seasonally moist areas are present in a few locations along the lower slopes of the SDC 41 parcel, particularly along the fire road at the base of the slope. These small wetland patches are dominated by a mixture of common native and non-native herbaceous species, including Italian rye grass, common meadowfoam (*Limnanthes douglasii*), toad rush, and manna grass.

Concentrated flow of runoff was evident as a channel eroded into the center of the fire road on the southern end of SDC 41.

Habitat quality in the expansion properties' wetlands is moderate. The wetlands are dominated by common, widespread species. Historic disturbance from road and fire road development, and other nearby construction, has also affected these habitats. However, given the history of special-status plant presence on the site and in the adjacent pools on the existing Park, there may be potential to restore greater plant diversity.

Key ecosystem services provided by wetlands and the pond include provision of wildlife resources as discussed below, absorption and storage of runoff, and plant habitat diversity.

## **5.2 Wildlife Resources**

The diversity and abundance of animal species occurring within the Sonoma Valley Regional Park and expansion properties are directly correlated to the diversity and richness of its vegetation communities. Habitats on the properties offer both common and special-status animals nesting habitat, food, shelter, and water. The property is located at the core of the Sonoma Valley Wildlife Corridor (Corridor) and serves as an important movement corridor at both a local and regional scale (Figure 2). The Corridor is one of California's most biologically diverse critical linkages for wildlife. It encompasses over 10,000 acres of land stretching from Sonoma Mountain east across Sonoma Valley to the Mayacamas Mountains. It is a key linkage in a larger corridor from coastal Marin to eastern Napa County.

The following discussion includes a general summary of wildlife typically associated with each documented habitat on the expansion properties based on regional occurrence information, background studies, the field survey, and reported observations. Although characteristic assemblages of wildlife species occur predictably within certain vegetation types, relatively few animals are restricted to a single habitat, and indeed, some may require more than one habitat type. Therefore, wildlife communities are described in a larger context and across broader plant communities: oak woodlands, grasslands, and wetland and aquatic resources (i.e., ponds and seasonal wetlands). A complete list of all wildlife species observed is provided at the end of the section. Wildlife species' common names are used because they are unequivocal.

### **5.2.1 Oak Woodland**

Oak woodlands provide the greatest habitat diversity on the expansion properties and support terrestrial birds, mammals, amphibians, reptiles, and a variety of invertebrates. Birds represent the most abundant and prominent wildlife species within this habitat. Year-round resident birds of woodland habitats such as those found within the expansion properties include chestnut-backed chickadee, western-scrub jay, American robin, common bushtit, oak titmouse, Bewick's wren, California quail, dark-eyed junco, and spotted towhee. Migratory species observed and potentially breeding within the properties include orange-crowned warbler, Pacific-slope and ash-throated flycatchers, and swallows.

Tree-climbing birds such as woodpeckers, nuthatches, and brown creeper also frequent the habitat as well. White-breasted nuthatches were observed nesting in an oak tree cavity on the Curreri property. Casual winter residents include red-breasted sapsucker, ruby-crowned kinglet, varied thrush, and Townsend's and yellow-rumped warblers.

Suitable foraging and breeding habitat for raptors also exists on the properties. Red-tailed, red-shouldered, and Cooper's hawks have all been confirmed nesting nearby (Burridge 1995, USGS 2016). Falcons, including American kestrel, frequent the area as well. Cooper's and sharp-shinned hawks, two uncommon woodland hawks, use the habitat. Small vertebrates within the habitats serve as a food source for predatory hawks and falcons. One owl species was observed on the Curreri property by PCI, northern pygmy owl, and other species including barn, western screech-owl, and great horned owls are likely to occur there as well. Northern spotted owls are known to occur on nearby State Park and SDC lands but are less likely to occur on the expansion properties due to the lack of well-developed forest habitat.

The woodland habitats support a variety of mammals. Undisturbed habitats with limited human activity provide escape, cover, migration corridors, and nesting sites for a number of larger mammals. All of Sonoma County's top predators, mountain lion, bobcat, and coyote, have been documented on nearby lands within the Corridor (Nelson 2015) and these species are likely to occur within the expansion properties as well. The presence of a large number of smaller vertebrate species, such as birds, small mammals, and herpetofauna, serve as a significant food source for these top carnivores. Several prey species have been documented in high numbers on nearby lands, including black-tailed deer, raccoon, western gray squirrel, and gray fox (PCI 2015). The diversity of wooded habitats on the properties and their proximity to aquatic habitats also provides excellent foraging and roosting habitat for bats, including several special-status species.

Native oaks and oak communities serve as a significant resource for many wildlife species in the form of both food and shelter. Every part of the oak tree is utilized as forage for native species including acorns, leaves, twigs, pollen, roots, and sap. Perhaps the most widely recognized source of food is the acorn. This high-energy food is used heavily by acorn woodpeckers, western-scrub jays, and western gray squirrels. Individual trees are also important food storage sites for acorn woodpeckers, which cache acorns for future consumption, particularly in dead and dying oak trees. The use of acorns by a number of wildlife species is important for oak dispersal and regeneration. The entirety of an oak tree, from canopy to roots, also serves as shelter for wildlife. Even the layer of detritus around the base of an oak is utilized by amphibians and insects.

On the woodland floor, woody debris piles and layers of duff provide habitat for amphibians. Locally common amphibians including *Ensatina*, California slender salamander, and arboreal salamander are likely to occur on the properties. Common reptiles of this community include Skilton's skink, fence lizard, alligator lizard, common kingsnake, rubber boa, gopher snake, rattlesnake, and ring-necked snake. The properties also supports habitat for a variety of native butterflies, other beneficial pollinators, and additional invertebrates.

### **5.2.2 Grasslands**

Grasslands provide habitat for a range of wildlife species. They provide cover for species such as birds, small mammals, and reptiles, as well as provide a food source in the form of seeds, other plant parts, and insects. Oak trees scattered throughout the grasslands provide key habitat for birds and other wildlife.

Grassland songbirds, including grasshopper sparrow, rufous-crowned sparrow, savannah sparrow and western meadowlark, use the properties for nesting as all of these species have been seen nearby during the breeding season (PCI 2015). Other representative grassland species such as the western bluebird, loggerhead shrike, and Say's phoebe utilize grasslands, especially when there are adequate perches to forage from. Predatory hawks and owls, including American kestrel, white-tailed kite, and barn owls, frequent these areas as well. Small vertebrates and invertebrates within the grasslands are a key food source for owls and other predatory species.

Subterranean foragers, such as Botta's pocket gopher and California mole, commonly occur in grassland habitats. Underground digging, mounds and small wildlife tunnels can be seen throughout the properties and are clear indicators of the presence of subterranean life. Brush rabbits occur along the grassland edges and eat twigs, evergreen leaves, and bark from plants. Shrubs are important to many other mammals (e.g., bobcat, gray fox) as shade during hot weather. Reptiles of this community include western fence lizard, alligator lizard, western skink, and snakes. Bats also forage over grasslands. Seasonal wetlands mixed within the grasslands add to the habitat complexity, providing additional foraging and nesting opportunities (see below).

### **5.2.3 Wetlands and Aquatic Resources**

At the upper elevations of the Curreri property, there is an approximately 0.6-acre man-made pond. At lower elevations, near the entrance along Highway 12 and on the SDC 41 parcel, there are shallow seasonal wetland habitats. These aquatic habitats serve as significant resources for terrestrial and aquatic wildlife. The large pond provides a nearly year-round water supply while the smaller wetland provides habitat during the winter months. These water sources are important breeding grounds for local amphibian populations and aquatic invertebrates. The pond provides potentially suitable habitat for California red-legged frog, a special-status species; however, further surveys would be needed to determine whether the species is present. Sierran treefrog, another native frog, uses both ephemeral and permanent wetlands for breeding from winter through early summer. Both Sierran treefrog adults and egg masses were observed in the pond. Treefrog tadpoles were also observed in wetland depressions along Highway 12 on the



SDC 41 parcel. Western toad tadpoles were also observed in the outlet swale to the Curreri pond.

In general, the aquatic habitats boast healthy populations of native invertebrates and other wildlife species. The support a suite of invertebrates well-adapted to life in these seasonally-changing habitats (e.g., crustaceans such as shrimp, copepods, and water fleas, as well as aquatic beetles, dragonflies, damselflies, and aquatic snails). These invertebrates also serve as a food source for amphibians and birds. Associated wetland vegetation provides additional foraging habitat, cover, and nesting sites for birds. Open water is important foraging habitat for waterfowl including mallard, pied-billed grebe, and bufflehead and all three species have been observed on the Curreri pond. Persistent aquatic resources with water into late summer are also critical watering holes for local wildlife when other sources have dried up. Many birds (e.g., swallows, Steller's jay, American robin) also rely on pockets of exposed mud within wetlands for construction of all or portions of their nests. Many species of mammals also use these as a source of drinking water.

The properties are located within the Sonoma Creek watershed. The watershed is considered one of the most essential steelhead resources of the San Francisco Estuary (Becker et al., 2007). The Park and expansion properties do not include Sonoma Creek or its primary tributaries, but they do drain directly to Sonoma Creek. The watershed supports a number of special-status aquatic species (e.g., steelhead, California freshwater shrimp) and other species of interest (e.g., beaver). Land management actions and uses on the properties can have a direct impact on these and other aquatic resources.

#### **5.2.4 Wildlife Observations**

Wildlife observed (direct and indirect: scat, tracks, burrows) within the properties by PCI include: (birds) oak titmouse, European starling (non-native), northern flicker, acorn woodpecker, western bluebird, golden-crowned sparrow, California towhee, Anna's hummingbird, killdeer, white-breasted nuthatch, western scrub-jay, Cooper's hawk, ruby-crowned kinglet, turkey vulture, Nuttall's woodpecker, dark-eyed junco, orange-crowned warbler, American kestrel, red-winged blackbird, northern pygmy owl, common bushtit, common raven, American goldfinch, red-tailed hawk, band-tailed pigeon, (amphibians) Sierran treefrog, western toad, and (mammals) black-tailed deer. See *Special-status Species* below for further discussion about sensitive wildlife resources.

## 6 Invasive Plant Species

The table below lists the invasive plant species of greatest concern on the properties, with notes on their distribution, and the level of concern assigned to each by the California Invasive Plant Council (Cal-IPC 2016).

Common Name	Latin Name	Cal-IPC Level of Concern	Distribution on Properties
<b>Trees</b>			
Eucalyptus	<i>Eucalyptus globulus</i>	Moderate	One small tree on NE corner of Curreri.
Olive	<i>Olea europaea</i>	Limited	Numerous saplings in oak understory on SDC 41.
Silver wattle	<i>Acacia dealbata</i>	Moderate	Two small trees on NE corner of Curreri.
<b>Shrubs</b>			
French broom	<i>Genista monspessulana</i>	High	Dense, spreading stand along trail to residential area on western edge of Curreri.
Himalayan blackberry	<i>Rubus armeniacus</i>	High	Isolated patches in moist, disturbed areas including north of vernal pool on Curreri.
<b>Perennials</b>			
Fennel	<i>Foeniculum vulgare</i>	High	Disturbed areas along fire road on southern SDC 41.
Klamath weed	<i>Hypericum perforatum</i>	Moderate	Common, scattered in grasslands.
<b>Annuals/Biennials</b>			
Italian thistle	<i>Carduus pycnocephalus</i>	Moderate	Common throughout property; dense in some areas, typically under oak canopy, likely where cattle congregated in past.
Medusahead	<i>Elymus caput-medusae</i>	High	Common, in patches throughout grasslands, including near vernal pool and proposed equestrian parking.
Teasel	<i>Dipsacus sativus</i>	Moderate	Dense stand in low, moist area along the eastern border of SDC 41.
Yellow starthistle	<i>Centaurea solstitialis</i>	high	Disturbed areas, including adjacent to water tanks and along fire road on southern SDC 41.

## 7 Special-Status Species

### 7.1 Background Research

A background literature and database search and review of existing resource studies were conducted to determine the potential occurrence of special-status species within the properties. The search focused on reported occurrences for the Glen Ellen 7.5' USGS quadrangle where the project is located and surrounding quads. General references

were also consulted to evaluate the potential for unique biological communities and special-status species. The review included the following sources:

- California Department of Fish and Wildlife Natural Diversity Database (CNDDDB)<sup>1</sup> (CDFW 2016);
- A Manual of California Vegetation; 2nd Edition (Sawyer et al. 2009);
- California Department of Fish and Wildlife Natural Communities List (CDFW 2010);
- CNPS Inventory of Rare and Endangered Vascular Plants of California on-line inventory (CNPS 2016);
- Natural Resources Conservation Service Web Soil Survey (NRCS 2016);
- Information for Planning and Conservation (IPaC) Trust Resources Report for the properties (USFWS 2016); and
- Field guides and general references for plants, birds, mammals, reptiles, amphibians, and invertebrates.

## **7.2 Definition of Special-status Species**

In California, special-status plants and animals include those species that are afforded legal protection under the federal and California Endangered Species Acts (ESA and CESA, respectively) and other regulations. Consideration of these species must be included during project evaluation in order to comply with CEQA, in consultation with state and federal resources agencies, and in the development of specific management guidelines for resource protection. Special-status species are defined as the following:

- Species listed or proposed for listing as threatened or endangered under the federal ESA;
- Species listed or proposed for listing as threatened or endangered under CESA;
- Species that are recognized as candidates for future listing by agencies with resource management responsibilities, such as U.S. Fish and Wildlife Service, NOAA's National Marine Fisheries Service, and California Department of Fish and Wildlife;
- Species defined by California Department of Fish and Wildlife as California Species of Special Concern;

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<sup>1</sup> The California Natural Diversity Data Base (CNDDDB) is a repository of information on sightings and collections of rare, threatened, or endangered plant and animal species within California. It is maintained by CDFW. CNDDDB reports occurrences of special-status species that have been entered into the database and does not generally include inventories of more common animals or plants. The absence of a species from the database does not necessarily mean that they do not occur in the area, only that no sightings have been reported. In addition, sightings are subject to observer judgment and may not be entirely reliable as a result.

- Species classified as Fully Protected by California Department of Fish and Wildlife;
- Plant species, subspecies, and varieties defined as rare or threatened by the California Native Plant Protection Act (California Fish and Game Code Section 1900, et seq.);
- Plant species listed by the California Native Plant Society as California Rare Plant Rank 1, 2, 3 and some Rank 4 plants based on CNPS guidelines and CEQA (CEQA Guidelines Section 15380); and
- Species that otherwise meet the definition of rare, threatened, or endangered pursuant to Section 15380 of the CEQA Guidelines.

### **7.3 Special-status Plants**

According to the background literature review, there are 9 special-status plant species with reported occurrences on the Glen Ellen and surrounding USGS quadrangle maps (i.e., Kenwood, Rutherford, and Sonoma) that occur in woodland, grassland, and wetland habitats (CDFW 2016). See attached table for details of these species.

None of these species were observed during surveys, and none have more than low likelihood to occur on the expansion properties. However, two vernal pool species have been recorded on or adjacent to the expansion properties and merit consideration.

**Dwarf downingia (*Downingia pusilla*)** has been documented in the vernal pools on both sides of the entry road to the Park (CDFW 2016). The population was first documented in 1960, when it was described as “abundant”; in 1988, 300 plants were observed; in 1989, 10,000 plants; in 2009, only one plant was found; and none were found in 2010. Other species reported as present are typical vernal pool native and non-native species, including maroonspot downingia (*Downingia concolor*), California oatgrass, annual hairgrass (*Deschampsia danthonioides*), Italian ryegrass, dock (*Rumex* sp.), vetch (*Vicia* sp.), and other non-native grasses (*Hordeum* sp., *Briza* spp.). The reason for the decline is unknown; it may be related to disturbance from road use and maintenance, nutrient enrichment from agricultural or ranching operations, changes to hydrology from road development and fill, and/or encroachment of non-native annual grasses. The species was not observed during PCI’s March or April 2016 surveys.

**Sonoma sunshine (*Blennosperma bakeri*)** is documented from the vernal pool on the south side of the park entrance, on the existing Park site. That population size was estimated at 35,100 in the most recent record, for 2014. Associated vegetation is described as including California semaphore grass (*Pleuropogon californicus*), common meadowfoam (*Limnanthes douglasii*), common blennosperma (*Blennosperma nanum*), bractless hedgehyssop (*Gratiola ebracteata*), dock, filaree (*Erodium* sp.), rush (*Juncus*

sp.), and sedge (*Carex* sp.). Despite the proximity of this apparently robust population, no Sonoma sunshine individuals have been documented in the pool on the Curreri parcel. The species was not observed during PCI's March or April 2016 surveys.

#### **7.4 Special-status Animals**

Based on the background literature review, there are occurrences of a number of special-status animal species and species of local interest within the project area's vicinity<sup>2</sup>; see Figure 2 and attached CDFW CNDDDB list and USFWS IPaC report (CDFW 2016, USFWS 2016). Based on the suitability of habitat within the expansion properties and proximity of recorded sightings, these species were evaluated for their potential to occur in the general area. Species with reported observations in close proximity to the site, or with moderate to high potential for occurrence based on suitable habitat, are described below. Scientific names and listing statuses are provided in the attached lists. See the following sections for a discussion about bats and breeding birds.

**Northern western pond turtle** – a year-round resident of Sonoma County, found in or near permanent or semi-permanent water sources (e.g., ponds, lakes, rivers, streams) with suitable basking sites and underwater retreats. Eggs are laid in shallow holes dug by the female from April through August. Eggs hatch in late summer or fall. In northern California, hatchlings can remain buried until the following spring. Turtles may use uplands for overland migration and nesting sites. Pond turtles are known to occur in the Sonoma Creek watershed. There are reported sightings of pond turtles within 4 miles of the properties. Suitable habitat is present at the Curreri pond. Precautionary measures should be in place to avoid impacts.

**California red-legged frog** – a year-round resident of Sonoma County, occupies marshes, streams, lakes, reservoirs, ponds and other water sources with plant cover. Breeding occurs in deep, slow-moving waters with dense, shrubby, or emergent vegetation. Breeds from January through April, exact timing dependent on location. California red-legged frogs may be found in uplands during the non-breeding season and during migration. Frogs are known to occur in the Sonoma Creek watershed. There are reported sightings of frogs within 3 miles of the properties. Suitable habitat is present at the Curreri pond. Precautionary measures should be in place to avoid impacts.

**American badger** – a year-round resident of Sonoma County, utilizes a variety of habitat types with friable soils. Badgers are carnivorous and dig their own burrow systems.

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<sup>2</sup> Species identified within the region but with limited or no potential for occurrence on the properties are not described (e.g., stream dwelling California freshwater shrimp, steelhead, Ricksecker's water scavenger beetle, Leech's skyline diving beetle, foothill yellow-legged frog; California tiger salamander which is limited to the Santa Rosa Plain and surrounding lands; bird species with limited records – western yellow-billed cuckoo, golden eagle, bald eagle, bank swallow, black swift, California horned lark, ferruginous hawk; and bayland species – San Pablo song sparrow).



Badgers are documented less than 4 miles west of the properties in the upper Sonoma Creek watershed. Suitable habitat is present, but no evidence of badger activity was observed during the field survey. Impacts to this species are unlikely.

**Burrowing owl** – occurs in open grasslands and other habitats with low-growing vegetation. This species no longer breeds in Sonoma County, but is commonly observed in the winter along the coast and baylands (Burridge 1995). Wintering burrowing owls are documented 3 miles west of the properties in the upper Sonoma Creek watershed. Suitable winter foraging and roosting habitat is present. Precautionary measures should be in place to avoid impacts.

**Cooper's hawk** – a forest hawk of open woodlands and brushlands. Forages for birds, chipmunks, and squirrels through forest and edge habitats. Nests in dense mixed forests, larger canyons, and riparian corridors, typically in the fork of a tree. Year-round resident in Sonoma County. Cooper's hawk was observed by PCI on the Curreri property in March. Possible breeding has been confirmed in the Sonoma Valley (USGS 2016). Suitable nesting and foraging habitat is present. Precautionary measures should be in place to avoid impacts.

**Grasshopper sparrow** – a summer resident of Sonoma County, occurring from April through July and breeding in open grassland habitats. A small, open-country sparrow named for its buzzy insect-like song. Forages for insects and seeds and prefers short- to moderate-height, moderately open grasslands with scattered shrubs (Shuford and Gardali 2008). Grasshopper sparrows are known to occur within the Sonoma Valley and probable breeding occurrences have been reported (Burridge 1995). Suitable nesting and foraging habitat is present. Precautionary measures should be in place to avoid impacts.

**Swainson's hawk** – a predatory hawk of open country where it occupies grasslands, open fields, oak savannah, croplands, and pastures. Nests constructed in solitary trees in open country. Species is a casual visitor to Sonoma County (Burridge 1995). Breeding occurs primarily in the Central Valley, but species has been confirmed breeding near San Pablo Bay in Sonoma County (USGS 2016). No records of breeding are reported in the Sonoma Valley. Swainson's hawk may occur as a sporadic visitor to the properties, but breeding is unlikely. Impacts are unlikely.

**White-tailed kite** – a year-round resident of Sonoma County, occupies semi-open areas and nests in trees and tall bushes. This raptor hunts small rodents by hovering and diving. Kites are known to occur within the Sonoma Valley and possible breeding occurrences have been reported (USGS 2016). Suitable nesting and foraging habitat is present. Precautionary measures should be in place to avoid impacts.

### **7.5 Special-status and Common Bat Species**

The expansion properties support a wide variety of habitats that provide critical foraging and roosting habitat for a number of bat species. There are approximately 15 bat species with known occurrences within Northern California, and at least 12 of these species have a high probability of occurring on Sonoma Valley Regional Park and adjacent lands. Bats are highly mobile with many being migratory. Foraging habitats range from woodlands, forests, and grasslands to open water. All of our local Sonoma County species are insectivorous and feed by echolocation. Bats use caves, mines, buildings, bridges, tree hollows, and other natural and man-made crevices for roosting. While focused surveys for bats were not been performed as part of this evaluation, nocturnal observations, mist netting, or ultrasonic detection are sure to reveal a number of species utilizing the existing habitats. Two special-status bat species have reported occurrences nearby - pallid bat and Townsend's big-eared bat (CDFW 2016); see below. Other bat species (i.e., hoary bat, fringed bat) identified as having moderate to high priority for conservation by the Western Bat Working Group may also occur on the properties.

**Pallid bat** – utilizes forest and woodland habitats, roosts in trees, forages over a variety of habitats. Suitable habitat is present, and bats may roost in the trees and forage over the properties. Pallid bats have been documented less than 1.5 miles at Jack London State Historic Park. Suitable foraging and roosting habitat is present. Precautionary measures should be in place to avoid impacts.

**Townsend's big-eared bat** – occurs in low to mid-elevation mesic habitats including riparian, mixed forest, coniferous forest, prairies, and agricultural lands. This species uses edge habitat for foraging. Townsend's big-eared bats have been documented approximately 10 miles from the properties, but the sighting is from a 1938 collection. Suitable foraging habitat is present. Precautionary measures should be in place to avoid impacts.

### **7.6 Breeding Birds**

Nesting native bird species are protected under both federal and state regulations. Under the federal Migratory Bird Treaty Act (MBTA), it is unlawful to take, kill, and/or possess migratory birds at any time or in any manner, unless the appropriate permits are obtained. Protections extend to active nests, eggs, and young birds still in the nest. Birds and their nests are also protected under the California Fish and Wildlife Code (§3503 and §3503.5), and federal Bald and Golden Eagle Protection Acts.

Most bird species, with a few specific exceptions, are protected under the MBTA and California Fish and Game Code. Vegetation removal and/or construction activities in areas with suitable nesting habitat during the breeding period, typically mid-March to mid-August in this region (RHJV 2004), could result in nest abandonment or loss of

native nesting birds unless appropriate actions are taken (e.g., preconstruction surveys, avoidance, monitoring, etc.).

## **8 Conclusions and General Recommendations**

Based on the background literature, data search, and on-site evaluation, the following biological resources are present or have potential to occur.

- The expansion properties support oak woodlands, primarily dominated by blue oaks.
- The expansion properties support grasslands, which are dominated by non-native annuals but which also support substantial populations of native perennial grasses and native forbs (wildflowers). Work is proposed within some areas supporting these native stands.
- The expansion properties support a seasonal pond, vernal pools, and other small seasonal wetlands; these sensitive habitats support common native and non-native herbaceous wetland plant species. Work is proposed within some of these areas.
- One special-status species, dwarf downingia (CA Rare Plant Rank 2B.2), was documented in 2009 in the vernal pool on both sides of the entrance road, and another species, Sonoma sunshine (listed as endangered by the State and Federal government), has been documented in adjacent vernal pools on the existing Park.
- The site is located at the core of the Sonoma Valley Wildlife Corridor – a critical wildlife linkage from Sonoma Mountain east across Sonoma Valley to the Mayacamas Mountains.
- The site supports breeding/wintering/foraging habitat for a number of special-status bird species (e.g., burrowing owl, Cooper’s hawk, grasshopper sparrow, white-tailed kite, burrowing owl). Breeding birds are protected under the Migratory Bird Treaty Act and California Fish and Game Code.
- The sites support habitat for a variety of native wildlife species (e.g., birds, reptiles, amphibians, mammals, invertebrates).
- The site support potential habitat for special-status California red-legged frog and northern western pond turtle.
- The sites support potential roosting and foraging habitat for special-status and common bat species.

PCI recommends the following measures to protect biological resources during the development of proposed hiking and parking facilities, and during future park maintenance:

### **Invasive Species Management**

1. Follow best management practices during construction and maintenance to prevent the introduction or spread of invasive species. These include:
  - Any seed, straw, or mulch brought into the site should be certified weed-free or inspected by the project biologist before use to confirm weed seed is not present.
  - Construction vehicles and other landscaping equipment should be cleaned of seed and soil from other sites before entering this project area. Teasel, fennel, and yellow starthistle along existing trails and mowing or discing operations are of particular concern.
  - Revegetation of disturbed soil should occur promptly after disturbance.
  - All site restoration and erosion control seeding should include only native species of Sonoma County origin. Native plant material from any area to be disturbed, such as California oatgrass and soaproot, should be salvaged if possible. If material of local origin is not available, plant and seed sources should be reviewed by a revegetation specialist/ biologist before use.
2. Implement a program to remove or control existing infestation of non-native species.

#### **Habitat and Aquatic Resource Protection**

3. Avoid all impacts on wetlands, as feasible, or mitigate according to state and federal regulations. The vernal pool at the eastern corner of the Curreri parcel in particular should be protected from both ground disturbance and alterations to hydrology. PCI recommends a minimum 50' vegetated buffer be maintained around all wetland and drainage features. If any work is planned within wetlands, a formal wetland delineation may be needed, as well as consultation with the U.S. Army Corps of Engineers and Sonoma County planning staff to verify regulatory jurisdiction. Depending on the proposed site development and guidance from Sonoma County planning staff, additional resource agency consultation may be required (i.e., consultation with CDFW or Regional Water Quality Control Board).
4. Maintain hydrologic connectivity between vernal pools and swales on both sides of the Park entry road. Monitor culverts under paved and historic dirt road and consider replacement or removal if flow is obstructed. If trail access along historic dirt road is not planned, consider removal of road fill and wetland restoration under the guidance of a wetlands restoration specialist. See wetlands protection and regulatory notes above.
5. Avoid impacts to oak woodlands, native grassland stands and wildflower stands, as feasible, or mitigate according to state and federal regulations. Where impacts are unavoidable, include salvage of existing plants in revegetation plans

as feasible. Revegetate only with locally native species. Use Sonoma Valley plant sources for revegetation, or consult with a revegetation specialist if not feasible.

6. Decommission informal trails and any other trails that duplicate routes; revegetate with native species appropriate to the habitat and of local provenance.
7. Minimize fragmentation of habitats from trails or other park development. Maintain some core areas of high-quality habitat undisturbed.
8. Direct trail or road runoff to minimize erosion and impacts to soil and water quality.

#### **Wildlife Protection**

9. Remove all unnecessary interior and perimeter fencing – much of this fencing is wildlife unfriendly. Replace required perimeter fencing with wildlife friendly fencing as appropriate.
10. To avoid impacts on terrestrial species (e.g., reptiles, amphibians, and mammals), a preconstruction survey (on the day preceding work and/or ahead of the construction crew) should be performed prior to beginning trail-related work and to ensure that no terrestrial species are occupying the work area. If terrestrial species are observed within the work area or immediate surroundings, these areas should be avoided until the animal(s) has (have) vacated the area or the animal(s) should be relocated out of the project area by a qualified biologist.
11. To avoid impacts on special-status northern western pond turtle, a preconstruction survey for turtles should occur prior to beginning any trail-related work near the Curreri pond, and work should only occur in areas that have been surveyed. This would include a focused survey for adult turtles and nest site searches. Any adults found within the work area should be relocated to suitable on-site habitat with agency approval. Nest sites discovered during the preconstruction survey or any time during construction should be avoided until vacated, as determined by a qualified biologist. Ongoing monitoring during construction should occur to ensure turtles have not moved back into the area and they are not being impacted by activities. If the work area is left unattended for more than one week following the initial surveys, additional surveys should be completed.
12. To avoid impacts on special-status California red-legged frog, a preconstruction survey for frogs should occur prior to beginning any trail-related work near the Curreri pond, and work should only occur in areas that have been surveyed by a



qualified biologist. Frogs surveys would be primarily restricted to the pond and adjacent drainage. Any frogs found within the work area should be relocated to suitable on-site habitat with agency approval. If the work area is left unattended for more than one week following the initial surveys, additional surveys should be completed.

13. To avoid potential losses of nesting native birds, preconstruction breeding bird surveys should be completed from mid-March through mid-August for special-status, migratory birds, and raptors. The preconstruction surveys should be conducted within one week prior to initiation of construction activities. If the biologist finds no active nesting or breeding activity, then work can proceed without restrictions.

If active raptor or owl nests are identified within 100 feet of the work area or active nests of other special-status birds (e.g., small passerines, woodpeckers, hummingbirds, etc.) are identified within 50 feet of the work area, a qualified biologist should determine whether or not construction activities may impact the active nest or disrupt reproductive behavior. If it is determined that construction would not affect an active nest or disrupt breeding behavior, construction can proceed without restrictions. The determination of disruption should be based on the species' sensitivity to disturbance (which can vary among species); the level of noise or construction disturbance and the line of sight between the nest and the disturbance.

If a qualified biologist determines that construction activities would likely disrupt breeding or nesting activities, then a no-disturbance buffer should be placed around the nesting location. The no-disturbance buffer should include the active nest or breeding areas within an area designated by a qualified biologist based on the species sensitivity and the site specific conditions. Construction activities in the no disturbance buffers should be avoided until the nests have been vacated and verified by a qualified biologist.

14. To avoid impacts on special-status and common bat species, prior to any tree removal associated with trail construction, a qualified biologist should survey for bat roosts. If occupied roosting habitat is identified, trimming/removal of roost trees should not be allowed until the roost is abandoned or unoccupied and/ or CDFW is consulted.

If construction is postponed or interrupted for more than two weeks from the date of the initial bat survey, the biologist should repeat the preconstruction survey. Construction should be limited to daylight hours to avoid interference with the foraging abilities of bats.

15. A preconstruction training session should be provided for construction crew members working on trail-related construction by a qualified biologist. The training should include a discussion of the sensitive biological resources within the work area and the potential presence of special-status species. This should include a description of special-status species' habitats, protection measures to ensure species are not impacted by project activities, project boundaries, and biological conditions outlined in the project permits.

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## 10 Project Photographs

Photos taken March 14, 2016 unless otherwise noted.



Above: Blue oak woodland with understory of soaproot and annual grasses.  
Below: Blue oak woodland with understory of invasive French broom, western Curreri  
parcel.







Above: Annual grassland habitat with occasional native forbs, including sky lupine.  
Below: Annual grassland, central Curreri parcel, which new trail is proposed to bisect.





Above: Wildlife unfriendly fencing within woodland habitat; removal recommended.  
Below: Culvert near Highway 12 entrance.







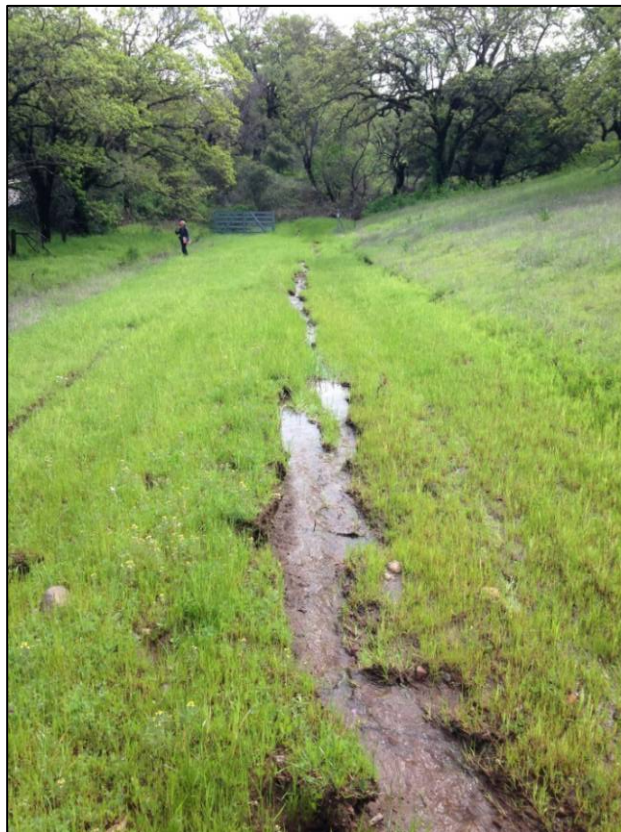
Above: Native grassland species in area proposed for equestrian parking.  
Below: Vernal pool (foreground) and swale draining into it; looking upslope toward proposed equestrian parking area.





Top: Potential wetland area in trail, eastern SDC 41 parcel.

Bottom: Runoff flowing down eroded channel in center of trail, southeastern SDC 41 parcel.







Above: Pond on Curreri parcel, with dense growth of *Azolla*.  
Below: Pond outfall.



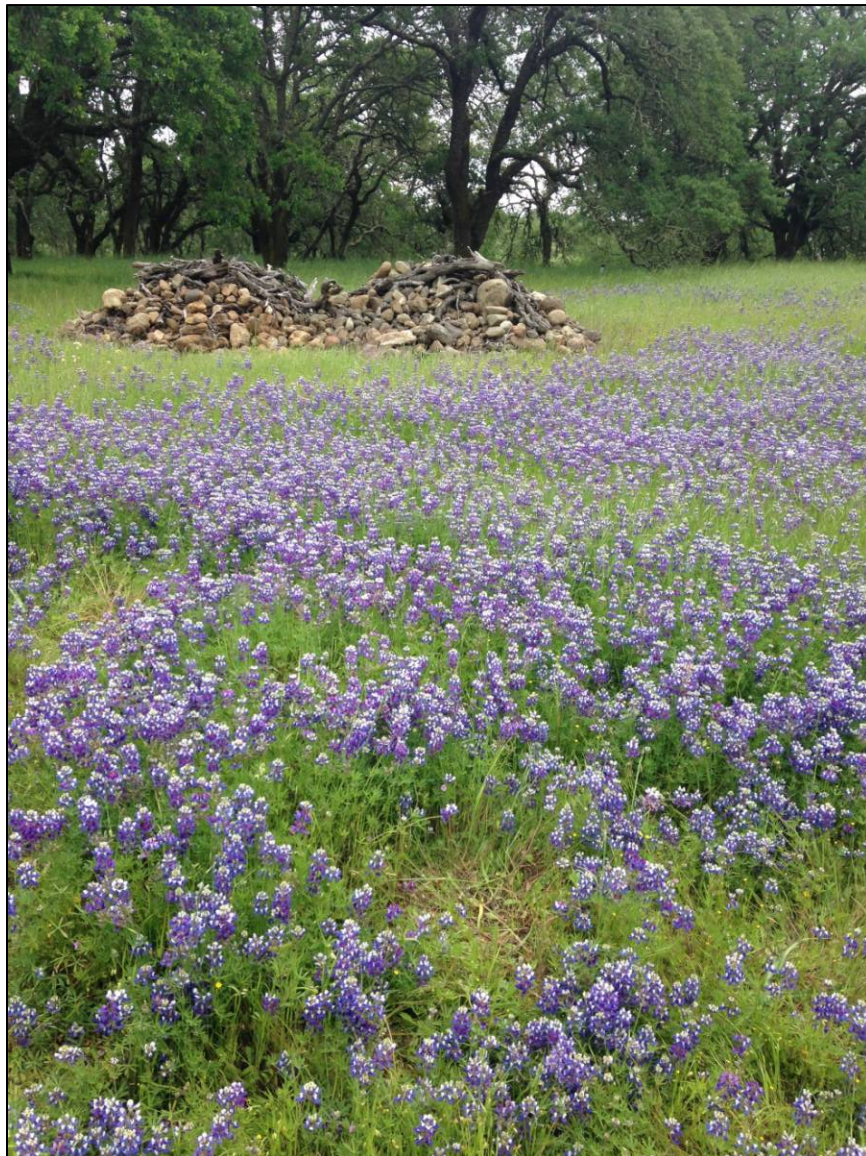


Above: Wetlands in area under consideration for parking expansion, west of dog park.

Below: Swale adjacent to wetlands above, along eastern edge of potential parking expansion.







April 12, 2016: dense stand of lupine near pond; typical of other dense, showy lupine patches throughout expansion properties.





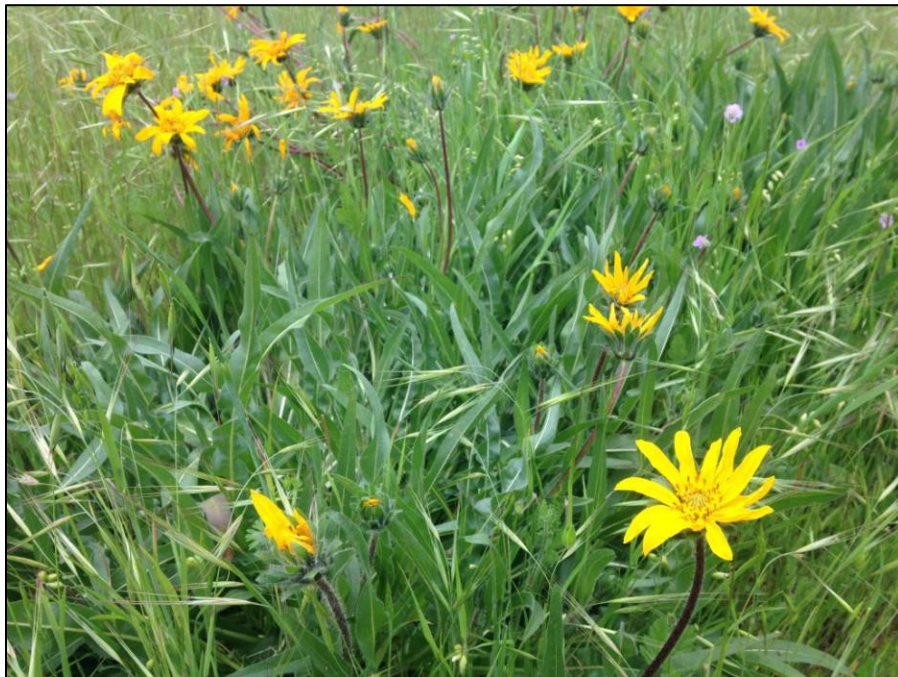
April 12, 2016. Above: native grassland species in area under consideration for equestrian parking (soaproot, California oatgrass, and lupine; previously placed gravel for access road also visible). Below: Lupine stand just upslope of proposed equestrian parking (circled).







April 12, 2016. Above: California oatgrass in area proposed for parking, adjacent to CalFire facility. Surrounded by non-native clover.  
Below: Stand of narrow leaf mule's ear.





# Traffic Impact Study for the Sonoma Valley Regional Park Expansion



Prepared for Sonoma County Regional Parks

Submitted by  
**W-Trans**

December 21, 2016



**TRAFFIC ENGINEERING  
TRANSPORTATION PLANNING**  
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- B. Speed Survey Calculations
- C. Turn-Lane Warrant Analysis Sheets
- D. Queuing Calculations



# Executive Summary

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The Sonoma Valley Regional Park is proposing an expansion that would increase the total park size from 167 to 237 acres. The additional park acreage is expected to generate an average of 160 new vehicle trips on a daily basis, including 6 trips during the weekday p.m. peak hour and 12 trips during the weekend midday peak hour.

The study area consists of State Route (SR) 12, which runs along the northeasterly frontage of the project site as well as Arnold Drive, which provides access to the southwesterly portion of the site. The main entrance is located on SR 12 and a secondary bicycle and pedestrian access is located on Arnold Drive. The park entrance is currently facilitating turning movements acceptably based on site observations and the minimal increase in trips associated with the proposed expansion is expected to have a less-than-significant impact.

Pedestrian, bicycle, and transit access are currently lacking, but are expected to be adequate upon completion of improvements outlined in the *Sonoma County Bicycle and Pedestrian Master Plan*. Planned facilities include the provision of Class II bike lanes on SR 12 and Arnold Drive adjacent to the project site. Additionally, the planned Central Sonoma Valley Trail, a Class I bike facility, would be located on the easterly side of SR 12 and would connect the site to Santa Rosa and Sonoma.

The main entrance on SR 12 was analyzed to determine if a left-turn lane would be warranted. Based on the analysis, a left-turn lane is marginally warranted on SR 12 at the project driveway during the weekday p.m. peak hour under Existing and Existing plus Project Conditions. The warrant is met due to the high volumes on SR 12 during the peak hour, not because of a high number of left-turns into the site. A queuing analysis indicated that no more than one vehicle would be expected to queue at the entrance at any one time. Since the access is currently operating safely it is recommended that a left-turn lane not be provided at this time, but should be installed as part of long-range improvements if Caltrans concurs.

Sight distances at the main entrance on SR 12 and at the pedestrian/bicycle access point on Arnold Drive are adequate, but vegetation on the embankment north Arnold Drive entrance should routinely be trimmed to maintain adequate sight lines.

The adequacy of parking was evaluated using demand based on rates calculated from the Shell Beach Trailhead parking lot off SR 1 in Sonoma County. The existing supply includes 27 parking spaces in the main entrance parking lot which would be adequate to meet the estimated parking demand of 21 spaces. A second parking lot is not needed at this time; however, should the Sonoma Valley Regional Park expand to include the SDC Lake Suttonfield property in the future, it is recommended that Regional Parks explore the possibility of providing a second parking lot on disturbed SDC land accessed via Arnold Drive.

# Introduction

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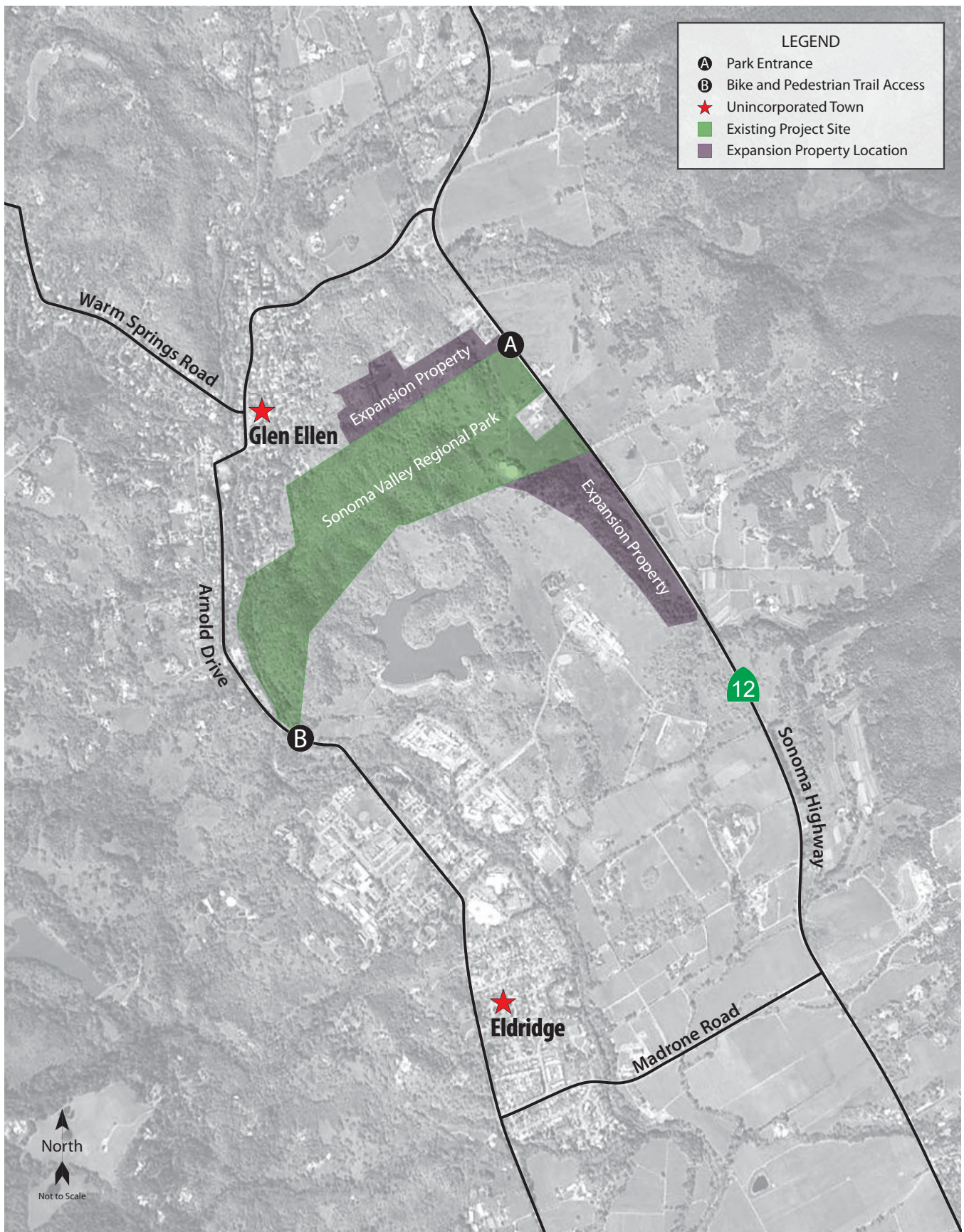
This report presents an analysis of the potential traffic impacts that would be associated with the proposed expansion of the existing Sonoma Valley Regional Park located between State Route (SR) 12 and Arnold Drive near the community of Glen Ellen in the County of Sonoma. The traffic study was completed to support the Sonoma Valley Regional Park Expansion Master Plan, and is consistent with standard traffic engineering techniques. Feedback from County staff has been incorporated in this report.

## Prelude

The purpose of a traffic impact study is to provide County staff and policy makers with data that they can use to make an informed decision regarding the potential traffic impacts of a proposed project, and any associated improvements that would be required in order to mitigate these impacts to a level of insignificance as defined by the County's General Plan or other policies. Vehicular traffic impacts are typically evaluated by determining the number of new trips that the proposed use would be expected to generate, distributing these trips to the surrounding street system based on existing travel patterns or anticipated travel patterns specific to the proposed project, then analyzing the impact the new traffic would be expected to have on critical intersections or roadway segments. Impacts relative to access for pedestrians, bicyclists, and to transit are also addressed.

## Project Profile

The proposed project would add to the existing Sonoma Valley Regional Park via incorporation of two parcels, increasing the total acreage from 167 acres to 237 acres. The expansion includes State surplus property on the southern park boundary along SR 12, which was acquired in 2007, and the recently (2014) acquired Curreri property on the park's northern boundary. The existing park has a Master Plan for its full development, though that Plan does not include acquisition of the two properties that are the subject of this effort. As proposed, no additional parking would be provided; however, the original Master Plan addresses the potential for adding parking in the future. The project site is located between SR 12 and Arnold Drive, as shown in Figure 1.



**Traffic Impact Study for the Sonoma Valley Regional Park Expansion**  
**Figure 1 – Study Area and Project Location**



# Transportation Setting

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## Operational Analysis

### Study Area and Periods

The study area consists of SR 12, which runs along the northeasterly frontage of the project site as well as Arnold Drive, which provides access to the southwesterly portion of the site.

Operating conditions during the weekday p.m. and weekend midday peak periods were evaluated as these time periods reflect the highest traffic volumes areawide and for the proposed project. The evening peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion of the day during the homeward bound commute, while the weekend midday peak generally occurs between 12:00 and 2:00 p.m.

### Study Roadways

**SR 12** generally runs east-west, though it is predominantly north-south in the study area, and is classified as a major arterial. Along the project frontage, the road has two 12-foot travel lanes and a posted speed limit of 55 miles per hour (mph). The shoulder on the west side, adjacent to the dog park, is approximately 12 feet wide and provides sufficient width to accommodate shoulder parking. Directly adjacent to the park the highway is straight and flat; however, there is a horizontal curve located approximately one-third of a mile north of the park entrance. Unpaved shoulder parking exists along the west side of the highway between the main park entrance to the north and the dog park to the south.

**Arnold Drive** is a two-lane roadway that provides pedestrian and bicycle access to the southwesterly portion of the park. Adjacent to the park entrance the roadway is approximately 40 feet wide with two 12-foot travel lanes and an eight-foot shoulder that accommodates shoulder parking on the east side. The posted speed limit changes from 35 mph to 25 mph near the park entrance, and is 35 mph to the north and 25 mph to the south.

The main park entrance and only vehicular access is on SR 12, located approximately 0.4 miles south of the SR 12/ Arnold Drive intersection. The park driveway approach is stop-controlled.

## Collision History

The collision history for the study area was reviewed to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated for SR 12 between Arnold Drive and Madrone Road and for Arnold Drive between Hill Road and Harney, based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The most current five-year period available is January 1, 2011 through December 31, 2015.

Calculated collision rates for the study roadway segments were compared to average collision rates for similar facilities statewide, as indicated in *2012 Collision Data on California State Highways*, California Department of Transportation. It should be noted that the Statewide Average collision rates for roadway segments differ based on number of lanes, design speed, and whether or not a divided median is present.

As presented in Table 1, the study segments have collision rates below the statewide average for similar facilities, which indicates the roadways serving the park are currently operating acceptably with regards to safety. Furthermore, no collision patterns were detected that indicate a safety issue with parked vehicles as there were

no reported collisions that included parked vehicles along SR 12 or Arnold Drive near either of the park entrances. The collision rate calculations are provided in Appendix A.

**Table 1 – Collision Rates for the Study Segments**

Study Roadway Segments	Number of Collisions (2011-2015)	Calculated Collision Rate (c/mvm)	Statewide Average Collision Rate (c/mvm)
1. SR 12 – Arnold Dr to Madrone Rd	52	0.79	1.32
2. Arnold Dr – Hill Rd to Harney Dr	10	1.10	2.39

Note: c/mvm = collisions per million vehicles miles

## Alternative Modes

### Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a connected pedestrian network is lacking in the vicinity of the regional park. Existing gaps and obstacles along the connecting roadways impact convenient and continuous access for pedestrians and present safety concerns in those locations where appropriate pedestrian infrastructure would address potential conflict points.

- **SR 12** – As might be expected with a rural highway, no sidewalks are provided on either side of SR 12 adjacent to the park. Street lighting is also non-existent.
- **Arnold Drive** – There are no sidewalks or pedestrian facilities adjacent to the park. The nearest sidewalk to the south is at the bridge over Sonoma Creek approximately 800 feet from the park entrance and the nearest sidewalk to the north is in Glen Ellen approximately 0.8 miles from the park entrance. There are no street lights adjacent to the park.

### Bicycle Facilities

The *Highway Design Manual*, California Department of Transportation (Caltrans), 2012, classifies bikeways into three categories:

- **Class I Multi-Use Path** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane** – a striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Route** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.

Guidance for Class IV Bikeways is provided in *Design Information Bulletin Number 89: Class IV Bikeway Guidance (Separated Bikeways/Cycle Tracks)*, Caltrans, 2015.

- **Class IV Bikeway** – also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

There are no existing bike lanes present on SR 12 or Arnold Drive in the project area. Bicyclists ride in the roadway and/or on the shoulder of all streets surrounding the park. Table 2 summarizes the planned bicycle facilities in the project vicinity, as contained in the *2010 Sonoma County Bicycle and Pedestrian Plan*. Additionally, the planned facilities are shown in Figure 2.

**Table 2 – Bicycle Facility Summary**

Status Facility	Class	Length (miles)	Begin Point	End Point
<b>Planned</b>				
Central Sonoma Valley Trail	I	12.6	Agua Caliente Rd	Melita Rd
Arnold Dr	II	3.5	Country Club Dr	Chauvet Rd
SR 12	II	6.9	Kunde Winery Rd	Agua Caliente Rd

Source: *2010 Sonoma County Bicycle and Pedestrian Plan*, County of Sonoma, 2010

## Transit Facilities

Sonoma County Transit (SCT) provides fixed route bus service in Sonoma County. SCT Routes 30 and 38 stop at the bus stop on Arnold Drive located approximately 0.15 miles north of the park entrance. SCT Route 30 provides service between Santa Rosa and Sonoma and operates seven days a week; SCT Route 38 provides regional commute service between Sonoma Valley and San Rafael and operates Monday through Friday.

Two bicycles can be carried on most SCT buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on SCT buses at the discretion of the driver.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. Volunteer Wheels, the ADA paratransit operator for Sonoma County Transit, is designed to serve the needs of individuals with disabilities within the incorporated areas of Sonoma County, the Greater Santa Rosa Area, and between the County's nine incorporated cities.

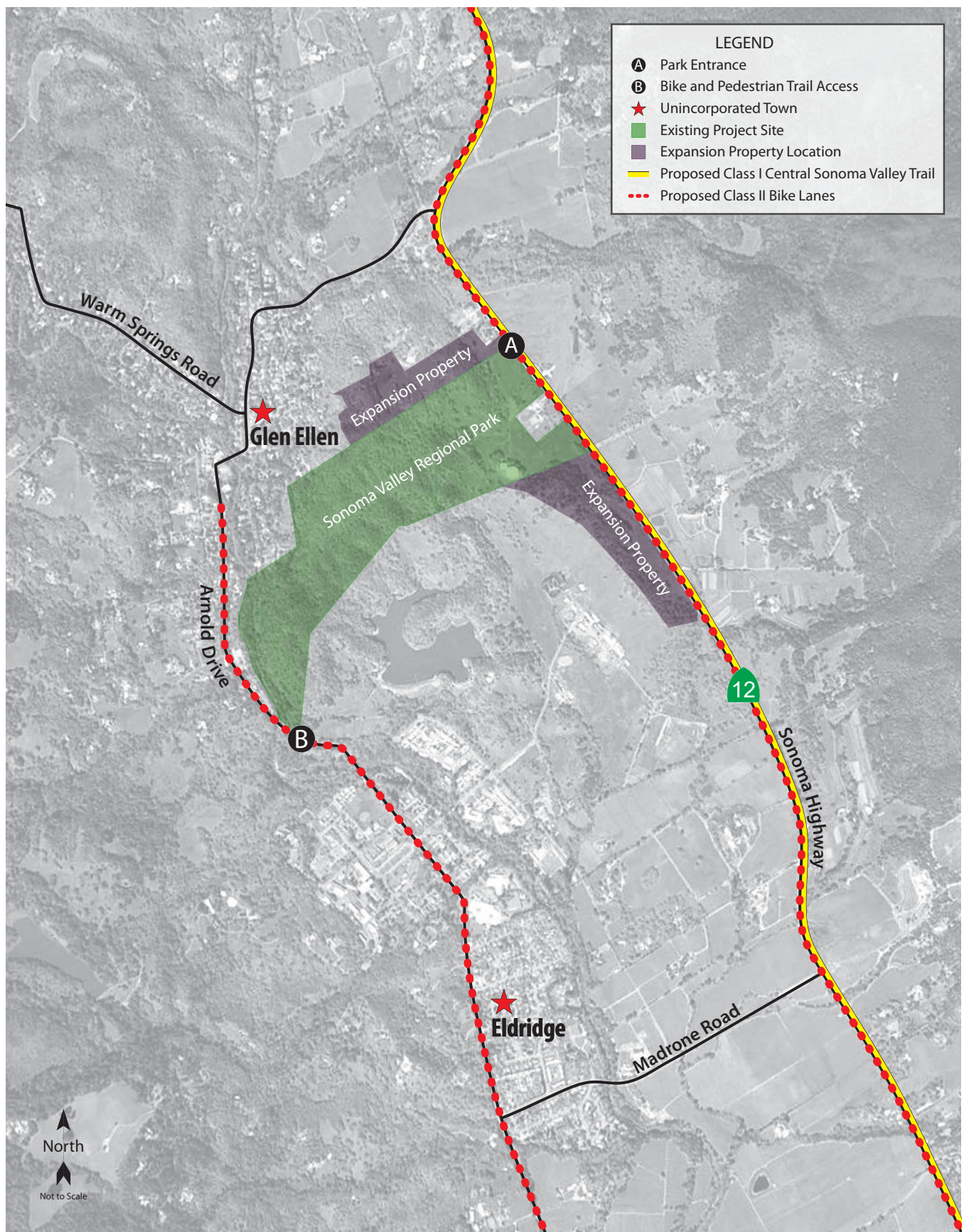
The existing bus stops and routes serving the project site are shown in Figure 3.

## Traffic Operation Standards

Based on the most recent criteria published by the County of Sonoma in May of 2016, the project would have a significant traffic impact if it results in any of the following conditions.

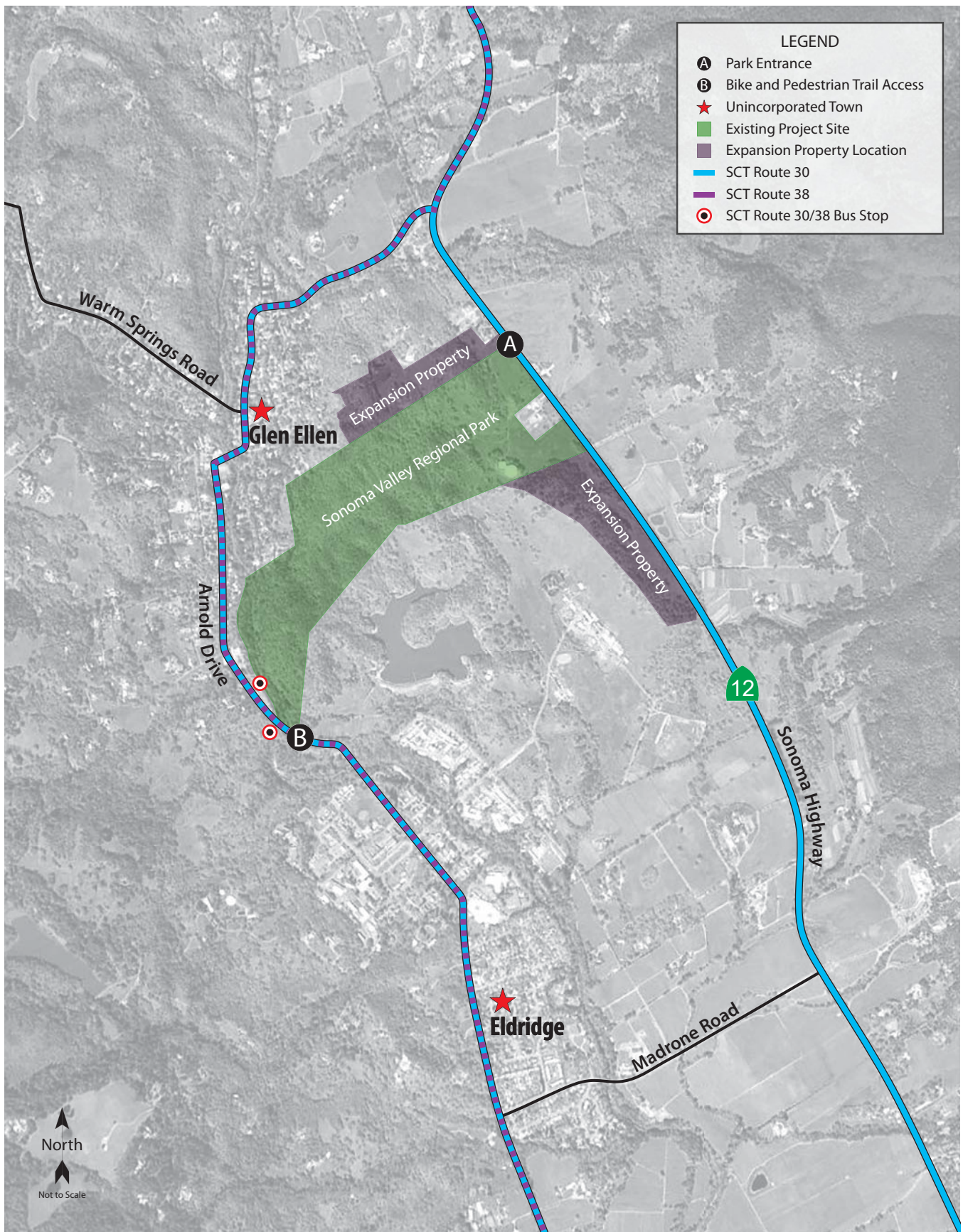
1. **On-site roads and frontage improvements:** Proposed on-site circulation and street frontage would not meet the County's minimum standards for roadway or driveway design, or potentially result in safety hazards, as determined by the County in consultation with a registered traffic engineer.
2. **Parking:** Proposed on-site parking supply does not meet County standards and does not adequately accommodate parking demand.
3. **Emergency Access:** The project site would have inadequate emergency access.
4. **Alternative Transportation:** The project provides inadequate facilities for alternative transportation modes (e.g., bus turnouts, bicycle racks, pedestrian pathways) and/or the project creates potential conflicts with the County's Complete Streets Policy, other adopted policies, plans, or programs supporting alternative transportation.





**Traffic Impact Study for the Sonoma Valley Regional Park Expansion**  
**Figure 2 – Planned Bicycle Facilities**





**Traffic Impact Study for the Sonoma Valley Regional Park Expansion**  
**Figure 3 – Existing Transit Facilities**



5. **Road Safety:** Road design features that do not meet standards (e.g., sharp curves or skewed intersections) or any perceived incompatible uses (e.g., farm equipment, major bicycle route, rail or pedestrian crossings).
6. **Vehicle Queues:** Project causes or exacerbates 95th percentile turning movement queues exceeding available turn pocket capacity.
7. **Signal Warrants:** The addition of the project's vehicle or pedestrian traffic causes an intersection to meet or exceed current Caltrans and/or CA-MUTCD signal warrant criteria.
8. **Turn Lanes:** The addition of project traffic causes an intersection to meet or exceed criteria for provision of a right or left turn lane on an intersection approach.
9. **Sight Lines:** The project constructs an unsignalized intersection (including driveways) or adds traffic to an existing unsignalized intersection approach that does not have adequate sight lines based upon Caltrans criteria for state highway intersections and AASHTO criteria for County roadway intersections.
10. **County Intersection Operations:** The County Level of Service standard for County intersection operations is to maintain a Level of Service D or better pursuant to General Plan Policy CT-4.2. The project would have a significant traffic impact if the project's traffic would cause an intersection currently operating at an acceptable level of service (LOS D or better) to operate below the standard (LOS E or F).

If the intersection currently operates or is projected to operate below the County standard (at LOS E or F), the project's impact is significant and cumulatively considerable if it causes the average delay to increase by five seconds or more. The delay will be determined by comparing intersection operation with and without the project's traffic for both the existing baseline and projected future conditions. These criteria apply to all controlled intersections except for driveways and minor side streets that have less than 30 vehicles trips per hour per approach or per exclusive left turn movement.

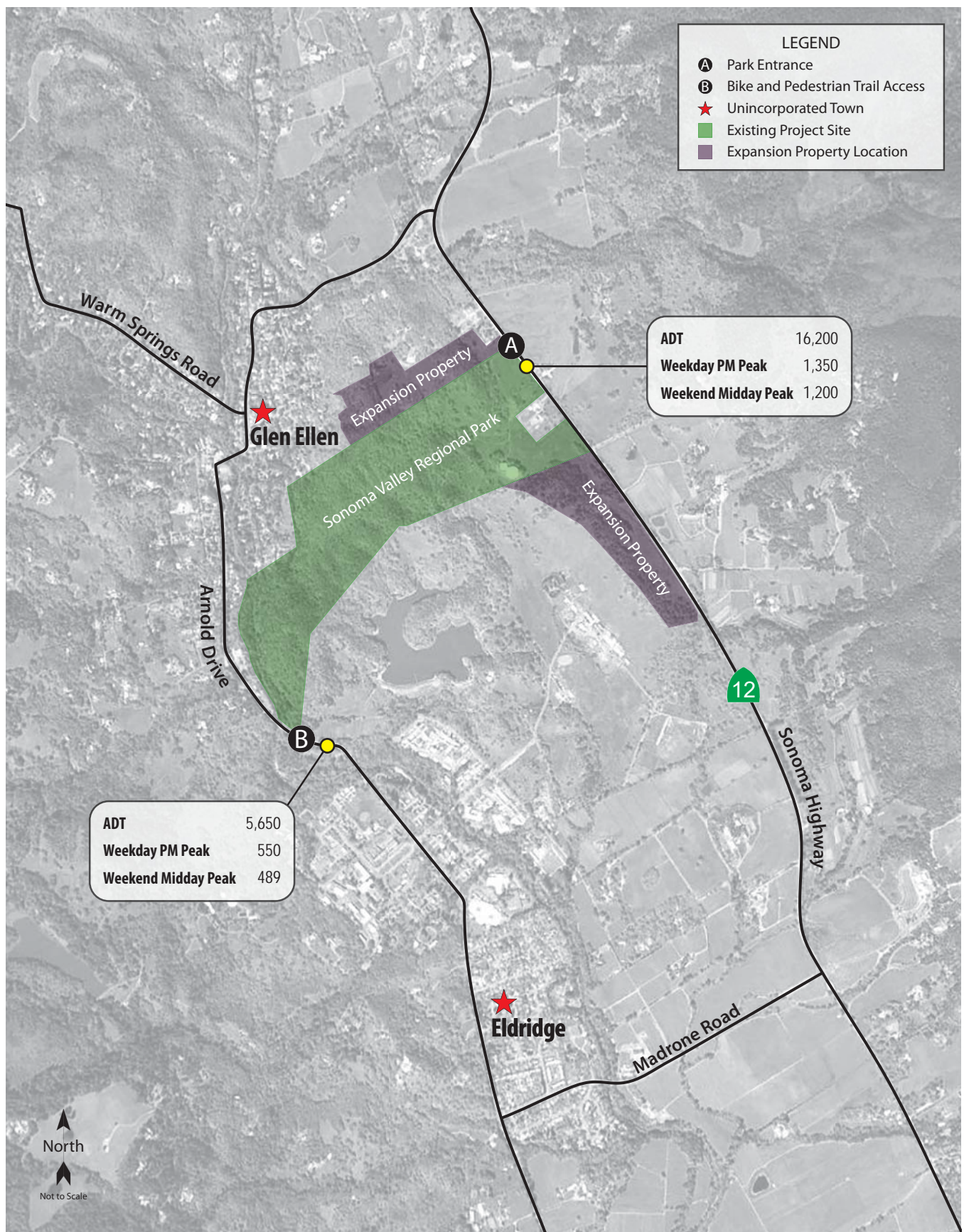
11. **County Roadway Operations:** The County Level of Service Standard for County roadway operations is to maintain a Level of Service C pursuant to General Plan Policy CT-4.1; or, for specific roadway segments, the level of service standard adopted, in General Plan Figure CT-3. The project would have a significant traffic impact if the project's traffic would cause a road currently operating at an acceptable level of service (LOS C or better) to operate at an unacceptable level (LOS D or worse).

## Existing Conditions

Traffic counts obtained by Caltrans in June 2014 indicate that SR 12 is carrying about 16,200 vehicles per day along the project frontage and 1,200 vehicles during the weekend midday peak hour. Based on traffic counts published by Caltrans on their website this section of SR 12 carries approximately 1,350 vehicles during the weekday p.m. peak hour. Sonoma County performed counts on Arnold Drive in October 2015 that indicates that near the park entrance the roadway carries approximately 5,650 vehicles per day and 550 vehicles during the weekday p.m. peak hour.

Due to lack of available count data for the weekend midday peak hour on Arnold Drive, a ratio of the weekend midday peak hour and weekday p.m. peak hour volumes on SR 12 was used to determine the weekend midday peak hour volume on Arnold Drive. The SR 12 ratio of weekend midday peak hour volumes to weekday p.m. peak hour volumes is approximately 0.89. Based on this ratio, Arnold Drive is estimated to carry about 489 vehicles during the weekend midday peak hour. The main park entrance on SR 12 and secondary entrance on Arnold Drive are currently facilitating turning movements acceptably based on site observations.

Figure 4 shows the existing traffic volumes on SR 12 and Arnold Drive adjacent to the park.



**Traffic Impact Study for the Sonoma Valley Regional Park Expansion**  
**Figure 4 – Existing Traffic Volumes**



## Project Description

The proposed project would add to the existing Sonoma Valley Regional Park via incorporation of two parcels, increasing the total acreage from 167 acres to 237 acres. The expansion includes State surplus property on the southern park boundary along SR 12, which was acquired in 2007, and the recently acquired Curreri property on the park's northern boundary. As proposed, no additional parking would be provided; however, the original Master Plan addresses the potential for adding parking in the future. The proposed project site plan is shown in Figure 5.

## Trip Generation

The trip generations for the existing park and the proposed addition were estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 9<sup>th</sup> Edition, 2012 for "County Park" (ITE LU #412), as this was determined to be the most similar land use. It is noted that the *Trip Generation Manual* does not include weekend midday peak hour rates for this land use, so the weekday p.m. peak hour rates were doubled to attain the weekend midday peak hour rates. Trip generation surveys conducted by W-Trans at the Shell Beach trailhead in Sonoma County during the summer of 2013 indicated that the trailhead generates approximately twice as many trips during the weekend midday peak hour than during the weekday evening peak hour; this was assumed to be representative of Sonoma Valley Regional Park as the land use is similar to the Shell Beach trailhead. Additionally, it was assumed that the inbound and outbound trips would be evenly split during the weekend midday peak hour.

The anticipated trip generation potential for the proposed 70 acres of additional park space is indicated in Table 3, along with the estimated trip generation for the existing 167 acres. The proposed additional park acreage is expected to generate an average of 160 new trips per day, including six trips during the weekday p.m. peak hour and 12 trips during the weekend midday peak hour. These new trips represent the increase in traffic associated with the project compared to existing volumes.

Table 3 – Trip Generation Summary											
Land Use	Units	Daily		Weekday PM Peak Hour				Weekend Midday Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Existing											
Regional Park	167 acres	2.28	381	0.09	15	9	6	0.18	30	15	15
Proposed											
Regional Park	70 acres	2.28	160	0.09	6	4	2	0.18	12	6	6
Total			541		21	13	8		42	21	21

The existing 167 acres is expected to be generating an average of 381 trips per day, including 15 trips during the weekday p.m. peak hour and 30 trips during the weekend midday peak hour. Upon adding the trips associated with the proposed additional 70 acres of park space to the existing trips, the park would be expected to generate a total of 541 trips on a daily basis, including 21 during the weekday evening peak hour and 42 during the weekend midday peak hour.

It is noted that data from July 1, 2014 through June 30, 2015 indicates the park has approximately 48,000 visitors annually, which equates to an average of 132 visitors daily. Even conservatively assuming that each of these park visitors traveled alone, this would result in 264 trip ends per day, which is 30 percent less than the 381 trips estimated based on application of standard rates. Any visitors arriving with multiple occupants per vehicle would further reduce the trip generation. However, in order to provide conservative results, the standard ITE rates were applied for the analysis.





Source: Sonoma County Regional Parks 4/16

Traffic Impact Study for the Sonoma Valley Regional Park Expansion

**Figure 5 – Site Plan**



## Trip Distribution

The pattern used to allocate new project trips to the street network was determined by observations of existing turning movements at the park entrances, observations of neighborhood travel patterns, and knowledge of traffic patterns in the area and surrounding region. It is noted that the main entrance on SR 12 is expected to generate the majority of new trips associated with the expansion since the expansion properties are located adjacent to the main entrance. The applied distribution assumptions are illustrated in Figure 6 and the resulting trips are shown in Table 4.

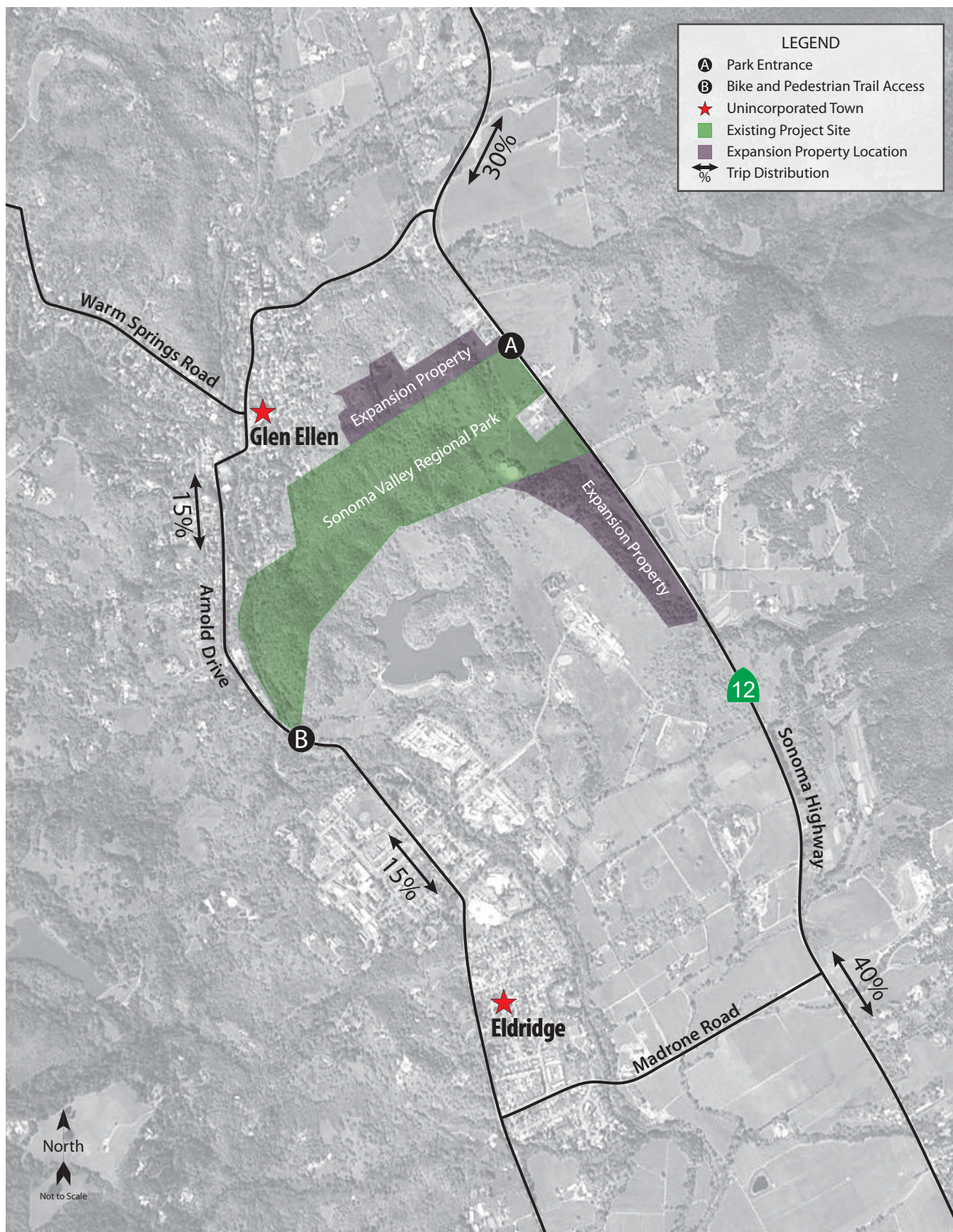
Table 4 – Trip Distribution Assumptions and Resulting Project-Added Trips				
Route	Percent	Daily Trips	Weekday PM Trips	Weekend Midday Trips
SR 12 (South of Main Entrance)	40%	64	2	5
SR 12 (North of Main Entrance)	30%	48	2	3
Arnold Dr (South of Entrance)	15%	24	1	2
Arnold Dr (North of Entrance)	15%	24	1	2
<b>TOTAL</b>	<b>100%</b>	<b>160</b>	<b>6</b>	<b>12</b>

## Existing plus Project Conditions

The project is expected to add four trips at the main entrance on SR 12 during the weekday p.m. peak hour (two inbound and two outbound) and eight trips during the weekend midday peak hour (four inbound and four outbound). The project would add two trips at the Arnold Drive entrance during the weekday p.m. peak hour (both inbound) and four trips during the weekend midday peak hour (two inbound and two outbound).

Upon the addition of project generated trips to the existing volumes, the main entrance is expected to have 15 trips during the weekday p.m. peak hour and 30 trips during the weekend midday peak hour; the Arnold Drive entrance is expected to have six trips during the weekday p.m. peak hour and 12 trips during the weekend midday peak hour. Given the minimal number of trips generated by users of the existing park and the incremental increase in park acreage, the expansion's impact can reasonably be characterized as less-than-significant.





**Traffic Impact Study for the Sonoma Valley Regional Park Expansion**  
**Figure 6 – Trip Distribution**

# Alternative Modes

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## Pedestrian Facilities

The park is lacking pedestrian facilities along the project frontages on SR 12 and Arnold Drive, which is not uncommon considering its rural location. Few pedestrians are expected to access the park via the main entrance on SR 12; however, given the proximity of the Arnold Drive entrance to the communities of Eldridge and Glen Ellen, it is reasonable to assume that some project patrons would want to walk to the park. Additionally, there is a Sonoma County Transit stop located approximately 0.15 miles north of the park entrance on Arnold Drive that is easily within walking distance. Consideration was given to the need for pedestrian crossings on one or both of the studied segments, but since parking occurs on the shoulder adjacent to the park in both locations there is no need for pedestrians to cross SR 12 or Arnold Drive.

**Finding** – Pedestrian facilities are lacking along the project frontages on SR 12 and Arnold Drive.

**Recommendation** – To make the park more accessible for pedestrians, it is recommended that consideration be given to providing a facility for pedestrian access on Arnold Drive between the park entrance and the community of Eldridge to the south, as well as the community of Glen Ellen to the north.

## Bicycle Facilities

Bicycle facilities are currently lacking along the project frontages on SR 12 and Arnold Drive; however, there are plans to construct Class II bike lanes on Arnold Drive and SR 12 adjacent to the park as well as the provision of a Class I trail (Central Sonoma Valley Trail) on the east side of SR 12 that would provide bike access between Santa Rosa and Sonoma. These projects are classified as high priority projects in the *2010 Sonoma County Bicycle and Pedestrian Plan*.

Arnold Drive between Glen Ellen and Eldridge generally has shoulders with a width of at least five feet. The provision of Class II bicycle lanes could be accomplished through minor shoulder widening and/or signing limiting parking to off-pavement to maintain the existing shoulder space for cyclists.

**Finding** – Bicycle facilities serving the project site will be adequate upon completion of the improvements outlined in the *2010 Sonoma County Bicycle and Pedestrian Plan*.

## Transit

Existing transit routes are adequate to accommodate project-generated transit trips. The existing stop on Arnold Drive is within acceptable walking distance of the site.

**Finding** – Transit facilities serving the project site are adequate.

# Access and Circulation

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## Site Access

### Sight Distance

At driveways and unsignalized intersections, a substantially clear line of sight should be maintained between the driver of a vehicle waiting on the driveway and the driver of an approaching vehicle. Adequate time must be provided for the waiting vehicle to either cross, turn left, or turn right, without requiring the through traffic drivers to radically alter their speed. Sight distance should be measured from a 3.5-foot height at the location of the driver on the minor road to a 4.25-foot object height in the center of the approaching lane of the major road. Set back for the driver on the crossroad shall be a minimum of 15 feet, measured from the edge of the traveled way.

Sight distance along SR 12 at the main entrance was evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. The recommended sight distances for minor street approaches that are driveways are based on stopping sight distance.

For the posted 55-mph speed limit on SR 12, the recommended stopping sight distance is 500 feet. Based on a review of the field conditions, sight distance at the SR 12 entrance extends approximately 600 feet to the north and south, which satisfies requirements for speeds of 60 mph.

Radar speed samples were obtained on the northbound and southbound approaches of SR 12 at the project driveway. Prevailing speeds were found to be below the posted 55-mph speed limit in both directions. Based on the speed samples, the 85<sup>th</sup> percentile speed for northbound vehicles was 48 mph, with a peak observed speed of 50 mph. In the southbound direction, the 85<sup>th</sup> percentile speed was 43 mph, with a peak observed speed of 46 mph.

Though the entrance on Arnold Drive is not a vehicle driveway, bicyclists and pedestrians enter and exit the park at this driveway and may cross Arnold Drive in this location. Sight distance at this location was evaluated in the context of these non-vehicular modes based on sight distance criteria contained in *A Policy on Geometric Design on Highways and Streets* published by American Association of State Highway and Transportation Officials (AASHTO).

For the posted 25-mph speed limit on Arnold Drive adjacent to the project site, the recommended stopping sight distance is 155 feet. Based on a review of the field conditions, from a position at the edge of the travelway, sight distance from the park entrance extends approximately 180 feet to the north and 200 feet to the south, which satisfies requirements for speeds up to 25 mph in the southbound direction and 30 mph in the northbound direction.

Radar speed samples were obtained on the northbound and southbound approaches of Arnold Drive at the park entrance. Based on the speed samples, the 85<sup>th</sup> percentile speed for northbound vehicles was 28 mph, with a peak observed speed of 34 mph. In the southbound direction, the 85<sup>th</sup> percentile speed was 33 mph, with a peak observed speed of 37 mph. For these actual approach speeds, stopping sight distances needed are 200 and 250 feet for the northbound and southbound directions respectively. Again assuming that the pedestrian or cyclist would stop at the edge of the travelway to assess adequacy of the gap in traffic for their crossing, adequate sight distance can be achieved for decision-making. It is noted that the embankment between the driveway and Arnold Drive limits sight lines, and overgrown vegetation could result in inadequate sight distance.

Radar speed samples at the park entrances on SR 12 and Arnold Drive are provided in Appendix B.



**Finding** – Adequate sight distance is available in each direction on SR 12 as well as on Arnold Drive.

**Recommendation** – In order to maintain adequate sight lines to the north along Arnold Drive, the vegetation on the embankment should be kept trimmed.

## **Access Analysis**

### ***Left-Turn Lane Warrant***

The need for a left-turn lane on SR 12 at the main entrance was evaluated based on criteria contained in the *Intersection Channelization Design Guide*, National Cooperative Highway Research Program (NCHRP) Report No. 279, Transportation Research Board, 1985, as well as a more recent update of the methodology developed by the Washington State Department of Transportation. The NCHRP report references a methodology developed by M. D. Harmelink that includes equations that can be applied to expected or actual traffic volumes in order to determine the need for a left-turn pocket based on safety issues. Based on our research and discussions with Caltrans staff, this methodology is consistent with the “Guidelines for Reconstruction of Intersections,” August 1985, which was referenced in Section 405.2, Left-turn Channelization, of previous editions of the Caltrans *Highway Design Manual*, though this reference has been deleted from the most recent edition of this manual.

Existing and Existing plus Project peak hour volumes as well as safety criteria were used as the basis of the evaluation. It was determined that a left-turn lane at the project access point is not warranted during the weekend midday peak hour without or with the proposed project and is marginally warranted during the weekday p.m. peak hour under Existing and Existing plus Project volumes. It is noted that the minimal volume of left turns triggers need for a left-turn lane due to the high volume of traffic on SR 12.

Since a left-turn lane is marginally wanted on SR 12 at the main entrance, westbound left-turn queuing was determined using a methodology contained in “Estimating Maximum Queue Length at Unsignalized Intersections,” John T. Gard, *ITE Journal*, November 2001. Based on Existing plus Project peak hour volumes, the maximum queue was determined to be no more than one vehicle during the weekend midday peak hour and there would not be expected to be any queue during the weekday p.m. peak hour.

The Caltrans *Highway Design Manual* specifies that the storage length at unsignalized intersections should be based on the number of turning movements likely to arrive in an average two-minute period during the peak hour. On a weekend during the midday peak hour, which represents the worst case condition, no more than one vehicle would be expected to arrive in an average two-minute period during the peak arrival period. Therefore, at such time as a left-turn lane is constructed, the storage need only be the 50-foot two-vehicle stacking required by Caltrans.

The turn lane warrant analysis sheets are provided in Appendix C and queuing calculations are provided Appendix D.

**Finding** – A left-turn lane on SR 12 at the main entrance is marginally warranted during the weekday p.m. peak hour without or with the proposed project.

**Recommendation** – A review of the collision records show that there were no collisions at the driveway entrance for the five-year period studied. Given the observed speeds below the speed limit, lack of crashes, availability of shoulder area and existing good sight lines, as well as the lack of left-turn pockets for other driveways and intersections along this segment of roadway, installation of a left-turn pocket is not recommended at this time, but should be installed as part of long-range improvements if Caltrans occurs.

### ***Right-Turn Lane Warrant***

The need for a right-turn lane or taper was also evaluated based on criteria contained in the *Intersection Channelization Design Guide*. A right-turn lane would consist of a lane installed to the right of the travel lane and would be a minimum of ten feet wide, plus a shoulder where not adjacent to a curb. A right-turn taper is a shoulder area that gets progressively wider as the motorist travels toward the intersection. Both improvements are meant to provide an area for motorists turning right to move out of the traffic lane without impeding through traffic.

The need for a right-turn lane or taper was evaluated on SR 12 at the main entrance. Using the Existing and Existing plus Project volumes for the weekday p.m. peak hour and weekend midday peak hour, no additional facilities in the form of either a right-turn lane or right-turn taper would be warranted.

**Finding** – No additional right-turn facilities are warranted on SR 12 at the main entrance.



# Parking

The project was analyzed to determine whether the provided parking supply would be sufficient for the anticipated parking demand. The parking lot located at the main entrance provides 20 standard spaces, five 45-foot pull-through spaces, and two accessible spaces for a total of 27 spaces.

It is noted that during the site visit, park patrons were observed to be parking on the shoulders of SR 12 and Arnold Drive along the park frontages. The western shoulder of SR 12 provides space to accommodate approximately 17 parked vehicles between the dog park to the south and the main park entrance to the north, while the eastern shoulder of Arnold Drive provides space to accommodate approximately 22 parked vehicles between the bridge across Sonoma Creek to the south and the park entrance to the north. In total, the existing parking layout provides space to accommodate up to 27 vehicles in marked spaces and 39 vehicles via shoulder parking for a total of 66 vehicles.

The anticipated parking generation for a proposed project is generally estimated using standard rates published by ITE in *Parking Generation*, 4<sup>th</sup> Edition, 2010. This publication includes information for a “City Park” (ITE LU #411) which would be the closest land use category to a county park. However, city park uses generally represent active park activities such as swimming facilities, ball fields/courts, developed picnic facilities, etc., most of which are beyond those anticipated for this project.

Due to limitations of this data, a parking rate was calculated using provided parking spaces and total park acres for the trailhead parking lot at Shell Beach off of SR 1, south of SR 116, which has a very similar land use to the proposed project and is known to be operating acceptably from surveys collected in the summer of 2013. The rate calculated based on this data was used to determine the number of parking spaces that would need to be provided at the project site to adequately serve the existing park and the proposed expansion.

The Shell Beach trailhead parking lot serves 800 acres of trails and provides space for approximately 71 vehicles to park, using a combination of surface parking and shoulder parking, similar to the layout of Sonoma Valley Regional Park. Using the calculated rate of 0.09 parking spaces provided per acre, 21 parking spaces would need to be provided to adequately serve the existing park and the proposed expansion properties, which is less than the existing 27 spaces provided in the parking lot alone, and much less than the approximately 66 total parking spaces provided by the parking lot and shoulder parking.

It should be noted that Sonoma County does not have a standard parking requirement for a “recreational facility” and states that parking requirements for all uses not specifically listed shall be determined by the Board of Zoning Adjustments or the Planning Commission.

A summary of the parking analysis is indicated in Table 5.

Table 5 – Parking Analysis			
Land Use	Units	Rate	Parking Spaces
<b>Parking Demand Estimate</b>			
Sonoma Valley Regional Park	237 acres	0.09 space/ac	21
<b>Existing Parking Supply</b>			<b>*27</b>

Notes: \* The supply of 27 parking spaces includes the parking lot only. There is room for an additional 17 vehicles to park on SR 12, and 22 vehicles to park on Arnold Drive for a total of 66 parking spaces.

It is understood that the County would like to eliminate the need to park on the shoulders of SR 12 and Arnold Drive. Based on the analysis conducted, it was determined that the existing parking supply in the main entrance parking lot is adequate to serve the demand of the entire park. Therefore, people are most likely parking along the roadway shoulders out of convenience rather than need. Patrons of the dog park would rather park on the shoulder of SR 12 than drive to the parking lot and similarly, patrons accessing the park from Eldridge and Glen Ellen would rather park on the shoulders of Arnold Drive than drive all the way around the park to access the main entrance parking lot.

Consideration was given to the potential to provide a secondary parking lot near the Arnold Drive entrance; however, due to lack of available space along the park frontage a parking lot would not be feasible at this time. Should Sonoma Valley Regional Park undergo a future expansion to include the state owned Sonoma Development Center (SDC) Lake Suttonfield property, the demand for a second parking lot could be met. In this case, it is recommended that a second parking lot be constructed on disturbed SDC land with access from Arnold Drive.

**Finding** – The existing parking supply is expected to be adequate for the proposed park expansion.

**Recommendation** – Due to the close proximity of the main entrance parking lot to the dog park, it is recommended that the County consider prohibiting shoulder parking on SR 12 adjacent to the dog park; the impact to patron convenience would be minimal as the dog park can easily be accessed from the parking lot. Additionally, signage should be provided to designate the five 45-foot pull-through spaces in the main parking lot for equestrian use. Should the Sonoma Valley Regional Park expand to include the SDC Lake Suttonfield property in the future, it is recommended that the possibility of providing a second parking lot on disturbed SDC land and accessed via Arnold Drive be explored. At that time, it would be reasonable to prohibit shoulder parking on Arnold Drive.

# Conclusions and Recommendations

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## Conclusions

- The project is expected to generate 160 new vehicle trips on a daily basis, including 6 trips during the weekday p.m. peak hour and 12 trips during the weekend midday peak hour.
- Given the minimal number of trips generated by the existing uses and the small incremental increase in park acreage, the expansion's impact can reasonably be characterized as less-than-significant.
- Pedestrian and bicycle facilities are lacking along the project frontage on SR 12 and Arnold Drive.
- Adequate sight distance is available in each direction along SR 12 at the park entrance.
- Under Existing plus Project Conditions, no additional right-turn facilities are warranted on SR 12 at the main entrance. While volumes indicate potential need for a left-turn lane during the weekday p.m. peak hour, other factors show that one is not warranted.
- The existing parking supply is expected to be adequate for the proposed park expansion.

## Recommendations

- Consistent with the *2010 Sonoma County Bicycle and Pedestrian Master Plan*, future frontage improvements should include widening as necessary to provide a Class II bike lane as part of planned connections of pedestrian and bicycle facilities on Arnold Drive between the park entrance and the communities of Eldridge to the south and Glen Ellen to the north.
- Vegetation on the embankment north of the pedestrian/bicycle access point on Arnold Drive should be routinely trimmed to maintain adequate sight lines.
- The provision of a left-turn lane on SR 12 at the main entrance should be incorporated into long-range plans if Caltrans concurs. The turn lane should provide 50 feet of stacking.
- The County should consider prohibiting shoulder parking on SR 12 adjacent to the dog park.
- The five 45-foot pull-through spaces in the main parking lot should be designated for equestrian use with appropriate signage.
- Should the Sonoma Valley Regional Park expand to include the SDC Lake Suttonfield property in the future, it is recommended that the possibility of providing a second parking lot on disturbed SDC land and accessed via Arnold Drive be explored. At that time it would be reasonable to prohibit shoulder parking on Arnold Drive.

# Study Participants and References

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## Study Participants

Principal in Charge	Dalene J. Whitlock, PE, PTOE
Assistant Engineer	Cameron Nye, EIT
Graphics/Editing/Formatting	Angela McCoy

## References

"Estimating Maximum Queue Length at Unsignalized Intersections," ITE Journal, John T. Gard, November 2001  
*2012 Collision Data on California State Highways*, California Department of Transportation, 2012  
*A Policy on Geometric Design of Highways and Streets*, 6<sup>th</sup> Edition, American Association of State Highway and Transportation Officials, 2011  
*Highway Capacity Manual*, Transportation Research Board, 2010  
*Highway Design Manual*, 6<sup>th</sup> Edition, California Department of Transportation, 2012  
*Intersection Channelization Design Guide*, National Cooperative Highway Research Program (NCHRP) Report No. 279, Transportation Research Board, 1985  
*Parking Generation*, 4<sup>th</sup> Edition, Institute of Transportation Engineers, 2010  
*Sonoma County Bicycle and Pedestrian Plan*, County of Sonoma, 2010  
*Sonoma County General Plan 2020*, County of Sonoma, 2013  
*Sonoma County Municipal Code*, Municipal Code Corporation, 2016  
Sonoma County Transit, <http://sctransit.com/>  
*Statewide Integrated Traffic Records System (SWITRS)*, California Highway Patrol, 2010-2015  
*Trip Generation Manual*, 9<sup>th</sup> Edition, Institute of Transportation Engineers, 2012

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# Appendix A

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## Collision Rate Calculations





**SEGMENT COLLISION RATE CALCULATIONS****Sonoma Valley Regional Park****Location:** SR 12 -- Madrone to Arnold**Date of Count:** Friday, August 26, 2016**ADT:** 16,300**Number of Collisions:** 52**Number of Injuries:** 16**Number of Fatalities:** 0**Start Date:** January 1, 2011**End Date:** December 31, 2015**Number of Years:** 5**Highway Type:** Conventional 2 lanes or less**Area:** Suburban**Design Speed:** 45-55**Segment Length:** 2.2 miles**Direction:** North/South

Number of Collisions x 1 Million					
ADT x 365 Days per Year x Segment Length x Number of Years					
16,300	x	365	x	2.2	x 5

	Collision Rate		Fatality Rate	Injury Rate
Study Segment	0.79	c/mvm	0.0%	30.8%
Statewide Average*	1.32	c/mvm	1.2%	41.1%

ADT = average daily traffic volume

c/mvm = collisions per million vehicle miles

\* 2012 Collision Data on California State Highways, Caltrans

**Location:** Arnold Rd -- Hill Rd to Harney Rd**Date of Count:** Monday, June 27, 2016**ADT:** 5,700**Number of Collisions:** 10**Number of Injuries:** 4**Number of Fatalities:** 0**Start Date:** January 1, 2011**End Date:** December 31, 2015**Number of Years:** 5**Highway Type:** Conventional 2 lanes or less**Area:** Suburban**Design Speed:** ≤45**Segment Length:** 0.9 miles**Direction:** North/South

Number of Collisions x 1 Million					
ADT x 365 Days per Year x Segment Length x Number of Years					
5,700	x	365	x	0.87	x 5

	Collision Rate		Fatality Rate	Injury Rate
Study Segment	1.10	c/mvm	0.0%	40.0%
Statewide Average*	2.39	c/mvm	0.6%	37.1%

ADT = average daily traffic volume

c/mvm = collisions per million vehicle miles

\* 2012 Collision Data on California State Highways, Caltrans



# Appendix B

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## Speed Survey Calculations





<b>SPEED SURVEY CALCULATIONS</b>				
<b>Sonoma Valley Regional Park</b>				
<b>Roadway:</b>	<b>SR 12</b>		<b>Arnold Drive</b>	
<b>Direction of Travel:</b>	<b>NB</b>	<b>SB</b>	<b>NB</b>	<b>SB</b>
<b>Speed Samples:</b>	41	36	34	30
	45	45	25	28
	40	37	26	35
	42	31	28	25
	39	36	28	25
	50	41	26	28
	45	40	19	28
	49	37	22	37
	39	41	26	32
	43	46	25	34
	41	42	27	28
	48	43	25	27
	44	40	22	31
	49	38	26	33
	48	45	27	24
	42	42	29	29
	50	37	26	32
	42	39	26	30
	41	40	25	29
	43	39	28	34
	41	44	24	31
	48	42	25	33
	41	41	20	29
	40	37	26	24
	44	39	30	28
<b>Average Speed:</b>	43.8	39.9	25.8	29.8
<b>85th Percentile Speed:</b>	<b>48.4</b>	<b>43.4</b>	<b>28.0</b>	<b>33.4</b>
<b>High Speed:</b>	50.0	46.0	34.0	37.0

\*Note: All speeds in miles per hour (mph).



# Appendix C

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## Turn-Lane Warrant Analysis Sheets



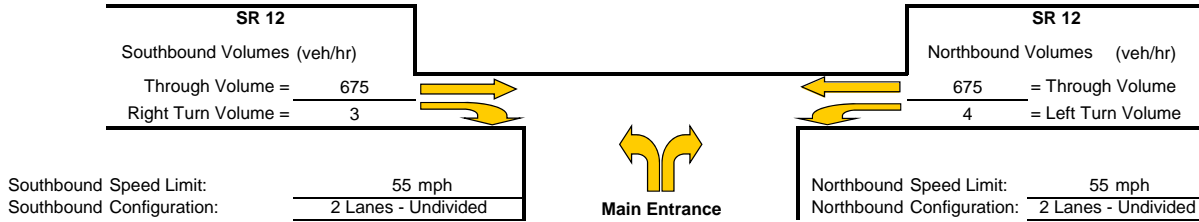


# Turn Lane Warrant Analysis - Tee Intersections

Study Intersection: SR 12/Main Entrance  
Study Scenario: PM Existing

Direction of Analysis Street: North/South

Cross Street Intersects: From the West



## Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

**NOT WARRANTED Less than 40 vehicles**

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold AV = -  
Advancing Volume Va = 678  
If  $AV < Va$  then warrant is met -

**Right Turn Lane Warranted: NO**

## Southbound Right Turn Taper Warrants (evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

**NOT WARRANTED - Less than 20 vehicles**

2. Check advance volume threshold criteria for taper

Advancing Volume Threshold AV = -  
Advancing Volume Va = 678  
If  $AV < Va$  then warrant is met -

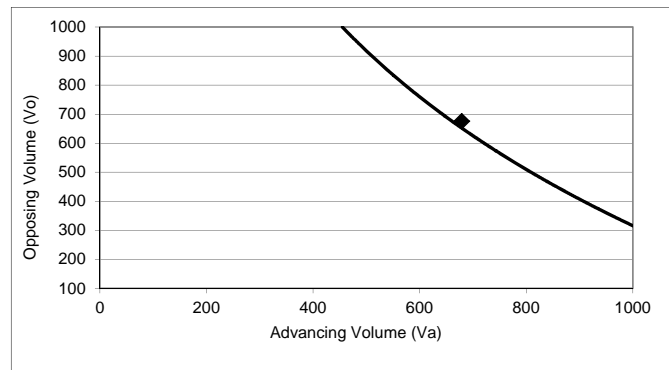
**Right Turn Taper Warranted: NO**

## Northbound Left Turn Lane Warrants

Percentage Left Turns %lt 0.6 %

Advancing Volume Threshold AV 661 veh/hr

If  $AV < Va$  then warrant is met



◆ Study Intersection

Two lane roadway warrant threshold for: 55 mph

Turn lane warranted if point falls to right of warrant threshold line

**Left Turn Lane Warranted: YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.

The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.

The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

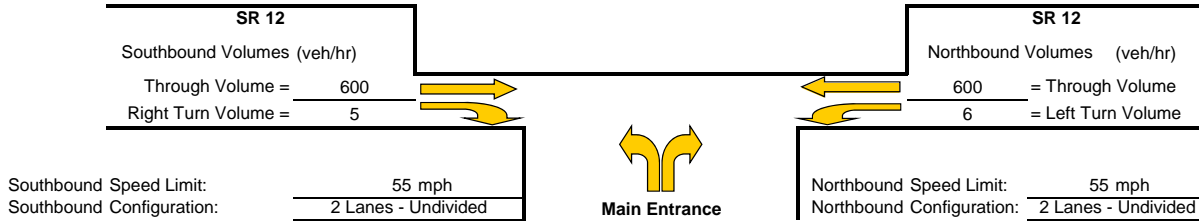


# Turn Lane Warrant Analysis - Tee Intersections

Study Intersection: SR 12/Main Entrance  
Study Scenario: Weekend Midday Existing

Direction of Analysis Street: North/South

Cross Street Intersects: From the West



## Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

**NOT WARRANTED Less than 40 vehicles**

2. Check advance volume threshold criteria for turn lane
 

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	605
If $AV < Va$ then warrant is met		

**Right Turn Lane Warranted: NO**

## Southbound Right Turn Taper Warrants (evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

**NOT WARRANTED - Less than 20 vehicles**

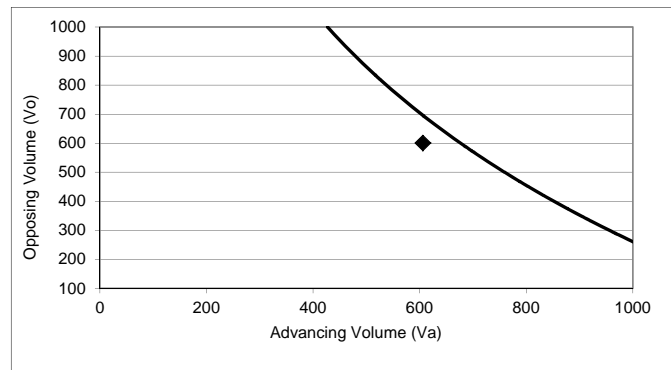
2. Check advance volume threshold criteria for taper
 

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	605
If $AV < Va$ then warrant is met		

**Right Turn Taper Warranted: NO**

## Northbound Left Turn Lane Warrants

Percentage Left Turns %lt 1.0 %  
Advancing Volume Threshold AV 677 veh/hr  
If  $AV < Va$  then warrant is met



◆ Study Intersection

Two lane roadway warrant threshold for: 55 mph

Turn lane warranted if point falls to right of warrant threshold line

**Left Turn Lane Warranted: NO**

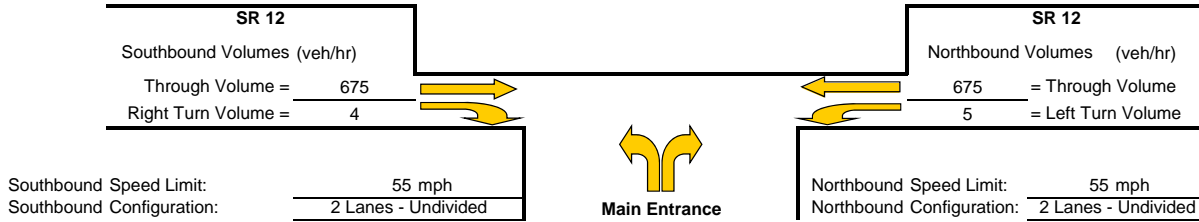
Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.  
The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.  
The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

# Turn Lane Warrant Analysis - Tee Intersections

Study Intersection: SR 12/Main Entrance  
Study Scenario: PM Existing + Project

Direction of Analysis Street: North/South

Cross Street Intersects: From the West



## Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

**NOT WARRANTED Less than 40 vehicles**

2. Check advance volume threshold criteria for turn lane
 

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	679
If $AV < Va$ then warrant is met		

**Right Turn Lane Warranted: NO**

## Southbound Right Turn Taper Warrants (evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

**NOT WARRANTED - Less than 20 vehicles**

2. Check advance volume threshold criteria for taper
 

Advancing Volume Threshold	AV =	-
Advancing Volume	Va =	679
If $AV < Va$ then warrant is met		

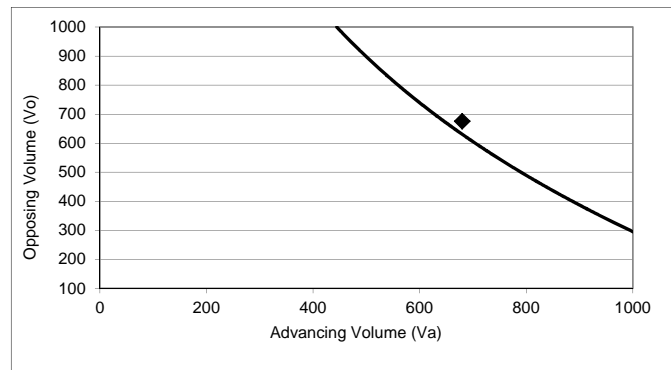
**Right Turn Taper Warranted: NO**

## Northbound Left Turn Lane Warrants

Percentage Left Turns %lt 0.7 %

Advancing Volume Threshold AV 646 veh/hr

If  $AV < Va$  then warrant is met



◆ Study Intersection

Two lane roadway warrant threshold for: 55 mph

Turn lane warranted if point falls to right of warrant threshold line

**Left Turn Lane Warranted: YES**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.

The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.

The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

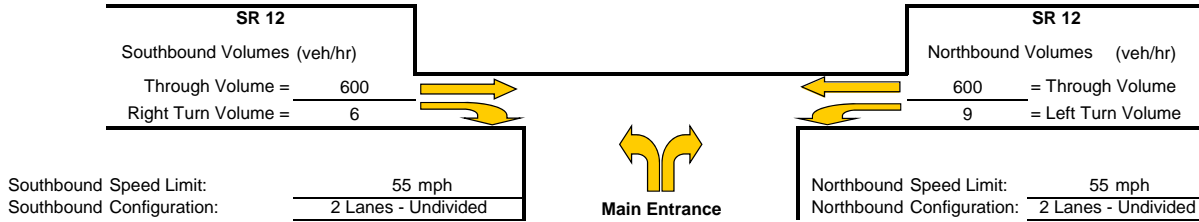
# Turn Lane Warrant Analysis - Tee Intersections

Study Intersection: SR 12/Main Entrance

Study Scenario: Weekend Midday Existing + Project

Direction of Analysis Street: North/South

Cross Street Intersects: From the West



## Southbound Right Turn Lane Warrants

1. Check for right turn volume criteria

**NOT WARRANTED Less than 40 vehicles**

2. Check advance volume threshold criteria for turn lane

Advancing Volume Threshold AV = -

Advancing Volume Va = 606

If  $AV < Va$  then warrant is met -

**Right Turn Lane Warranted: NO**

## Southbound Right Turn Taper Warrants (evaluate if right turn lane is unwarranted)

1. Check taper volume criteria

**NOT WARRANTED - Less than 20 vehicles**

2. Check advance volume threshold criteria for taper

Advancing Volume Threshold AV = -

Advancing Volume Va = 606

If  $AV < Va$  then warrant is met -

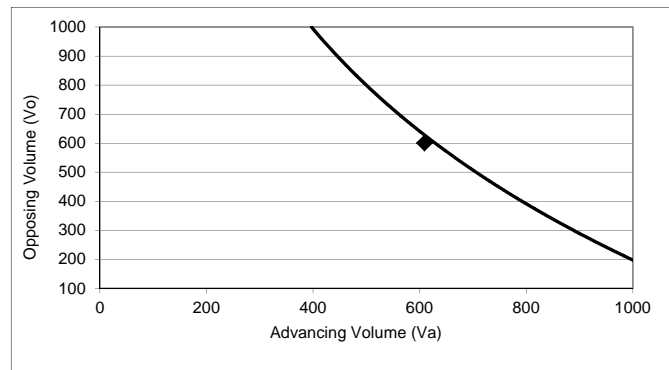
**Right Turn Taper Warranted: NO**

## Northbound Left Turn Lane Warrants

Percentage Left Turns %lt 1.5 %

Advancing Volume Threshold AV 629 veh/hr

If  $AV < Va$  then warrant is met



◆ Study Intersection

Two lane roadway warrant threshold for: 55 mph

Turn lane warranted if point falls to right of warrant threshold line

**Left Turn Lane Warranted: NO**

Methodology based on Washington State Transportation Center Research Report *Method For Prioritizing Intersection Improvements*, January 1997.

The right turn lane and taper analysis is based on work conducted by Cottrell in 1981.

The left turn lane analysis is based on work conducted by M.D. Harmelink in 1967, and modified by Kikuchi and Chakroborty in 1991.

# Appendix D

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## Queuing Calculations





## Maximum Queue Length Two-Way Stop-Controlled Intersections

Through Street: SR 12  
Side Street: Main Entrance

Scenario: PM Existing plus Project  
Stop Controlled Legs: East/West

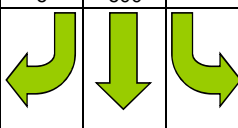
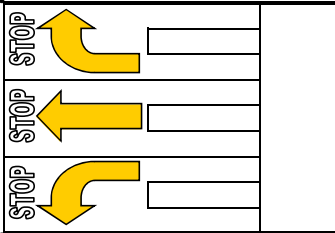
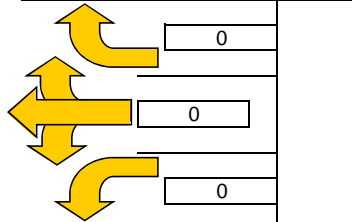
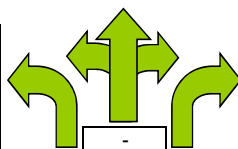
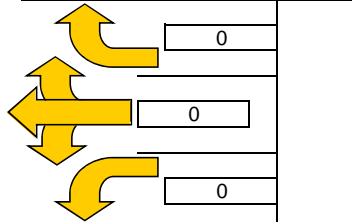
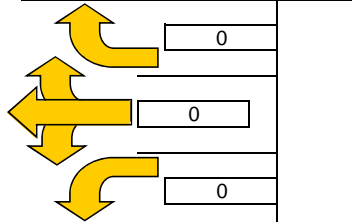
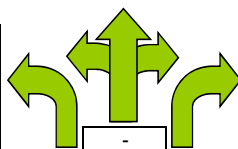
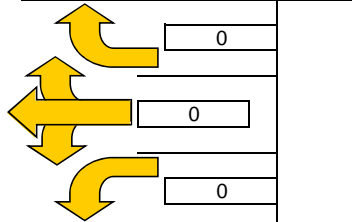
Volume Inputs (veh/hr)		SR 12		Uncontrolled Legs Speed Limit: <u>55 mph</u> # Lanes on Uncontrolled Legs: <u>2 Lanes</u>	
Southbound		4	675	Westbound	
Main Entrance		SR 12		Northbound	
3	STOP	5	675	STOP	STOP
STOP	STOP	STOP	STOP	STOP	STOP
3	STOP	STOP	STOP	STOP	STOP
Eastbound		SR 12		Westbound	
Maximum Queues (veh)		-	-	Westbound	
Southbound		-	-	Northbound	
1	STOP	0	-	0	0
0	STOP	0	-	0	0
5	STOP	0	-	0	0
Eastbound		SR 12		Westbound	
Main Entrance		0	-	Northbound	
Maximum Queues (veh)		-	-	Westbound	
Southbound		-	-	Northbound	
1	STOP	0	-	0	0
0	STOP	0	-	0	0
5	STOP	0	-	0	0
Eastbound		SR 12		Westbound	

Source: John T. Gard, ITE Journal, November 2001, "Estimating Maximum Queue Length at Unsignalized Intersections"

## Maximum Queue Length Two-Way Stop-Controlled Intersections

Through Street: SR 12  
Side Street: Main Entrance

Scenario: Y \ } a Midday Existing plus Project  
Stop Controlled Legs: East/West

Volume Inputs (veh/hr)		SR 12		Uncontrolled Legs Speed Limit: <u>55 mph</u> # Lanes on Uncontrolled Legs: <u>2 Lanes</u>	
Southbound		6	600	Westbound	
Main Entrance					
Eastbound		9	600	Northbound	
Maximum Queues (veh)		SR 12		Westbound	
Southbound		-	-		
Main Entrance					
Eastbound		1	-	Northbound	
Maximum Queues (veh)		SR 12		Westbound	
Southbound		-	-		
Main Entrance					
Eastbound		1	-	Northbound	

Source: John T. Gard, ITE Journal, November 2001, "Estimating Maximum Queue Length at Unsignalized Intersections"